

Accounting (M.B.A.)

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Accounting (M.S.)

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Administrative Science (M.A.S.)

The Master of Administrative Science (M.A.S.) degree program is structured to meet the career-development needs of adult learners working in administrative and professional positions in government agencies, not-for-profit organizations and corporate settings. Its primary purpose is to enhance the administrative skills of its graduates.

The program is designed to primarily serve in-service students with five or more years of relevant professional work experience. The degree program is targeted toward working adults, and admission is based on multiple criteria, including the applicants' career and other accomplishments, personal maturity and evidence of commitment to graduate study and professional development. Special consideration will be given to applicants having a significant record of relevant professional and/or administrative experience in government and not-for-profit organizations.

The program combines both cognitive and affective (interactive) instruction through case studies, simulations, individual and group exercises and fieldwork that helps to develop the critical managerial effectiveness. The M.A.S. educational experience seeks to develop administrative competencies in a supportive learning environment in conjunction with specific and clear feedback.

This program is offered under the auspices of the School of Administrative Science, Anthony J. Petrocelli College of Continuing Studies, at the Florham Campus, Madison, New Jersey; the Metropolitan Campus, Teaneck, New Jersey; various locations throughout New Jersey; at the Vancouver Campus, British Columbia, Canada; and online.

Program Highlights

- A 30-credit program that can be completed in 20 months while working full-time.
- An opportunity to begin the program at any one of three entry points during the year: September, January and April.
- Small classes offered one evening per week (6:15–9:30 p.m.) in a 12-week trimester format or five consecutive Saturdays (8:30 a.m.–4:30 p.m.) to

accommodate the needs of working professionals.

- More than 30 convenient off-campus locations throughout New Jersey.
- Many courses are available online through an asynchronous delivery.
- A 50-percent tuition for all applicants.

Graduate Certificate Programs

Administrative Science

Students who wish to qualify for a Certificate in Administrative Science may do so by completing six courses (18 credits) from the M.A.S. degree course offerings listed on pages 44 to 54. These credits may then be applied to the M.A.S. degree. Any six courses (18 credits), on a matriculating or nonmatriculating basis, qualify for a Certificate in Administrative Science.

Computer Security and Forensic Administration

This 18-credit graduate certificate program focuses on the criminal justice system's response to the expanding area of computer crime. Designed for law enforcement officials, corporate security executives and state agency investigators, the certificate provides training to appropriate personnel in the investigation, case development and protocols relating to computer crimes. Each course is taught in a computer laboratory to ensure direct relevance and practical application of all information being covered. Students are required to take six courses: MADS6637 Computer Systems Seizure and Examination, MADS6638 Computer Security Administration, MADS6639 The Forensic Expert, MADS6654 Forensics Administration, MADS6697 Current Issues in Cyber Forensics, MADS6701 Introduction to Computer Network Security, MADS6702 Investigation of Computer System/Network Emergencies, MADS6730 Malware Investigations, MADS6735 Introduction to Countermeasures for Malware and MADS6773 Current Issues in Forensic Sciences.

Correctional Administration and Leadership

This 18-credit graduate certificate program focuses on the administration

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and leadership of correctional institutions. Courses include MADS6600 Theory and Practice of Administration, MADS6602 Personnel Administration, MADS6606 Administrative Leadership in Complex Organizations, MADS6610 Organizational Decision Making, MADS6618 Leadership Plus, MADS6647 Organizational Planning and Risk Communications, MADS6656 Social Problems and Solutions, MADS6661 Managing Organizational Change and MADS6693 Leading Culturally Diverse Workplaces.

Emergency Management Administration

This 18-credit graduate certificate is designed for community leaders involved in planning, policy making, implementation and administration of emergency management. Participants can select any six of the following courses: MADS6617 Emergency Management and Safety Administration, MADS6633 GIS and Emergency Administration, MADS6634 Community Threat Assessment and Risk Analysis, MADS6636 Global Preparedness for Catastrophic Emergencies, MADS6647 Organizational Planning and Risk Communications, MADS6648 Disaster Recovery and Organizational Continuity, MADS6698 Current Issues on Terrorism and Security and MADS6715 Special Topics: Global Terrorism and Emergency Management Preparation.

Global Emergency Medical Services Administration

This 18-credit certificate is designed to enhance the knowledge and leadership skills of administrators and staff of organizations responsible (or potentially responsible) for provision of emergency medical services. All of New Jersey's mobile healthcare resources should be prepared to respond to crisis events, as well as to the everyday needs of their communities. Students are required to take six of the following courses: MADS6602 Personnel Administration, MADS6608 Organizational Communication and Conflict Resolution, MADS6617 Emergency Management and Safety Administration, MADS6620 Human Resource Systems: Approaches and Techniques for the Modern Workplace, MADS6636 Global Preparedness for Catastrophic Emergencies, MADS6646

Finance and Accounting for Health and Human Services and MADS6698 Current Issues on Terrorism and Security.

Global Health and Human Services Administration

An 18-credit graduate certificate designed for professionals interested in health, hospital and human services administration. Students are required to take the following two courses: MADS6642 Global Health and Human Services Systems and MADS6643 Community Needs Assessment and Qualitative Analysis for Health and Human Services. Students may select four electives from the following: MADS6628 Building Strategic Partnerships, MADS6644 Law, Ethics and Policy for Health and Human Services, MADS6645 Marketing Social Change, MADS6646 Finance and Accounting for Health and Human Services, MADS6647 Organizational Planning and Risk Communications, MADS6718 Special Topics: Lifestyle Modification for Community Leaders, MADS6747 Relational Leadership, MADS6753 Special Topics: Elder Care: Legal Issues and MADS6763 Grants and Sponsored Projects Operations.

Global Leadership and Administration

This 18-credit graduate certificate is especially designed for leaders and administrators of worldwide organizations. Participants can choose six courses from the following list: MADS6600 Theory and Practice of Administration, MADS6606 Administrative Leadership in Complex Organizations, MADS6609 Productivity and Human Performance, MADS6610 Organizational Decision Making, MADS6615 Global Leadership, MADS6618 Leadership Plus, MADS6627 Women's Leadership in Today's Global World, MADS6634 Community Threat Assessment and Risk Analysis, MADS6653 Global Citizenship Seminar, MADS6658 Leadership: Global Advanced Scholarship and Practice, MADS6661 Managing Organizational Change, MADS6675 Optimum Leadership, MADS6706 Collaborative Leadership, MADS6709 Special Topics: Creativity, Change and the 21st-century Leaders, MADS6731 Executive Communication as a Leadership

Tool and MADS6747 Relational Leadership.

Global Security and Terrorism Studies

This 18-credit graduate certificate program is designed for military, police, fire and emergency management professionals who comprise the first-responder community. The certificate provides a broad understanding of terrorist groups and the methods they employ along with in-depth training on how to prevent and respond to terrorist acts. Courses include MADS6617 Emergency Management and Safety Administration, MADS6634 Community Threat Assessment and Risk Analysis, MADS6636 Global Preparedness for Catastrophic Emergencies, MADS6648 Disaster Recovery and Organizational Continuity, MADS6698 Current Issues on Terrorism and Security, MADS6701 Introduction to Computer Network Security, MADS6705 Homeland Security and Constitutional Issues and MADS6715 Special Topics: Global Terrorism and Emergency Management Preparation.

Homeland Security Administration

This 18-credit, six-course certificate is designed to provide an introduction to the area of homeland security. Courses include MADS6617 Emergency Management and Safety Administration, MADS6636 Global Preparedness for Catastrophic Emergencies, MADS6648 Disaster Recovery and Organizational Continuity, MADS6697 Current Issues in Cyber Forensics, MADS6698 Current Issues on Terrorism and Security, MADS6705 Homeland Security and Constitutional Issues and MADS6715 Special Topics: Global Terrorism and Emergency Management Preparation.

Human Resource Administration

This 18-credit graduate certificate program is geared to the human resource practitioner. Select any six courses from the following offerings to earn the certificate: MADS6602 Personnel Administration, MADS6603 Law and Administrative Practice, MADS6607 Collective Bargaining and Contract Administration, MADS6608 Organizational Communication and Conflict Resolution, MADS6609 Productivity and Human Performance, MADS6620 Human Resources Systems:

Approaches and Techniques for the Modern Workplace, MADS6661 Managing Organizational Change, MADS6662 Customer Service for Public and Not-for-Profit Organizations and MADS6695 Advanced Employment Law.

Law and Public Safety Administration

This 18-credit graduate certificate provides a leadership foundation for law and public safety professionals. Select any six courses from: MADS6601 Financial Administration, MADS6604 Ethics and Public Values, MADS6608 Organizational Communication and Conflict Resolution, MADS6610 Organizational Decision Making, MADS6617 Emergency Management and Safety Administration, MADS6618 Leadership Plus, MADS6620 Human Resource Systems: Approaches and Techniques for the Modern Workplace, MADS6626 Law-enforcement Executive Leadership Seminar, MADS6628 Building Strategic Partnerships, MADS6655 Contemporary Issues in Community Policing, MADS6656 Social Problems and Solutions, MADS6675 Optimum Leadership, MADS6703 Public Presentations and Media Strategies and MADS6762 Current Issues in Immigration Law.

Leadership Theory and Practice

This 18-credit, six-course certificate is designed for individuals who would like to increase their leadership skills. There are differences between managers and leaders, and this course of study looks at the attributes of leaders, different theories that can be used and how leaders can vary their styles based on the situation at hand. Students are required to take at least two of the following courses: MADS6600 Theory and Practice of Administration, MADS6618 Leadership Plus and MADS6747 Relational Leadership. Students can choose the remaining courses from the following electives: MADS6640 Leading in Times of Crisis, MADS6675 Optimum Leadership, MADS6676 Perspectives on Leadership from Films, MADS6717 Special Topics: Leading Out of the Mainstream and MADS6731 Executive Communication as a Leadership Tool.

Nonprofit Organizational Development

This 18-credit graduate certificate program is designed for professional leaders in the not-for-profit community. Students pursuing this credential may apply the credits toward the M.A.S. degree. Three core courses are required from the following four offerings: MADS6628 Building Strategic Partnerships, MADS6629 Planning and Program Development, MADS6631 Advanced Funding Practices and MADS6632 Technology Applications for Not-for-Profit Management. Students may choose three other courses from among those offered in the M.A.S. program. Recommended additional courses are: MADS6606 Administrative Leadership in Complex Organizations, MADS6608 Organizational Communication and Conflict Resolution, MADS6613 Marketing of Public, Private and Not-for-Profit Organizations, MADS6616 Grant Writing and Administration, MADS6618 Leadership Plus, MADS6645 Marketing Social Change, MADS6661 Managing Organizational Change, MADS6662 Customer Service for Public and Not-for-Profit Organizations, MADS6675 Optimum Leadership, MADS6747 Relational Leadership, MADS6763 Grants and Sponsored Projects Operations and MADS6781 Social Media Marketing.

School Security and Safety Administration

This 18-credit graduate certificate program is designed for K–12 administrators and teachers to support the “Safe Schools” initiative. Courses include MADS6617 Emergency Management and Safety Administration, MADS6634 Community Threat Assessment and Risk Analysis, MADS6636 Global Preparedness for Catastrophic Emergencies, MADS6655 Contemporary Issues in Community Policing, MADS6691 Preventing Future Columbines, MADS6698 Current Issues on Terrorism and Security, MADS6707 The Impact of Terrorism on School Safety and MADS6714 Special Topics: First-responder Stress Awareness and Management.

Online Graduate Degree and Certificate Programs

Online Availability

As a result of funding provided by the U.S. Department of Defense through the National Guard Bureau, three administrative science graduate certificates — the Global Security and Terrorism Studies Certificate, the Emergency Management Administration Certificate and the Computer Security and Forensic Administration Certificate — as well as five additional Master of Administrative Science (M.A.S.) courses have been created online. Public safety leaders and managers from around the world have the opportunity to earn an online M.A.S. degree that has been reviewed and approved by the National Guard. In addition to these National Guard-approved programs, the school also offers online graduate certificates in Law and Public Safety Administration, Global Leadership and Administration and Global Technology Administration.

Admission Requirements

The credentials required for admission to the Master of Administrative Science degree program as a matriculated student include the following:

1. A graduate application for admission and nonrefundable application fee.
2. A bachelor's degree from an accredited college or university with a minimum cumulative grade point ratio (GPR) of 2.70. Applicants with a GPR of less than 2.70 may be admitted as matriculated students on probation.
3. Official transcripts from all colleges and universities previously attended. Applicants who are unable to provide official documents at the time of enrollment may register as nonmatriculated or nondegree students, with the approval of a graduate faculty adviser.

Candidates for the graduate certificate program in administrative science may be accepted as matriculated students, based on proof of a bachelor's degree from an accredited college or university.

Post-graduate Certificate in Public and Nonprofit Leadership

This 24-credit post-graduate certificate program is designed to further enhance the

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competencies of public and not-for-profit organization administrators. Upon successful completion of either the 30-credit M.A.S. program or the 39-credit Master of Public Administration (M.P.A.) program, graduates can enroll in eight additional courses of their choice and earn a Certificate in Public and Nonprofit Leadership. Courses taken for the master's degree cannot be repeated; however, there are ample new courses to choose from under Special Topics plus other listed courses including the Wroxton College, Oxfordshire, England, summer seminars. Students who have graduated from universities other than Fairleigh Dickinson can also take advantage of the post-graduate certificate program.

Requirements for the Master of Administrative Science Degree

The following are the specific program requirements for the M.A.S. degree. The curriculum areas and credit-distribution requirements are designed to provide students with flexibility in planning a program of study within a competency-focused framework for professional development. Students must successfully complete 30 credits of graduate course work in the following three categories.

Administrative Competencies (18 credits)

This core area includes the following areas of administrative science: budgeting and financial administration, human resources administration, information systems administration, regulatory and legal issues in administration, organizational behavior and organizational communications.

Analytic and Decision-making Competencies (9 credits)

This core area includes course work in public policy analysis, economic analysis, quantitative reasoning, ethical and values issues and decision-making techniques that enable the student to analyze complex problems and develop appropriate strategies to address them.

Capstone Seminar (3 credits)

This core area provides an integrative learning experience that focuses on organizational leadership and strategic planning. Ordinarily the last course that a student takes in the program, the capstone

seminar is offered on the Metropolitan Campus and Florham Campus.

For Information

For information about the M.A.S. and certificate programs, contact: assistant dean, School of Administrative Science, Fairleigh Dickinson University, Anthony J. Petrocelli College of Continuing Studies, School of Administrative Science, 1000 River Road, H-DH2-13, Teaneck, New Jersey 07666; Telephone: (201) 692-6522; Fax: (201) 692-7179.

Course Offerings

Administrative Science School of Administrative Science

MADS5000

1 Credit

Curricular Practical Training

This one-credit independent study is designed primarily for graduate international students but may apply to any student wishing to engage in a paid internship. Students are expected to comply with the internship guidelines and meet any other requirements that may apply. This class allows students to experience the work environment while completing their studies in the appropriate Anthony J. Petrocelli College of Continuing Studies program.

MADS5001

1 Credit

Curricular Practical Training

Students expand their knowledge of their area of specialization and apply concepts of different organizational structures and working relationships within a workplace environment. (For Vancouver Campus.)

MADS6600

3 Credits

Theory and Practice of Administration

Introduction to issues of administration of public, private and not-for-profit organizations. Cases are used to analyze the relation of theory to practice and to illustrate the direct practical relevance of theoretical models to administrative action. This course is waived for graduates of the New Jersey Certified Public Manager® (CPM) program.

MADS6601

3 Credits

Financial Administration

Analysis of the concepts and principles used in the financial administration of the public, private and not-for-profit sectors. This includes the key elements of accounting, budgeting, planning and control, auditing and their integration into a comprehensive administrative

control system, including issues of systems design and implementation.

MADS6602

3 Credits

Personnel Administration

This course provides an overview of personnel administration, focusing on a unified human resources management program, including the integration of human resources planning, job analysis, employee selection, training performance evaluation and compensation administration. This course is waived for graduates of the New Jersey Certified Public Manager® (CPM) Program.

MADS6603

3 Credits

Law and Administrative Practice

Exploration and analysis of the function of law in a democratic society. Emphasis is placed on understanding the law as a legal and moral force guiding and constraining public decision making and action.

MADS6604

3 Credits

Ethics and Public Values

This course focuses on the ethical dimensions of the personal and professional judgments of public sector managers. Cases are used to examine the ethos of public service organizations and the moral foundation of public policy.

MADS6605

3 Credits

Principles of Information Systems

This course provides an overview of the role of information systems in the administration of public, private and not-for-profit organizations by presenting an integrated view of administration, information and systems concepts into a unified framework. Topics include information systems development, design implementation and evaluation strategies.

MADS6606

3 Credits

Administrative Leadership in Complex Organizations

Analysis of leadership behavior and administrative activities. Examination of major theories of leadership and motivation, including trait, behavioral, situational and power-influence leadership theories and acognitive and cognitive motivational principles for various levels of the formal organization.

MADS6607

3 Credits

Collective Bargaining and Contract Administration

Analysis of federal and state employee relations laws and regulation. Topics include the bargaining environment, contract negotiations,

wage and benefit issues in arbitration, grievance arbitration and employee relations in nonunion organizations.

MADS6608

3 Credits

Organizational Communication and Conflict Resolution

Theories and models of communications and communications media; barriers to effective communication and techniques for improving interpersonal, group and organizational communications. Sources of conflict at the individual, group and organizational levels; methods of conflict management and resolution.

MADS6609

3 Credits

Productivity and Human Performance

Definitions and measurement of individual, team and organizational productivity, effectiveness and efficiency. Models for the analysis of organizational and individual productivity and productivity growth. Techniques for improving productivity.

MADS6610

3 Credits

Organizational Decision Making

Examination of processes in organizational decision making, the state of theory, research and applications for the practicing manager. Topics include administrative style and decision making; problem discovery and diagnosis; the search for solutions, evaluation and choice; group decision making; decision aids and support systems; and risk analysis.

MADS6611

3 Credits

Special Topics: Introduction to Diplomacy and International Relations

Introductory course on the role and importance of diplomatic protocol in international relations for government and public officials. Topics include definition of diplomacy, types of international relations, international organizations and NGOs, comparative foreign policy, international human rights.

MADS6612

3 Credits

Seminar in Strategic Management – Capstone*

Approaches to formulating strategies that enable public, private and not-for-profit organizations to adapt to changing social, technological, economic and political conditions. Strategic management from the administrator's perspective. Development of long-range organizational strategies. Topics include forecasting, goal setting, environmental scanning,

implementation of organizational strategies and strategic management and public policy. Note: Taken as the last or next to last course after completion of at least 24 credits.

MADS6613

3 Credits

Marketing of Public, Private and Not-for-Profit Organizations

Course examines marketing concepts relevant to public, private and not-for-profit organizations that will enable administrators to match the goals, strengths and resources of an organization with the needs, wants and opportunities in the public sector.

MADS6614

3 Credits

Comparative Public and Legal Systems

A global examination of alternative government and legal systems, public policy formulation and implementation and conflict resolution.

Organization and operational characteristics of public providers, private organizations and not-for-profit providers in global settings are analyzed with particular reference to different approaches to leading political and social issues as advanced by the United States, United Kingdom and European Union. This course begins with a mandatory orientation at FDU's Metropolitan Campus. The class will discuss course format, research-paper requirements, books and other practical concerns of the trip.

MADS6615

3 Credits

Global Leadership

Leadership theories of European and American theoreticians as well as the methods and practices of world organization leaders in government, private and not-for-profit organizations are studied, compared and discussed. Presenters are drawn from local governments and entrepreneurs who have created, innovated and implemented sweeping policy changes in the operation of government. Several site visits are included. This course begins with a mandatory orientation at FDU's Metropolitan Campus. The class will discuss course format, research-paper requirements, books and other practical concerns of the trip. Students must make their own travel arrangements. The cost of this program (tuition, room and board) is to be determined.

MADS6616

3 Credits

Grant Writing and Administration

The course provides students with an understanding of the process of writing successful grant proposals, including responding to the Request for Proposal, letter proposals, defining needs, methodology, timelines and the budget. Learn the elements of preparing a winning proposal that can secure funding for major public sector initiatives. Students prepare

and submit full grant proposals relevant to their organizations.

MADS6617

3 Credits

Emergency Management and Safety Administration

The course will provide for an in-depth analysis of planning and administration for emergency management in the public and not-for-profit sectors, the need for emergency planning, recovering losses from Federal Emergency Management Agency (FEMA) and state agencies due to catastrophic events, identification and allocation of resources, incident command procedure, safety in the working environment and federal Occupational Safety and Health Administration (OSHA) and state Public Employee Occupational Safety and Health Act (PEOSHA) regulations. Students evaluate their environment and prepare a safety plan that is presented to the class.

MADS6618

3 Credits

Leadership Plus

Master the best principles practiced by great leaders, past and present. Topics include creative and innovative thinking, super-conscious mental laws, the constant pursuit of professionalism, craftsman-like dedication to quality, building effective self-directed teams, creating an energized workplace, the characteristics of effective learning organizations, capitalizing on leverage and the art of identifying and designing a shared destiny.

MADS6620

3 Credits

Human Resource Systems: Approaches and Techniques for the Modern Workplace

New approaches and techniques in human resource systems go beyond the theories and principles of personnel administration. A "hands-on" experience that utilizes case studies in each topic allows students to devise solutions. This course will use case studies, lectures, assigned readings and recent rulings. State and federal court decisions that impact public, private and not-for-profit sector organizations will be thoroughly examined.

MADS6626

3 Credits

Law-enforcement Executive Leadership Seminar

New and complex challenges facing the law-enforcement community worldwide will be studied and discussed with top criminal justice leaders in Great Britain and the United States. Subjects include multijurisdictional police forces — Europol and Interpol, policing in a multiracial society, riot and public order, leadership and community policing, forensics and crime-scene investigation, combating drugs,

**Students should declare for graduation when registering for this course via the University's WebAdvisor system.*

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the global impact of terrorism and combating chemical and biological warfare.

MADS6627

3 Credits

Women's Leadership in Today's Global World

Public, private and not-for-profit sector administration and leadership development challenges are compared and studied as part of a women's leadership seminar focusing on global networking. Presenters are renowned CEOs and scholars whose cutting-edge accomplishments have distinguished them as leaders representing the public and not-for-profit sectors in and outside the United States. Study is combined with travel and experiential learning. This course begins with a mandatory orientation at FDU's Metropolitan Campus. The class will discuss course format, research-paper requirements, books and other practical concerns of the trip.

MADS6628

3 Credits

Building Strategic Partnerships

Building strategic partnerships is key to organizational survival and success. This course will use case studies to explore the principles, approaches and motivations behind some of the most noteworthy collaborations forged by private and not-for-profit leaders.

MADS6629

3 Credits

Planning and Program Development

Effective program development requires a clearly stated purpose of what an organization is trying to achieve, compelling evidence that demonstrates the importance of that need and a well-reasoned plan that outlines how an organization will meet this need in a cost-effective manner. This course will explore how to turn an idea into a feasible project that merits funding. Students will learn the skills and strategies needed to assess need, plan for and design identifying trends and organize and manage information. Valuable online resources will be explored zeroing in on the top internet sites for research, reference and continued learning.

MADS6631

3 Credits

Advanced Funding Practices

This course is designed to provide an in-depth study of comprehensive fund-raising planning. The course will focus on management issues including assessing organizational readiness, strategic approaches to the development process and evaluating results. The course also will provide students the opportunity to broaden their knowledge with regard to prospect research and cultivation, planned giving, corporate philanthropy and cause-related marketing.

MADS6632

3 Credits

Technology Applications for Not-for-Profit Management

Learn to develop an approach to technology that best serves the needs of the organization. This course will provide an overview of how to plan for technology including website development, online marketing, database management, finance, accounting and working with consultants.

MADS6633

3 Credits

GIS and Emergency Administration

The course will provide an overview of GIS (Geographic Information Systems) applications at the administrative level of emergency management. Topics covered will include uses of GIS within the planning and mitigation phases, along with response and recovery assessments. Students will gain a valuable perspective on planning for and administering resources. A final course project will be assigned to include GIS budget funding and implementation strategies relative to individual administrative roles.

MADS6634

3 Credits

Community Threat Assessment and Risk Analysis

An analytic course designed for public safety officers, elected officials and business community leaders for developing collaborative approaches to counterterrorism and other security threats. Topics include vulnerability assessments, hazard mitigation, best practices, emergency planning, physical security surveying, networking of experts and community policing. Students will conduct a vulnerability-assessment survey within their organization and community and present a comprehensive response plan.

MADS6635

3 Credits

Legal Research Methods and Analysis

Hands-on study of methods of legal research for nonlawyers, with a concentration on utilizing both fee-based and free internet legal sites. Instruction also will be provided in the procedures used in analyzing and interpreting court opinions and statutes. Students will prepare and present a legal brief, with supportive references and arguments, regarding an assigned legal issue. This hybrid course consists of classroom instruction, asynchronous online delivery plus independent research at FDU's law collection (Lexis Nexis and Westlaw).

MADS6636

3 Credits

Global Preparedness for Catastrophic Emergencies

This course, taught by international experts, covers the following topics in a lecture/seminar format: emergency management, hazardous risk analysis, social dimensions of disasters, disaster recovery and organizational continuity, the psychology of terrorism, counterterrorism, weapons of mass destruction, biodefense mobilization and cyber security and forensics.

MADS6637

3 Credits

Computer Systems Seizure and Examination

This analytic course will cover the appropriate protocols for seizure of computer systems and their examination in cases of internet or computer fraud, terrorism, child pornography, internet crimes and other high-tech crimes or violations of organization rules and regulations. It will explore the use of technology to retrieve data and copy data on computers and on websites without disturbing the original data/site. It will study essential protocols needed to ensure the integrity of the data from the investigation process through prosecution or administrative disciplinary procedures.

MADS6638

3 Credits

Computer Security Administration

This course will provide an introduction to the basics of computer security (confidentiality, message integrity, authenticity, etc.) and investigate ways to prevent hackers from accessing websites. Encryption processes and firewall protection may not be enough for someone who wants to access data maintained on a computer or system. The course will analyze formal criteria and properties of hardware, software and database security systems, and will determine ways to improve overall site and system security. Additional topics to be reviewed include: formal specifications, verification of security properties, security policies that include hardening a site and preventing an intrusion, detection of an intrusion and how to react to such an intrusion, safeguards for systems, organizational training and protocols and other methods for providing data security in this technological age will be reviewed and assessed.

MADS6639

3 Credits

The Forensic Expert

This analytic course will study what is necessary to become a forensic expert, the methods for preparing and presenting technical information in a courtroom or administrative-hearing setting and the use of technical and scientific witnesses in the area of high-tech crimes or violations of or agency rules and regulations. Appropriate

interaction with criminal justice agencies to develop internal security protocols will be emphasized. Individuals will learn how to trace security intrusions, what constitutes admissible proof, how to manage evidence and how to develop proactive initiatives in this area.

MADS6640

3 Credits

Leading in Times of Crisis

This course examines the principles of leadership during times of significant stress. Various models, strategies and tactics of leadership are studied using the examples of civilian and military leaders during the planning, implementation and execution of the World War II D-Day operation of June 1944.

MADS6641

3 Credits

Contemporary Legal Issues

This seminar will examine relevant legal issues in the workplace with a comparison of United States and United Kingdom law. Topics presented by leading experts will include workplace violence, social and privacy issues in the workplace, the troublesome employee, harassment in the workplace and various issues of hiring and termination.

MADS6642

3 Credits

Global Health and Human Services Systems

Offered in the United States with the option of an international setting, this course includes a comparison of health and human services philosophies, concepts and practices. Policy decisions and politics of health and human services delivery mechanisms are discussed with special emphasis on problem analysis and strategies to address issues.

MADS6643

3 Credits

Community Needs Assessment and Qualitative Analysis for Health and Human Services

Presents a framework for conducting and analyzing health and human services needs within the community. Designing projects, methods of collecting data, matching evaluation plans with community priorities and writing and evaluating proposals/reports providing an essential foundation for planning initiatives.

MADS6644

3 Credits

Law, Ethics and Policy for Health and Human Services

Examines health and human services within the context of law, ethics, policy and the role of government and society. Provides a framework for analyzing policies in terms of social needs, workplace diversity and environmental issues in

the context of exposure to liability and prevention of lawsuits.

MADS6645

3 Credits

Marketing Social Change

Fundamental marketing concepts are applied to health and human services issues as a means to bring about social change. Attention is given to understanding the needs, wants and perception of the consumer in developing a social marketing plan, implementing it and evaluating its impact.

MADS6646

3 Credits

Finance and Accounting for Health and Human Services

This course provides an overview of fiscal administrative decision-making and financial performance in health and human services organizations. Budget course and structure, planning and preparation, revenue forecasting, reporting, controls, cash-flow management, grants, endowments, audits and evaluation are emphasized.

MADS6647

3 Credits

Organizational Planning and Risk Communications

Risk-communications practices, emergency-operations planning and theory for public, private and not-for-profit organizations. Includes an overview of existing federal, state and local emergency-operations planning and communication processes using case studies and practical exercises.

MADS6648

3 Credits

Disaster Recovery and Organizational Continuity

This course examines the differences between accidents and disasters, the response for disasters, those “players” that will become involved in disaster response and recovery, the disaster cycle and how to maintain operations, whether civilian or military, to ensure organizational continuity. A key element in disaster recovery is the concept of isomorphism, where there is the opportunity for one organization to learn from the experiences of another organization, and this course seizes the opportunity to fully capture what has been learned dealing with previous events.

MADS6651

3 Credits

Operations Administration

Operations management is the direction and control of various processes that move inputs into completed goods and services. Organizations administer products or services and determine how they are delivered. Various components of the organization must be coordinated to efficiently provide these services

and/or products. Decisions are made every day on inventory, scheduling and capacity of the operations. Planning, project management, benchmarking, PERT (Program Evaluation and Review Techniques), CPM (Critical Path Method) and decision making are topics included in this course. This course will deal with management of processes, introduce students to the problems and issues involved with operations management and familiarize students with concepts, languages and tools in both service and production industries.

MADS6653

3 Credits

Global Citizenship Seminar

Current workplaces are diverse in various aspects. Most organizations have a mix of workers from different ethnic and cultural backgrounds. For leaders, managers and supervisors to be effective in their workplaces, they must be aware of the diversity issues that impact their organization. This is increasingly important in a global context. Global citizenship requires awareness of the challenges globalization presents. Special emphasis will be placed upon a study of leadership, ethical worldview, communications and diverse subcultures presented from a global perspective along with political, social and economic issues. Comparative studies of the different systems will be the focus of student course work. The Global Citizenship Seminar will include various site visits designed to enhance the individual's understanding of the international issues that have direct and indirect effects on current and long-term goals of an organization.

MADS6654

3 Credits

Forensics Administration

This course examines the principles of forensics administration and how to apply them. Proper administration of forensic work is required to produce consistently high-quality forensic analysis. This course begins with a case study in a failed forensic administration. It provides the context for a review of the basics of forensics administration. Near the end of the course, the class will look at some new concepts. Topics covered include training and education of forensic analysis, accreditation, proficiency testing, audits, evidence presentation, information hiding and strategic redundancy.

MADS6655

3 Credits

Contemporary Issues in Community Policing

This course explores community policing — a revolutionary movement, a philosophy and an organizational strategy that expands the traditional police mandate. It draws on the fields of administration, supervision, community organization, psychology, sociology, advertising, journalism, public speaking and problem

Administrative Science

solving. The history of policing is examined to determine how and why community policing has emerged as the predominant philosophy used by police departments today. Special attention will be given to current issues that impact law enforcement and the future of community policing, especially in light of global terrorism.

MADS6656

3 Credits

Social Problems and Solutions

This course presents a conceptual framework for understanding social problems. It presents administrative and managerial roles and issues concomitant with working in government, private and not-for-profit organizations, as well as implications for private enterprise. The nature of social problems, causes and consequences, incidence and prevalence, gainers and losers and underlying ideologies are developed using generalist and specific perspectives. The nature of managerial roles with a focus on solutions is developed theoretically and practically.

MADS6658

3 Credits

Leadership: Global Advanced Scholarship and Practice

The historical discourse on advanced learning has as its genesis work implemented in many Old World cities. This course will investigate the global history of educational institutions and models of scholarship. The topics included are: an overview of leadership, leadership as boundary spanning, diplomatic leadership as a behavior and an organizational auspice, impression management, interpersonal management, interpersonal communications in a multicultural world and levels of government and relationships to the private sector. This course is intended to provide students with theoretical and practical applications of scholarship and leadership. In addition to the course material, students will experience the culture of one of the University's international partners.

MADS6659

3 Credits

Latin America and Globalization

This customized course reviews the past and current situations of Central and South American countries in relation to the world economy and globalization. Topics include historical relations between Latin America, the United States and Europe; revolution as a response to globalization; World Bank and International Monetary Fund (IMF) projects in Latin America; and the future of Latin-American products in the international market.

MADS6661

3 Credits

Managing Organizational Change

This course provides an overview of the principles of organizational change in order to develop the knowledge skills and abilities to design and/or oversee basic change efforts, understand the change process along with the tools to conduct basic change efforts. The ability to change is essential for individual health and organizational growth and development, but change is often resisted for a variety of reasons.

MADS6662

3 Credits

Customer Service for Public and Not-for-Profit Organizations

Learn how to connect an organization with customers and to train and develop a staff and customers for a shared-learning environment for customer-focused action. Communicate effectively through newsletters, surveys, instructor outreach meetings, videos, press conferences, seminars, internet, email and telephone. Exceed expectations through quality service, gaining trust and building a loyal customer base and civil coalition for a long-term, satisfying and productive leadership.

MADS6666

3 Credits

The New European Map

This course provides students with a comprehensive exploration of the current state of the political environment of Europe through historical background and country-by-country analysis. Topics include the European Union, European legal systems, comparative political systems, the fall of communism, European international relations, etc.

MADS6672

3 Credits

Ethics and Human Rights

Although there are internationally recognized human rights standards, many individuals who are displaced are not afforded the same rights as others. As countries accept a more global view of the world, human rights issues are being brought to the attention of the world. There is also a linkage between values, morality, ethics, law and human rights. This course will investigate the plight of displaced persons as far as human rights and its related issues are concerned. This includes the concept of ethics and ethical treatment of individuals regardless of their status.

MADS6674

3 Credits

Sociological Perspectives of Disaster

This course identifies broadly defined significant historical and contemporary disasters. It then analyzes causes and effects of these disasters using classical and contemporary sociological theory. Particular emphasis is placed on

implications for public policy. The course integrates facts, theories and public policies.

MADS6675

3 Credits

Optimum Leadership

This course will explore major theories and practices of scholars and philosophers with a focus on the tools and knowledge necessary for 21st-century leadership development. Principles will be extracted from major contributors in the field, including Drucker, Bennis, Burns, Heifetz, Zenger, Folkman, Kanter, Gardner, Pouzes, Vaill, Greenleaf, Kellerman, Lipmann-Bluman, Goleman and others.

MADS6676

3 Credits

Perspectives on Leadership from Films

Movies exaggerate and oversimplify, but they can still be compelling case studies for the traits and actions they portray. This course uses a dozen classic movies, readily available for rental or purchase, as the material for the study of leadership issues. Students are invited to contribute insights from other movies and from their own experiences, to complement the assigned films.

MADS6677

3 Credits

Planning for Change in Information Technology

New or upgraded information technologies affect many areas of the workplace. The first steps in the development of any automated system are to understand and document what is needed. This course introduces the terms and techniques of information technology requirements planning that help promote a smooth transition from manual procedures or old technologies to new automated tools.

MADS6679

3 Credits

Intelligence-led Policing: Concepts, Practices and Issues

This course is designed as an introduction to the intelligence-led policing model. Intelligence-led policing links strategic planning crime analysis, priority setting, accountability, risk management and stakeholder involvement with investigative and front-line delivery of services. The course will include collection and analysis of data and essential actions to be taken. Case studies will be utilized to illustrate principles included in the course.

MADS6680

3 Credits

Strategic Planning for Intelligence-led Policing

This course will emphasize highly productive collaborations to address goal setting, problem solving and decision making relative to

situational awareness to address crime, homeland security and quality-of-life issues. Assessing environmental issues is also included. This course is designed for current or future senior-level decision makers.

MADS6681

3 Credits

Intelligence Team Management

This course will explore methodologies for developing and managing an intelligence initiative that includes the roles of decision makers, analysts and operators. Also included are situations that illustrate collaboration, integration and networking.

MADS6682

3 Credits

Intelligence Analysis

This course will investigate the process of moving from raw data to intelligence. Included are methods for analyzing raw intelligence and determining the source credibility, critical thinking, logical reasoning, hypothesis testing and analytical reasoning. Introducing quantitative and qualitative analysis will also be covered. Assessing the validity of information received from various sources will be included along with the importance of maintaining an open mind to information and data. How to represent the analysis and recommendations through finished intelligence products to senior-level decision makers will also be included.

MADS6683

3 Credits

Tactical and Operational Management

This course will define and distinguish between tactical and operational management relative to the effective and efficient deployment of resources to respond to crime, homeland security and emergency management issues.

MADS6684

3 Credits

Principles of Information and Intelligence Collection

This course will explore the differences between information and intelligence collection within the framework of constitutional safeguards afforded to citizens. Covert and overt data-collection strategies including open-source information types are emphasized.

MADS6685

3 Credits

Fusion Center Operations and Integration

This course will explore the methodologies for managing a high-performance fusion center that creates intelligence and warning for diverse constituencies. Included are strategies, principles, and practices for addressing all crimes, all hazards, all threats approach to homeland security and intelligence-led policing.

MADS6691

3 Credits

Preventing Future Columbines

This course is based on research using sociology, psychology and brain research to develop program outlines for preventing school violence that may culminate in school shootings. Columbine is used as the index because it was the single most lethal case of school shootings in the United States. In addition, shootings that preceded and followed Columbine, along with Columbine, are examined for commonalities, signs and processes that led to shooting in the schools as well as programs that can be established to prevent shootings long before the violence escalates. The movement from bullying, the single most important forerunner of lethal violence, to uncontrollable rage, along with lifelong effects on self-imaging and quality of life are also examined.

MADS6692

3 Credits

Cultural Diversity, Stereotype and Profile

The human cultural array possesses certain universals such as family, belief systems and modes of socialization. All of these are based on the system of social rules (the norms), which make life predictable and patterned. These also become the basis of stereotypes. A close examination of various subcultures to show their commonalities with all cultures will assist school personnel in reducing adversarial encounters.

MADS6693

3 Credits

Leading Culturally Diverse Workplaces

With increased globalization, different cultures, beliefs and values become important aspects that an organization's leadership must understand and address. Cultural differences may result in conflict or ineffective and inefficient work groups and teams. Leaders who understand their own behaviors and beliefs are better able to acknowledge and embrace cultural differences and understand the implications of the global market and human capital strategies. This course will explore the dimensions of diversity, cross-cultural models, assessment tools and best practices to improve cross-cultural relationships. Effective team building and the impact of team-building activities on culturally diverse populations will be discussed. In addition to assigned readings and student projects, this course will include an international experience.

MADS6694

3 Credits

New Challenges of Leadership in a Global Society

The importance of advanced leadership skills will be explored in all areas confronted by the

challenges of the global society. Emphasis will be placed on current trends in global-communication conflict management and international negotiation. Priority of study on latest trends in each activity will be highlighted.

MADS6695

3 Credits

Advanced Employment Law

This course is designed to provide an in-depth study of the essential principles and foundations of employment law for managers and human resource personnel. The course will cover theories and practical applications of contractual law as a source of employment obligations, public policy claims, exceptions to the employment-at-will concept, workplace torts, federal and state regulation of the employment relationship with emphasis on the various laws against workplace discrimination and controlling court cases, family leave, health and safety issues, wage and hour considerations, disability and unemployment compensation. The course will be concluded with practical considerations concerning the present status of the various areas discussed.

MADS6696

3 Credits

Building Effective Teams

Establishing teamwork in an organization is not easy. This course provides students with a comprehensive overview of the team-leadership skills that make and keep organizations competitive. Topics include: team fundamentals, managing by vision and principle, achieving improvements in quality and productivity, setting goals and boundaries that change as the team matures, resolving common team problems.

MADS6697

3 Credits

Current Issues in Cyber Forensics

This course will emphasize the use of computers and computer technology in investigating cases where computers or computer technology played a significant role. Techniques for safeguarding evidence, computer fingerprinting of suspected parties and interacting with investigative authorities will be covered. Students will become familiar with core computer science theory and practical skills necessary to perform preliminary computer forensic investigations, understand the role of technology in investigating computer-based crime and be prepared to deal with investigative bodies at basic levels. Students will also learn various techniques that aid in preventing computer incidents and recovery from such events.

Administrative Science

MADS6698

3 Credits

Current Issues on Terrorism and Security

This course provides an in-depth analysis of terrorism, the ideological forces and psychology behind terrorism and its worldwide network. Discussions and class assignments will focus on what government leaders can do to prepare their communities for the effects of a catastrophic event including assessing their security plan, its design and construction, agency policies, procedures and various types of security staffing.

MADS6700

3 Credits

Global Technology Project Management

The course addresses the role of the project manager and the project team at each phase of the project life cycle. It will educate students about information technology project-management skills through hands-on exercises, interactive case studies and relevant discussions with peers.

MADS6701

3 Credits

Introduction to Computer Network Security

This course will introduce the basics of computer network security for the professional or personal user. The course will include both theoretical and practical application processes to block unauthorized access, remove covert programs and assess network vulnerabilities. In addition, it will provide mechanisms for strengthening computer network defenses from malicious users. This course is held in the U.S. with the option of taking the course overseas when scheduled, including FDU's Wroxtton College in Oxfordshire, England.

MADS6702

3 Credits

Investigation of Computer System/Network Emergencies

This course will introduce students to computer-system emergencies and responses to these emergencies. It will explore techniques and system configurations to create redundancy in critical computer systems and learn proper standards for data backup and recovery. It will also cover the pros and cons of adapt encryption. Students will learn how common hacking techniques are used for computer system intrusion as well as common techniques used to obtain information from employees. Also covered will be the development of a user agreement for the workplace, remote users and vendors with access to systems and consultants.

MADS6703

3 Credits

Public Presentations and Media Strategies

This course provides the knowledge and skills needed to develop effective media-relations strategies for an organization. Public presentation skills are addressed in the context of developing and delivering effective messages, persuasion and communicating with key audiences during crisis situations. Emphasis will be placed on targeting audiences and analyzing their needs, developing positive working relationships with journalists and creating plans and policies which use media relations to enhance organizational goals.

MADS6704

3 Credits

Managing Media Relations: From Local to Global

This course will offer practical, hands-on techniques in understanding the media, how to build relationships with journalists, how to communicate messages effectively and clearly and what steps to take when faced with a crisis. The aim is to equip administrators with common-sense tools to properly manage their own messages while also handling a variety of media — from newspapers to radio and TV to the internet.

MADS6705

3 Credits

Homeland Security and Constitutional Issues

This required course provides an overview of constitutional issues, statutes and case law that govern homeland security professionals at the local, state and federal levels. Social, ethical and political implications of actions intended to preserve the safety and security of citizens are studied in relationship to the legal constraints placed on systems. This course will utilize case studies.

MADS6706

3 Credits

Collaborative Leadership

This course will investigate the concept of leadership exhibited by a group that is acting collaboratively to resolve issues that all feel must be addressed. Since the collaborative process ensures that all people who are affected by the decision are part of the process, the course will explore how power is shared in the process and how leadership is developed.

MADS6707

3 Credits

The Impact of Terrorism on School Safety

Increased incidents of violence in the schools has impacted how schools are responding to and preparing for potential issues. This course will investigate the latest school-violence trends, including fatal and nonfatal shootings, and the

threat of terrorist attacks on American schools. The impacts of terrorism on school safety as well as crisis planning and current strategies for preparedness planning will be analyzed. Case studies of incidents as well as best practices in both the United States and the world will be studied.

MADS6708

3 Credits

Special Topics: Administrative Research*

This course surveys the basic methods of research likely to be encountered by administrators. The goal of the course is *not* to make students researchers or statisticians but to make them better research and statistics consumers. Quantitative techniques help administrators make budget projections, set staffing levels, determine service quantity and delivery logistics and estimate service demand. Topics covered include descriptive statistics, measurement and research design, inferential statistics and regression.

MADS6709

3 Credits

Special Topics: Creativity, Change and 21st-century Leaders*

Leaders of the 21st century can no longer deal just with change; they must be able to create, discover and invent new ways of thinking, new ways of dealing with greater changes yet to come and new ways of building organizations. This course focuses on recognized leadership characteristics and skills that stimulate change: vision, communication, synergistic decision-making, motivation and talent development. Students will engage in highly interactive stimulations and other exercises that require the willingness and an ability to challenge convention, shift paradigms, communicate effectively and challenge the status quo in order to develop unusual solutions to usual problems.

MADS6710

3 Credits

Special Topics: Dissonant Issues Seminar*

This course will explore a myriad of divisive and conflicting issues in contemporary society including: school reform, gangs, obscenity, religious extremism, global warming, identity theft, human trafficking, poverty, unemployment/underemployment, disease, immigration, drug smuggling, war, capital punishment and political corruption. Guest speakers will share their experiences and expert

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knowledge on these critical and sensitive issues supplemented by films and documentaries.

MADS6714

3 Credits

Special Topics: First-responder Stress Awareness and Management*

An in-depth analysis of the causes and consequences of first-responder perceived stressors is presented along with a detailed explanation of stress-management techniques. The course is designed primarily for members of the emergency service community (police, fire, emergency medical services [EMS] and health care providers).

MADS6715

3 Credits

Special Topics: Global Terrorism and Emergency Management Preparation*

Terrorism and its impact on governmental, social, legal and financial organizations is the basis of this course. Various measures to stem the growth of terrorism and to prevent it through intelligence, legislation and international collaboratives will be fully explored.

MADS6717

3 Credits

Special Topics: Leading Out of the Mainstream*

This course includes an extensive analysis of paradigms and how they affect behavior and decision making by examining both sides of major issues on public and private policy, politics, global economy, environment, media, health, law, public safety and ethics. Numerous guest speakers will present different views on current topics and events.

MADS6718

3 Credits

Special Topics: Lifestyle Modification for Community Leaders*

Leaders and managers face many workplace and life challenges that can lead to imbalance and conflict resulting in wrong decisions that affect the lives of many people. Everyone is living a stressful life leading to a depletion of energy, fatigue and even depression. This course will focus on achieving a healthier, more fulfilling lifestyle to meet the demands of life and work. This course is designed to lead students to a new level of awareness and empower them to make the life changes needed for full engagement as leaders.

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MADS6720

3 Credits

Special Topics: Metropolitan America: Influence of the Past and Future*

The American metropolis at the end of the century is very different from what people anticipated about 50 years ago. At mid-century, they envisioned a clean, rationally planned environment of the future, free of long-standing problems such as traffic and poverty. The reality is so much more complex. Leaders built a metropolis that addressed some major problems, while at the same time creating new ones. The next 50 years surely will contain similar surprises. This class will take an in-depth view of those key influences shaping the past and future of the American metropolis. The overwhelming impact of government policy on the American metropolis, especially those policies which promote suburbanization and urban sprawl, will be reviewed and analyzed. To the future, a view of the growing disparities of wealth, a suburban political majority and perpetual urban underclass, racial integration and cultural diversity and the possible intensification of the urban crisis will be addressed.

MADS6730

3 Credits

Malware Investigations

Short for malicious software, malware is defined as a program or file that is designed to specifically damage or disrupt a system, such as a virus, worm or a Trojan horse. This course will cover various malicious software applications used by today's cyber criminals. Reverse engineering techniques will be practiced. Understanding malware signatures and heuristics will be discussed and fully explained. Encryption and cryptology practices and procedures will be touched upon as additional means of destructive and illicit behavior.

MADS6731

3 Credits

Executive Communication as a Leadership Tool

This broad-based and highly interactive course will help students develop a strong foundation in communication theory and practice, with an emphasis on communication skills development in the five key areas: written, oral, presentation, cross-cultural and listening skills. Further, students will examine great leaders — from inside and outside the business world — and

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how their communication skills, styles and approaches contributed to their leadership impact.

MADS6732

3 Credits

International Conflict Resolution

Sources and analysis of international conflicts, barriers to effective communication and diplomatic approaches to leading political solutions. Principles of international law and multilateral organizations. Study of different techniques used during important 20th- and 21st-century cases.

MADS6733

3 Credits

World Economy and Globalization

This course reviews the past and current world economy and globalization. Topics include: relations between the industrialized nations and some specific countries in Asia, Africa and Latin America; current communist markets, transnational corporations, World Bank and International Monetary Fund; and the future of developing countries' products in the international market.

MADS6735

3 Credits

Introduction to Countermeasures for Malware

This course will offer the basics of computer security countermeasures for the professional or personal user who encounters various types of malware such as spyware, phishing sites, spam, bots, root kits, viruses, key loggers, cookies and hijackers. The course will include both theoretical and practical-application processes to block unauthorized access, remove covert programs and assess network vulnerabilities. In addition, it will provide mechanisms for strengthening computer-network defenses from malicious users. This course will demonstrate to students how one can forensically copy a hard drive and run it in a virtual machine to examine the effects of the malware without changing the original hard drive.

MADS6740

3 Credits

Comparative Political Systems

This course provides an overview of the main political regime, considering the different branches of power political parties, electoral systems, citizen participation, mass media, pressure groups and social movement. The course consists of case study and independent research.

MADS6747

3 Credits

Relational Leadership

As the world continues to become even more complex, the need to connect and collaborate across disciplines, functional realities and

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worldviews is a necessity. This complexity calls for leadership that is inclusive, ethical, empowering and sustaining. Whether viewed from an individual, group or process perspective, leading is very much about relating on every level and from different perspectives. Notable theory and research in the field will be discussed in a case-study approach to relational leadership. This course will explore relational leadership and its international implications for individuals and organizations.

MADS6751

3 Credits

Cultural and Social Awareness Seminar

As individuals become more global in their perspectives, it is important that they understand how cultures and social structures are impacting their lives. Each person has a culture upon which beliefs and values are based. This course will explore various components relative to culture and social groups, such as diversity, verbal and nonverbal differences, prejudices and biases and barriers associated with culture and social awareness. This seminar will explore cultural and social awareness through case studies, the media, films, lectures and discussions.

MADS6752

3 Credits

Current Issues in Latin America

This course provides students with a comprehensive exploration of the core issues in Latin America through historical, political and social background and country-by-country analysis. Topics will include economics and comparative politics.

MADS6753

3 Credits

Special Topics: Elder Care: Legal Issues*

Increases in the elderly population have resulted in new and complex issues and concerns that impact everyone. These issues include making decisions for the elderly, caregiving, maintaining self-sufficiency or assistive-living accommodations and home and estate planning. This course will explore topics such as informed consent, decision-making capabilities, legal issues related to death and dying, privacy rights, geriatric services and funding, age discrimination and family-law issues. In addition to lectures, the course will include case studies and discussions.

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MADS6758

3 Credits

Politics, Ideologies and Religion in the Middle East

This course provides students with a comprehensive exploration of the politics, ideologies and religious issues through historical, political and social background. Lectures will also include a country-by-country analysis.

MADS6760

3 Credits

Economics in the Middle East

This course provides students with a comprehensive exploration of the historical and current economic issues of the Middle East, taking into account oil as a key resource and its multiple political and economic consequences. Topics will also include country-by-country analysis.

MADS6762

3 Credits

Current Issues in Immigration Law

Topics will include human resources, political, economic and cultural issues involved in immigration law. It also will discuss the practical side of immigration in today's business world.

MADS6763

3 Credits

Grants and Sponsored Projects Operations

Receipt of a grant or funded project requires a solid foundation of concepts, methods and requirements necessary to administer the enterprise. This course will cover the steps involved in setting up a grants-management system, managing documentation in line with compliance obligations, ensuring due diligence, reporting properly and utilizing best practices in implementing and completing the project as planned.

MADS6764

3 Credits

Current Issues in Africa

This course provides students with a comprehensive exploration of the current issues in Africa through a historical, political, economic and social background and country-by-country analysis. Topics will also include present economics and comparative political systems.

MADS6773

3 Credits

Current Issues in Forensic Sciences

This course explores current issues and challenges confronting the forensic science community. The issues include reviews of the scope of forensic services, the various ways forensic services are organized, the professional and education requirements for careers in forensic science. The challenges include the

uneven levels of service, the admissibility of scientific evidence and testimony in courts of law and the differences between criminal and homeland security forensic investigations.

MADS6775

3 Credits

Career-development Process

The career-development process includes a number of steps which individuals may undergo numerous times. The process includes assessment of skills, interests, personality styles and values. Additional steps include effective job-search strategies as well as educational and training goals. The decision process looks at narrowing the options to determine the best choices for the individual. This course provides the theoretical and practical aspects of the career-development process.

MADS6776

3 Credits

Research Methods for Workforce Professionals

Workforce professionals need information from various sources to help make decisions for themselves and their customers. In addition to labor-market information, the workforce professional needs to look at projections for growth industries and labor demand. This course explores basic research methods as well as decision-making processes to assist the professional in providing the best choices for the customers.

MADS6777

3 Credits

Leading Volunteers in Organizations

Many organizations rely on volunteers to provide essential services to public, private and not-for-profit organizations. Issues arise with how to recruit and utilize volunteers in organizations, whether all-volunteer or a mixed agency that includes individuals where part of the workforce is paid and part are volunteers. This course explores recruitment, training and retention issues that affect such types of organizations.

MADS6778

3 Credits

White-collar Crimes

White-collar crimes were originally those identified as embezzlement or theft after trust offenses. Technology has made this crime more difficult to investigate and prosecute. In addition, there are issues with sentencing and what appears to be leniency in these cases. This course explores the total issue of what these crimes are, how to investigate and prosecute them and the courts' impact on the issue.

MADS6779

3 Credits

Mass Communication Theories

Mass communication involves creating and sending a message to a large group. Those in the

field of public relations need to understand these theories and utilize them as efficiently as the media, which have studied this and have utilized different theories to get their message out. A number of theories will be studied, including diffusion theory, cultivation theory, media dependency and functional approach to mass communication, among others.

MADS6780

3 Credits

Society and Mass Communication

This course explores the relationship between society and mass communication. Mass communication influences society in various ways, including advertising and education. Society's beliefs, values and norms are influenced by the media and also influence the media. The media provide news, information and even entertainment.

MADS6781

3 Credits

Social Media Marketing

Social media has become a necessary component of leading digital marketing programs. This course explains how to use social networks such as Twitter, Facebook, blogs, YouTube, message boards and other social media to understand what customers are saying. More importantly, this course helps students act on that knowledge with smarter digital campaigns in social media and elsewhere that show provable return on investment.

MADS6788

3 Credits

Political and Economic History of Latin America

The history of Latin America beginning with the Spanish conquest and colonial period; the Independence movements; the new Republics and their evolution in the 19th century; social, economic and political perspectives. Students will do research on particular countries based on case studies.

MADS6789

3 Credits

Modern Latin America

A comprehensive exploration of the most important trends and events affecting social, economic and political structures in Latin America during the 20th century. Circumstances specific to individual nations will be subject to case studies.

MADS6790

3 Credits

Economic Development in Latin America

Latin-American nations as "developing countries"; research on the economic, political and social causes that explain current situations, consideration of poverty, income inequality,

social discrimination, lack of technology and capital, increasing public debt, weak public institutions and the like, as well as the economic models and alternatives addressing these general difficulties.

MADS6791

3 Credits

Economic Integration and Free Trade Agreements in Latin America

Recent attempts to achieve regional economic integration in South America, Central America and the Caribbean; review of these efforts, taking into account achievements and remaining difficulties; consideration of new economic trends based on globalization and Free Trade Agreements among certain Latin American countries and other nations or block of nations, such as the United States, China and the European Union.

MADS6793

3 Credits

Brazil, Mexico, Colombia and Argentina: A Comparative Perspective

Brazil, Mexico, Colombia and Argentina are currently the most populated countries of Latin America. Each has an economic, political and social background that shows, with respect to the others, some similarities and differences; a comprehensive exploration of their current political situations and economic models, as well as social issues such as poverty, income distribution, discrimination, women's place in society, public debt, natural resources, foreign capital and the like.

MADS6794

3 Credits

Cuba: Past, Present and Future

Cuba as a Spanish colony; Jose Marti's ideology and the struggle for Independence; the Spanish-American War; the first decades of the new republic; Fulgencio Batista's dictatorship; and Fidel Castro's revolution, as well as the five decades of communist regime; its relationship with the United States and the World; the current situation under Raul Castro's government, and the perspectives for the near future.

MADS6803

3 Credits

China: Past, Present and Future

A comprehensive exploration of China's history and its impact on contemporary Chinese policies toward trade, democracy, human rights, resources, religious toleration and diversity, demographics, ethnic groups and China's role on the world stage.

MADS6806

3 Credits

Exploring the United Nations

History of the United Nations, its mission, membership, leadership; the General Assembly,

Security Council, Economic and Social Council and other constituent bodies; the United Nations and global issues, for example, human rights, the environment, nuclear weapons; the United Nations as an ideal and as a reality — achievements and controversy.

MADS6808

3 Credits

Current Issues in Central and Southern Asia

A comprehensive review of current issues in central and southern Asia. Countries discussed include: the former republics of the Soviet Union, Pakistan, Afghanistan and India; the nations of southeast Asia, such as Cambodia; and other important regions. Economic, political, cultural and social developments are studied through country-by-country and cross-cultural analysis.

MADS6809

3 Credits

The World of Tomorrow

This course provides an interesting exploration of the main forces that will determine the world of tomorrow. Topics include the changing nature of war; the mob impact of the new social mass media (Twitter, Facebook); security versus privacy (data-mining); and climate change, to the erosion of borders and sovereignty, free markets versus socialist ideals and the like.

MADS6813

3 Credits

The U.N. Millennium Development Goals

This course takes the students through analysis of the eight millennium development goals (MDGs), which range from extreme poverty rates to halting the spread of HIV/AIDS and providing universal primary education, all by the target date of 2015 — to form a blueprint agreed to by all the world's countries.

MADS6814

3 Credits

Regional Organizations

Selective exploration of regional organizations and their political, economic and strategic purposes and impact; organizations representative of the major geographical global regions: the European Union, the African Union, NAFTA, NATO and the Andean Group will be among those studied.

MADS6816

3 Credits

The Impact of Media in World Politics

This course will provide a comprehensive exploration of the impact of media in world politics, taking account of the different regions and considering some case studies.

Administrative Science

MADS6817

3 Credits

**Diplomacy and the U.S.A.:
The Impact of Global Leadership**

This course will examine the importance of global leadership in international relations within the context of a review of the diplomatic history of the United States. Among the topics to be explored are: global leadership, internationalism, isolationism, realism, idealism, multilateralism and unilateralism.

MADS6818

3 Credits

Sustainable Development

Issues of growth in developing countries; limits of expansion in developed nations; the impact of environmental concerns and proposed solutions; the sustainability of United States and European expansion.

MADS6819

3 Credits

Women's Rights

This course provides a comprehensive and comparative vision of women's rights in today's world. Although women's presence has highly increased in areas such as politics, economics, literature, public relations, arts and medicine in the last 50 years, there are still regions of the world where women's rights and opportunities are severely weakened. A comparative perspective of ideologies, religions and cultures will give the students a renovated approach on this fascinating topic.

MADS6820

3 Credits

U.N. Truths and Half Truths

This course provides a comprehensive exploration of the United Nations' goals and structure, considering its main organs such as the secretary-general, Security Council, General Assembly and Economic and Social Council (ECOSOC). It will emphasize their dynamic roles, in particular their achievements and missing objectives in today's world, taking account of a great variety of topics: human rights, nuclear weapons, environmental issues and the like.

MADS6821

3 Credits

Russia: Past, Present and Future

This course provides an exploration of the Russian past, considering the Soviet era as well as the transition to the Russian Federation, taking account of the main political, economic and social aspects. The course also studies the role Russia plays in today's world as a member of the United Nations Security Council, and analyzes its relationship with the United States, the European Union, China and other regions of the world.

MADS6822

3 Credits

Terrorism and Terrorist Acts

This course provides a comprehensive approach to the concepts of terrorism, its psychology and impact on governments and societies. Analyzing different aspects such as intelligence, cyber security legislation and international collaborations in order to develop a strong counterterrorism policy. Specific terrorist acts will be considered taking account of their causes and effects.

MADS6823

3 Credits

Global Migration: Past, Present and Future

This course provides students with an understanding of the most important periods of migrations throughout history, as well as the main trends in today's world considering their causes, consequences and different state policies. Particular emphasis will be given to the economic relations among societies during the globalization era.

MADS6824

3 Credits

U.S. Presidential Campaigns: Foreign Perspectives

This course provides an overview of United States presidential campaigns, focusing on the rules for competition, the political parties and their candidates, the role of ideologies, money, media and public opinion and, more specifically, foreign perspectives and implications for the world of today.

MADS6825

3 Credits

Introduction to Diplomacy and International Relations

This course is directed to students interested in contemporary international politics and relations between various actors in the international scene. Students will become familiar with the leading theories and concepts of international relations in conjunction with the historical context, explaining overall dynamics in global affairs such as human rights, globalization, security, terrorism and the like.

MADS6826

3 Credits

ISIS or The Islamic State

This course provides students with a comprehensive exploration of the origins, methods and goals this terrorist group as well as the main strategies developed by the United States and other world powers to encounter it. Topics include particular terrorist actions and reactions, media coverage, religious extremism, military organization, international promotion and the like.

MADS6827

3 Credits

U.S.A.-Latin America Relations

This course will provide a comprehensive exploration of the political, economic, social and cultural relations between the United States and Latin America throughout history. It will also require some special case studies.

MADS6828

3 Credits

U.S.A. New Foreign Policy: Risks and Fears

The United States foreign policy under Trump's presidency explores interesting issues such as free trade agreements; economic relations with China, Cuba and Venezuela; the wall and the Mexican border; immigration; ISIS; terrorism; the support to NATO; Guantanamo; and the like.

MADS6829

3 Credits

The Future of the United Nations

The basic purpose of this course is to examine the major changes that are already visible in the structures of the post-World War II period, and to project how the multilateral systems exemplified by the United Nations and other international organizations will adjust to these changes.

Animation (M.A.)

The Master of Arts (M.A.) degree in animation offers three concentrations (**3D character animation, video games and visual effects**) that center around gaining hands-on skills in the chosen concentration. This major is designed for students who possess an undergraduate degree from an accredited university, college or art school who are looking to further sharpen their skills and increase their understanding of the discipline. It accepts recent undergraduates, master's-level transfer students, working professionals who want to grow their animation skills, as well as people who desire a complete career change.

This major is a 36-credit degree. The fall and spring semesters are attended in-residence and the summer semesters are completed online.

Some courses in this program require basic prerequisite skills. If students do not possess the prerequisite skills upon entry they should acquire them independently or by completing undergraduate course(s) either prior to entering the program or while in the program. A candidate for admission is encouraged to make a personal appointment with an admissions counselor in order to discuss admission eligibility, education plans and/or take a campus tour. Prospective students may also arrange a meeting with the animation program director to discuss the curriculum options and tour the animation facilities.

Admissions

M.A. in animation degree applicants must digitally submit a portfolio of 10–15 creative pieces as part of the application process. Acceptance is based on the quality of the work as well as meeting all of the other academic admission requirements of the University. The review committee is looking for work that is original in concept and content and will evaluate the portfolios to determine if the applicant qualifies to enter the program based on their artistic skills. If the submitted work infringes on copyright laws or is copied from other sources the applicant will be denied admission.

Submit Portfolio

Email robinb@fdu.edu, and we will reply with login information to our cloud to upload your portfolio pieces.

Graduate Admissions

No standardized testing is required.

Requirements

1. Completed FDU Graduate Admissions application.
2. Bachelor's degree from an accredited college or university with a minimum cumulative grade point ratio (CGPR) of 2.70 (applicants with a CGPR of less than 2.70 may be admitted on probation).
3. Official undergraduate and graduate transcripts from all colleges and universities attended.
4. Digital portfolio.
5. Two letters of recommendation (from a professor, employer or professional in the field familiar with the student's strengths and abilities).
6. Personal statement.
7. Résumé or curriculum vitae.

Upon entry, students select one of these concentrations to be their area of focus.

3D Character Animation Concentration

In this concentration, students give personality and emotion to digital 3D characters. Through the use of software techniques and acute observation skills, they show their ability to portray convincing and engaging performances in their animated characters and creatures.

Required Courses (18 credits)

	Credits
ANIM5300	
Storytelling.....	3
ANIM5400	
Character Design.....	3
ANIM6100	
Digital Sculpting.....	3
ANIM6150	
3D Character Texturing.....	3
ANIM6300	
3D Character Animation.....	3
ANIM7000	
Advanced 3D Character Animation.....	3

Major Electives (18 credits)

Six 3-credit ANIM5000- or higher-level courses

Video Games Concentration

In this concentration, students design and create animations that are intended to be utilized in video games and interactive media. They learn how to optimize the visual data, bearing in mind the limitations of the platform that will be delivering it, in that the device will be dynamically rendering the incorporated assets in real time.

Required Courses (18 credits)

	Credits
ANIM5400	
Character Design.....	3
ANIM5500	
Digital 2D Animation.....	3
ANIM6100	
Digital Sculpting.....	3
ANIM6400	
3D Animation for Games.....	3
ANIM6600	
Game Creation.....	3
ANIM7500	
Advanced Game Creation.....	3

Major Electives (18 credits)

Six 3-credit ANIM5000- or higher-level courses

Visual Effects Concentration

In this concentration, students animate illusions and tricks of the eye to simulate imagined events in stories and computer-generated environments. Along with enhancing and manipulating digital imagery created in a variety of 3D and 2D software programs, they also learn to integrate and composite believable components and visual effects into live-action footage.

Required Courses (18 credits)

ANIM5300	
Storytelling.....	3
ANIM5500	
Digital 2D Animation.....	3
ANIM5600	
3D Layers in After Effects®.....	3
ANIM5700	
Dynamic Effects and Particle Systems in After Effects®.....	3
ANIM5800	
Compositing in After Effects®.....	3
ANIM6350	
3D Particle Systems and Effects.....	3

Major Electives (18 credits)

Six 3-credit ANIM5000- or higher-level courses

Animation

Other Animation Electives

ANIM5100	History of Animation and Special Effects
ANIM5200	History of Video Games
ANIM5750	3D Character Modeling
ANIM5850	Advanced Digital 2D Animation
ANIM5900	Expressions and Scripting in After Effects®
ANIM6700	Animating Fluids
ANIM6805	Motion Tracking
ANIM6900	Digital 2D Game Creation
ANIM7100	3D Character Animation – Weight, Overlap and Follow Through
ANIM7200	3D Character Animation – Emotion and Personality
ANIM7250	Lip-Syncing
ANIM7300	Animation with Hair/Fur
ANIM7400	Animation with Cloth
ANIM7425	Motion Capture
ANIM7525	Virtual Reality
ANIM7550	Internship I
ANIM7600	Video Game Team Project
ANIM7650	Thesis I
ANIM7700	Faculty/Student Research I
ANIM7750	Thesis II
ANIM7775	Internship II
ANIM7805	Faculty/Student Research II
ANIM7850	Thesis III
ANIM7900	Animation Career Preparation

Course Descriptions

See “Course Offerings,” pages 57–61.

Animation (M.F.A.)

A Master of Fine Arts (M.F.A.) is the terminal degree in animation. FDU’s M.F.A. in animation degree offers three concentrations (**3D character animation**, **video games** and **visual effects**) that center around gaining intensive hands-on skills in the chosen concentration. This major focuses on increasing practical, visual and creative skills to the highest level and provides students an opportunity to enhance their portfolios using 21st-century media and technologies. It also offers students the opportunity to participate in group projects and requires them to execute rigorous, in-depth thesis projects that demonstrate the skills learned in all of the classes in the curriculum. Upon completion, the thesis projects are exhibited in a public venue. Additionally, M.F.A. students prepare portfolios and other materials necessary for job applications and interviews. Before exiting the program, they are required to present their portfolios via mock interviews to a panel of professionals who will review, critique and provide feedback on their work.

This major accepts recent undergraduates, master’s-level transfer students, working professionals who want to grow their animation skills as well as people who desire a complete career change. This major is a 60-credit degree. The fall and spring semesters are attended in-residence and the summer semesters, as well as the thesis courses, are completed online.

Admissions

M.F.A. in animation degree applicants must digitally submit a portfolio of 10–15 creative pieces as part of the application process. Acceptance is based on the quality of the work as well as meeting all of the other academic admission requirements of the University. The review committee is looking for work that is original in concept and content and will evaluate the portfolios to determine if the applicant qualifies to enter the program based on their artistic skills. If the submitted work infringes on copyright laws or is copied from other sources the applicant will be denied admission.

Submit Portfolio

Email robinb@fdu.edu, and we will reply with login information to our cloud to upload your portfolio pieces.

Requirements

1. No standardized testing is required.
 2. Completed FDU Graduate Admissions application.
 3. Bachelor’s degree from an accredited college or university with a minimum cumulative grade point ratio (CGPR) of 2.70 (applicants with a CGPR of less than 2.70 may be admitted on probation).
 4. Official undergraduate and graduate transcripts from all colleges and universities attended.
 5. Digital portfolio.
 6. Two letters of recommendation (from a professor, employer or professional in the field familiar with the student’s strengths and abilities).
 7. Personal statement.
 8. Résumé or curriculum vitae.
- Upon entry, students select one of these concentrations to be their area of focus.

3D Character Animation Concentration

In this concentration, students study in-depth techniques that focus on every aspect of animating characters. Through the use of software techniques, acute observation skills and motion-capture technology, they master the skills needed to portray a high level of detail in animating believable characters and creatures.

Required Courses (36 credits)

	Credits
ANIM5300	
Storytelling.....	3
ANIM5400	
Character Design.....	3
ANIM6100	
Digital Sculpting.....	3
ANIM6150	
3D Character Texturing.....	3
ANIM6300	
3D Character Animation.....	3
ANIM7000	
Advanced 3D Character Animation.....	3
ANIM7250	
Lip-Syncing.....	3
ANIM7425	
Motion Capture.....	3
ANIM7650	
Thesis I.....	3
ANIM7750	
Thesis II.....	3

	Credits
ANIM7850	
Thesis III.....	3
ANIM7900	
Animation Career Preparation.....	3

Major Electives (24 credits)

Eight 3-credit ANIM5000- or higher-level courses

Video Games Concentration

In this concentration, students design and create animations that are intended to be utilized in video games, virtual reality and interactive media. They learn how to optimize the visual data, bearing in mind the limitations of the platform that will be delivering it, in that the device will be dynamically rendering the incorporated assets in real time.

Required Courses (36 credits)

ANIM5400	
Character Design.....	3
ANIM5500	
Digital 2D Animation.....	3
ANIM6100	
Digital Sculpting.....	3
ANIM6400	
3D Animation for Games.....	3
ANIM6600	
Game Creation.....	3
ANIM7500	
Advanced Game Creation.....	3
ANIM7525	
Virtual Reality.....	3
ANIM7600	
Video Game Team Project.....	3
ANIM7650	
Thesis I.....	3
ANIM7750	
Thesis II.....	3
ANIM7850	
Thesis III.....	3
ANIM7900	
Animation Career Preparation.....	3

Major Electives (24 credits)

Eight 3-credit ANIM5000- or higher-level courses

Visual Effects Concentration

In this concentration, students animate illusions and tricks of the eye to simulate imagined events in stories and computer-generated environments. Along with enhancing and manipulating digital imagery created in a variety of 3D and 2D software programs, they also learn to

integrate and composite believable components and visual effects into live-action footage.

Required Courses (36 credits)

	Credits
ANIM5300	
Storytelling.....	3
ANIM5500	
Digital 2D Animation.....	3
ANIM5600	
3D Layers in After Effects®.....	3
ANIM5700	
Dynamic Effects and Particle Systems in After Effects®.....	3
ANIM5800	
Compositing in After Effects®.....	3
ANIM6350	
3D Particle Systems and Effects.....	3
ANIM6700	
Animating Fluids.....	3
ANIM6805	
Motion Tracking.....	3
ANIM7650	
Thesis I.....	3
ANIM7750	
Thesis II.....	3
ANIM7850	
Thesis III.....	3
ANIM7900	
Animation Career Preparation.....	3

Major Electives (24 credits)

Eight 3-credit ANIM5000- or higher-level courses

Other Animation Electives

ANIM5100	History of Animation and Special Effects
ANIM5200	History of Video Games
ANIM5750	3D Character Modeling
ANIM5850	Advanced Digital 2D Animation
ANIM5900	Expressions and Scripting in After Effects®
ANIM6900	Digital 2D Game Creation
ANIM7100	3D Character Animation – Weight, Overlap and Follow Through
ANIM7200	3D Character Animation – Emotion and Personality
ANIM7300	Animation with Hair/Fur
ANIM7400	Animation with Cloth
ANIM7550	Internship I
ANIM7700	Faculty/Student Research I
ANIM7775	Internship II
ANIM7805	Faculty/Student Research II

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate department chair.

Animation

School of the Arts

ANIM5100

3 Credits

History of Animation and Special Effects

Students investigate and analyze the history of special effects and techniques while applying the understanding to modern-day visual effects and animation. Starting within-camera methods, this course covers topics that include traditional stop motion, camera-motion control, matte paintings, models and miniatures. Students also explore modern computer-generated visual effects, animation, compositing and production techniques.

ANIM5200

3 Credits

History of Video Games

With the earliest video games surfacing in the 1950s, where they were primarily created as experimental projects at colleges and in tangent with big company research, this course teaches how games have developed over the years. Students learn how video gaming gained conventional popularity in the 1970s and 1980s, when arcade games, gaming consoles and home computer games became available to the general public. In this course students discover how video gaming evolved to become a widespread form of entertainment and a slice of contemporary culture throughout the world.

ANIM5300

3 Credits

Storytelling

This course teaches students how to write short animated stories that vividly create an intense experience for the reader through plot, structure, conflict, crisis points and climax. Students then convey those stories, by showing rather than telling, through producing sketched storyboards and pre-visualization animatics. They brainstorm together by arranging and rearranging the sketches in order to evoke a stronger narrative based on their classmates' input and feedback. Through this process, students consider modifications in their storylines as well as additional scenarios that may contribute to the enhancement of their ideas. Writing biography profiles that bring the story's characters to life is also covered in this course.

Fee

Animation

ANIM5400

3 Credits

Character Design

Character design begins during the initial stages of the development of animated films and video games and plays a critical role in the creation and success of those pieces. In order to bring their characters to life, students in this class learn the process of designing imaginative original characters by sketching and assembling model sheets. These documents are routinely used in the industry to aid in standardizing the look, postures and personality of an animated character.

Fee

ANIM5500

3 Credits

Digital 2D Animation

2D animation generates movement in a two-dimensional imaginative space. Students in this course learn both the creative and technological skills necessary for animating characters and backgrounds in digital two-dimensional worlds. Creating bitmap and vector graphics using software programs are also covered in this course.

Fee

ANIM5600

3 Credits

3D Layers in After Effects®

When a 3D layer is created in After Effects® it gains additional properties such as z-depth, material options, light, shadows and cameras. Students in this class expand their 3D skills to create the types of compelling animations that people are accustomed to seeing. They learn to transform 3D layers relative to the composition and customize the space to push the visuals to a higher level. Adding effects and masks to 3D layers, compositing 3D layers with 2D layers and creating and animating cameras and lights are also covered in this course. Prerequisite: ANIM1750 Motion Graphics with After Effects® or permission of program director.

Fee

ANIM5700

3 Credits

Dynamic Effects and Particle Systems in After Effects®

A particle system is a technique in game physics, motion graphics and computer animation that uses a large amount of tiny graphics to mimic certain kinds of visually random events. These types of animations are very difficult to replicate with the usual rendering methods. Students in this class focus on pushing the envelope in creating realistic looking particle systems including fire, explosions, smoke, sparks, falling objects, clouds, fog, snow, rain, dust, stars and galaxies, as well as imaginary graphic effects such as glowing trails and magic spells. Prerequisite: ANIM1750 Motion Graphics with

After Effects® or permission of program director.

Fee

ANIM5750

3 Credits

3D Character Modeling

Characters are an integral part of many film and video game projects. In this course, students learn to create segmented and seamless 3D characters based on concept art of their own unique characters using a variety of polygonal modeling techniques. Emphasis on creating clean optimized meshes is taught in this course. Prerequisite: ANIM2500 3D Computer Animation or permission of program director.

Fee

ANIM5800

3 Credits

Compositing in After Effects®

Compositing is the joining of visual elements from separate sources into a single image, usually to give the illusion that all those elements are parts of the same environment. This course teaches students how to replace parts of an image with other graphics in a convincing, seamless way so as to appear as if they are part of the original. Students learn to combine digital backgrounds with live-action sets and objects, as well as adding elements shot in small spaces to large virtual environments in order to enhance the reality of the visuals. Prerequisite: ANIM1750 Motion Graphics with After Effects® or permission of program director.

Fee

ANIM5850

3 Credits

Advanced Digital 2D Animation

This course expands on the techniques learned in ANIM5500 Digital 2D Animation. The emphasis is on a more in-depth use of the vector animation toolset and the motion editor to produce engaging animations. Students learn attention to detail and study the subtleties necessary in creating polished, high-quality animated pieces. Prerequisite: ANIM5500 Digital 2D Animation.

Fee

ANIM5900

3 Credits

Expressions and Scripting in After Effects®

Scripts automate monotonous tasks and perform complex calculations while expressions determine that a property equals something. This course teaches students how to use expressions to build connections between layer properties and to dynamically animate layers. They also learn to write scripts to assist in completing a series of commands and tell the software to perform a sequence of actions.

Prerequisite: ANIM1750 Motion Graphics with After Effects® or permission of program director.

Fee

ANIM6100

3 Credits

Digital Sculpting

This class teaches digital sculpting by learning how to create realistic 3D characters using industry-standard applications. The focus is on anatomy, form and proportion while learning how to add a high level of detail to polygonal meshes utilizing the software tools. Texture painting is also discussed and taught through a variety of comprehensive demonstrations, exercises and assignments. Prerequisite: ANIM1850 3D Computer Modeling or ANIM2240 Low Poly 3D Modeling or permission of program director.

Fee

ANIM6150

3 Credits

3D Character Texturing

Textures give the appearance of compound surfaces that reflect lighting as well as displaying the attributes and detail found in the materials, coloring and shading. In this class students learn about the various types of textures and finishes that can be applied to their 3D characters. They create custom texture maps and also learn how to control how they are applied to the surface of their character models using various methods such as the unwrapping and composite-mapping techniques. Prerequisite: ANIM1850 3D Computer Modeling or ANIM2240 Low Poly 3D Modeling or permission of program director.

Fee

ANIM6300

3 Credits

3D Character Animation

Study 3D character animation techniques applied to seamless 3D characters as well as skinning and facial morphing. The focus is on the details of secondary motion, follow through and asymmetrical poses to emulate realistic body motion and facial expression. Prerequisite: ANIM2500 3D Computer Animation or permission of program director.

Fee

ANIM6350

3 Credits

3D Particle Systems and Effects

Students learn to create and control various types of 3D particle systems to be able to implement special effects such as fire, explosions, fluids, dust, bubbles, disintegration, physics, collisions, etc. into their 3D scenes and animations. Prerequisite: ANIM2500 3D Computer Animation or permission of program director.

Fee

ANIM6400

3 Credits

3D Animation for Games

A video game animator's job is to portray the movements and behaviors that happen in the game. This course teaches students how to animate game behaviors, sequences and cut scenes in an effective way to maximize the use of a game engine's technology within the limitations of that particular platform. They learn how it may be necessary to limit the amount of motion frames and the number of graphics displayed on the screen simultaneously. Because game animation is often a combination of a number of different kinds of motions, the students in this class learn to build and assemble libraries of reusable animations. Prerequisite: ANIM2500 3D Computer Animation or permission of program director.

Fee

ANIM6600

3 Credits

Game Creation

Students integrate their game ideas using a cutting-edge powerful rendering engine. This course emphasizes bringing characters and objects to life inside a gaming environment. Students use the tools provided to create interactive graphic content while focusing on reducing the time needed to create visually stunning games. Assembling scenes containing original custom visuals, audio and realistic action that perform well on any platform are also covered in this course. Prerequisite: ANIM2500 3D Computer Animation or permission of program director.

Fee

ANIM6700

3 Credits

Animating Fluids

Fluid simulation is a computer-animation technique used to produce lifelike animations of liquids such as water and sludge. These kinds of simulations range in difficulty from enormously time-consuming, high-end animations for film to real-time particle systems used in modern games. This course covers creating various types of fluid effects in both 3D space as well as in 2D post. Prerequisites: ANIM1750 Motion Graphics with After Effects® and ANIM2500 3D Computer Animation or permission of program director.

Fee

ANIM6805

3 Credits

Motion Tracking

Motion tracking is a cinematic practice of adding graphic elements to film footage with accurate size, location and movement in relation to the photographed elements in the scene. This course teaches students how to track the movement of a camera through live-action shots so that identical computer-generated camera

moves can be duplicated using animation software. Students also learn how to composite animated elements into live-action shots so that they appear perfectly matched in perspective in order to look natural and seamless. Prerequisites: ANIM1750 Motion Graphics with After Effects® and ANIM2500 3D Computer Animation or permission of program director.

Fee

ANIM6900

3 Credits

Digital 2D Game Creation

This course teaches the game-creation process of combining 2D digital art and audio with game play, and instills how good planning plays an important role in video-game production. Students learn to understand the video-game production pipeline from the planning stage and level design, to creating sprites and graphic and audio assets, to assembling a prototype of a game.

Fee

ANIM7000

3 Credits

Advanced 3D Character Animation

This course continues to develop the artistic and technical skills necessary to become a successful character animator by focusing the critical principles of animation like weight, overlapping motion and subtleties through the use of animation layering and muscle simulation. Students also learn how to better show feelings of happiness, desolation and distress by articulating the personality and emotion of their animated characters to the audience. This class builds on the character rigging and animation skills learned in the previous character-animation course. Prerequisite: ANIM6300 3D Character Animation.

Fee

ANIM7100

3 Credits

3D Character Animation - Weight, Overlap and Follow Through

Follow through and overlapping are techniques that help to produce more realistic movement that looks as if the character imitates the laws of physics. The achievement of believable motion and how the action follows through is frequently more necessary than the move itself to making an animation appear more convincing. In this course students analyze the subtleties of motion and learn to understand how if one body part stops other parts may overlap and follow through the leading motion, gradually coming to rest. They also learn to add weight, mass and moving holds to add life to breathing characters. Prerequisite: ANIM6300 3D Character Animation.

Fee

ANIM7200

3 Credits

3D Character Animation - Emotion and Personality

Emotion and personality are the most challenging parts of character animation, because it is essential that it portrays both subtlety and scope in what is being visually communicated to the audience. In this class students learn the skills, procedures and thought processes for animating expressive faces coordinated with body language. Through the use of a variety of techniques, the focus is on evoking thought, enthusiasm and emotion in their characters' actions. Prerequisite: ANIM6300 3D Character Animation.

Fee

ANIM7250

3 Credits

Lip-Syncing

Lip-syncing is the art of making an animated character's mouth move in unison with a prerecorded track of dialogue. To make a character appear to speak involves figuring out the timings of the speech as well as the actual animating of the mouth to match the dialogue track. This course teaches students how to make a character give the impression of speaking by use of manual timing as well as learning to use lip-syncing software. Prerequisite: ANIM6300 3D Character Animation.

Fee

ANIM7300

3 Credits

Animation with Hair/Fur

From feature films to broadcast TV, fur is now commonly seen in animations the world over. In this course students learn how to apply fur and hair to their 3D characters and experiment with the software features to give it the qualities (such as styling, flyaway, clumping and kinking) that they envision. Applying dynamics, gravity, collision detection and external forces (such as wind) to the hair are also covered in this course. Prerequisite: ANIM6300 3D Character Animation.

Fee

ANIM7400

3 Credits

Animation with Cloth

In computer animation, cloth simulation refers to the production of soft-body objects that animate via flexible dynamics. As opposed to rigid-body animation, the shape of soft-body objects change and flex as they move. By learning specialized rendering properties that replicate real-world physics, students apply visually realistic clothing properties to their 3D characters. The focus is to enhance the realism of animated characters wearing flowing apparel. Prerequisite: ANIM6300 3D Character Animation.

Fee

Animation

ANIM7425

3 Credits

Motion Capture

This course teaches the process of recording human movement, captured by an array of sensors which are placed on the body in a variety of combinations. Students learn to use software that records the actions of live actors and then map that motion data to 3D character models so that it performs the same movements as the actor. Whether animating for film or games, the techniques learned in this class allow for increased motion testing because of the ability to quickly animate digital 3D characters. Prerequisite: ANIM6300 3D Character Animation.

Fee

ANIM7500

3 Credits

Advanced Game Creation

This course expands upon the techniques learned in ANIM6600 Game Creation. Students learn to add their own tools and to enhance performance while increasing graphic quality. This course also covers how to use the high-end customizable game-engine tools to quickly export visually exciting, fully produced games. Prerequisite: ANIM6600 Game Creation.

Fee

ANIM7525

3 Credits

Virtual Reality

Virtual reality (VR) is the use of computer technology to create simulated environments where users are immersed in and able to interact with 3D worlds. In this course students learn to simulate a user's physical presence with imaginary environments in a way that allows them to interact with it through the use of state-of-the-art VR headsets. The goal is to simulate breathtaking sensory experiences by creating 3D environments and animations, as well as incorporating audio and precise motion tracking that transports users into worlds that are beyond the imagination. Prerequisite: ANIM6600 Game Creation.

Fee

ANIM7550

3 Credits

Internship I

Students work at a company or organization between five and 20 hours per week, filling an animation, interactive media or video-game role. Internships may be paid or unpaid. Prerequisite: permission of program director.

ANIM7600

3 Credits

Video Game Team Project

In the industry, video games are primarily produced by a team of people. The students in this class work in groups to design and create their own video games. The type of game and

the role that each person fills are determined by the group with the oversight of the professor. Prerequisite: permission of program director.

Fee

ANIM7650

3 Credits

Thesis I*

In the M.F.A. thesis, students write, design and produce all aspects of a comprehensive project that exhibits everything learned in the graduate program to date. Thesis I lays the groundwork for the project by developing the story as well as the previsualization pieces that are typically produced when creating an animated film or game. These include writing project treatments and drafting story proposals, character development, writing and revising scripts, sketching story concepts, developing and refining detailed storyboards, audio recording, developing sound effects, assembling and editing animatics containing sketch motions and audio and the initial steps of creating graphic elements and 3D models. Each phase of the development undergoes a number of rigorous in-class critique sessions, after which improvements are implemented. Throughout the course students maintain a journal of their processes, successes, problems and challenges. Before the student can continue on to ANIM7750 Thesis II, the project must be approved by the professor and all of the requirements listed above must be completed. Prerequisite: permission of program director.

ANIM7700

3 Credits

Faculty/Student Research I

Members of the faculty engage in research projects with selected students with the goal of professional publication or presentation. Prerequisite: permission of program director.

ANIM7750

3 Credits

Thesis II*

In this course students finish building their digital 3D character models, 3D environments and digital props for their final piece. Designing, creating and mapping textures, as well as lighting and camera placement to be used in the various 3D scenes in their thesis project are completed in this class. After these elements are prepared, the students begin animating their characters and other models within the 3D scenes. As each element and animation is developed and refined, they go through a number of in-class critiques, after which improvements are implemented based on that feedback. As rough previews and refined motion tests are rendered, they are inserted into the animatic that was produced in ANIM7650 Thesis I which continues to grow and progress the digital previsualization of the piece. Throughout the course students update their

**Online course.*

journal. At the end of this course the professor evaluates each student's project. If the status of the project is approved, the student is permitted to move on to ANIM7850 Thesis III. Prerequisite: ANIM7650 Thesis I.

ANIM7775

3 Credits

Internship II

Students work at a company or organization between five and 20 hours per week, filling an animation, interactive media or video-game role. Internships may be paid or unpaid. Prerequisite: permission of program director.

ANIM7805

3 Credits

Faculty/Student Research II

Members of the faculty engage in research projects with selected students with the goal of professional publication or presentation. Prerequisite: permission of program director.

ANIM7850

3 Credits

Thesis III*

In this course students finish and refine all of the animated scenes for the project that they began in the previous thesis courses, and the process of 3D printing will also be taught. Based on in-class critiques, a number of missing pieces may need to be created in order to complete or enhance the story, or scenes may need to be revised and re-rendered. Paying close attention to the amount of time needed to complete all of the renders, the students render the final high-res motion files for each scene upon its completion. As they are assembling the high-res files into the final edit, they will generate and composite post effects with the finished renders; enhance lighting; implement color correction; polish audio (narration, voice-over, sound effects); complete the postproduction; and design and animate the movie title and credits. In addition, the students write papers discussing their research and development phases, processes, successes, problems and challenges experienced throughout producing their project based on the journal that they have been maintaining. The papers also contain a final analysis of their project. At the end of the semester, students present their thesis projects to the public. In preparation for this, the students design display boards and tables to creatively exhibit their original concept sketches, storyboards, high-res computer printouts of various parts of their project and 3D prints of their characters and environments. The final animations will be projected on a large screen at the thesis event. In order to complete the course, students must submit their journal, written proposal, written script, concept sketches, storyboards, all of their previsualization pieces and their finished

**Online course.*

project, along with the written paper and the project analysis to the professor and program director for review. Prerequisite: ANIM7750 Thesis II.

ANIM7900 3 Credits

Animation Career Preparation*

This is the capstone course to be taken in the final semester prior to graduating from the program. Students present the animation work that they produced in all of their animation courses in the program to the class and discuss their professional interests and goals. Undergoing a series of follow-up critiques from their classmates, students learn to assemble and revise polished professional demo reels highlighting the strongest segments of each of their projects, focused on meeting their career goals. Based on additional critical feedback sessions, students design personalized logos that will be used to market themselves as professional animators. Personalized business cards, résumés, letters of introduction and follow-up letters are then written and designed, emulating the persona of their final logo. In order to present their demo reel and promote their animation skills to prospective employers, students learn how to plan (content, navigation, graphic design) and develop visually and technically impressive portfolio websites, exhibiting their own individual artistic style by following through with the branding established in the final logo design. How to implement and design social media presences and utilize other online avenues to market their skills and find work are also covered in this course. Prerequisite: permission of program director.

Biology (M.S.)

This program is offered under the auspices of the School of Natural Sciences, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

1. Graduation from an accredited college or university with a 3.00 cumulative grade point ratio and at least 24 semester hours in biology and a general program, including related scientific subjects, which would be equivalent to the biology major program offered for the Bachelor of Science degree at Fairleigh Dickinson University. Students who are deficient in some subjects, but whose records are otherwise superior, may make up their deficiencies while they are enrolled in the graduate program.
 2. Undergraduate academic attainment in biology, which meets with the approval of the graduate biology faculty.
 3. Submission of an official score report for the Graduate Record Examinations (GRE) General Test taken within the last five years. (The GRE requirement is waived for applicants who have completed a master's degree.)
 4. Three letters of recommendation.
- Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a nonmatriculated or nondegree basis.

Requirements for the Master of Science Degree

1. Satisfactory completion of a minimum of 32 credits in the courses approved for a graduate major in biology. A minimum of 20 credits must be taken in biological sciences, selected from the courses described on pages 63–65. A maximum of 6 credits may be transferred from another institution with the permission of the school director if these credits are not part of an existing master's degree. In addition, courses may be taken in other colleges and campuses of the University, with the director's permission.
2. Before a student may register beyond 9 credits, he or she is required to select a biology adviser. The adviser will help the student select courses most appropriate for the student's needs and interests. Ideally, the student will select a faculty member in

the area of interest most closely paralleling his or her own. This faculty member also may serve as the student's mentor.

3. Students have the option of completing their degrees with or without a research option. Students electing to do the research and thesis option must take BIOL7803, BIOL7804 Research and Thesis I, II, 2 credits each semester.

4. BIOL6900 Biology Seminar I and BIOL6901 Biology Seminar II are required 1-credit courses and must be taken in the fall and spring semesters.

Required Biology Courses (20 credits)

(With or without research option above 2 credits)

The following 1-credit courses are both required and must be taken in the fall and spring semesters.

	Credits
BIOL6900 Biology Seminar I.....	1
BIOL6901 Biology Seminar II.....	1

Elective Biology Courses (18 credits)

These courses may include additional graduate biology courses, independent studies or other graduate chemistry or science courses that would fulfill a student's specific needs as approved by the graduate adviser and director for the Master of Science in biology.

Choose from the following courses.

BIOL5306 Immunology.....	3
BIOL6240, BIOL6241 Molecular Cell Biology (Lecture and Laboratory).....	4
BIOL6705 Advances in Cell Biology.....	3
BIOL6724 Human Genetics.....	3
BIOL6725 Human Evolution.....	3
BIOL6728 Bioethics.....	3
BIOL6733 Enzymology.....	3
BIOL6740 Molecular Endocrinology.....	3
BIOL6761 Advanced Microbiology.....	3
BIOL6771 Behavioral Ecology.....	3
BIOL6775 Physiological Ecology.....	3

*Online course.

Biology

	Credits
BIOL6779	
Darwinian Medicine.....	3
BIOL6845, BIOL6846	
Molecular Biology Techniques (Lecture and Laboratory).....	4
BIOL6888	
Physiology of Disease.....	3
BIOL6892	
Human Physiology.....	3
ENVR6552	
Environmental Risk Assessment.....	3
ENVR6569	
Wetland and Watershed Resources.....	3
Students have the option of completing their degrees with or without a research option. Students electing to do the research and thesis option must take the 4-credit sequence consisting of	
BIOL7803	
Research and Thesis I.....	2
BIOL7804	
Research and Thesis II.....	2

Elective Courses (12 credits)

Elective courses must be approved by the student's School of Natural Sciences' graduate adviser.

These courses may include additional graduate biology courses or independent studies that will fulfill a student's specific needs.

Undergraduate Students

Senior undergraduate students with a 3.00 grade point ratio (GPR) may take graduate courses for undergraduate credit with permission of the instructor.

Concentration in Business or Biotechnology

This curriculum is designed to enable biology graduate students to have a concentration in business or biotechnology.

Curriculum Requirements

Same as for the Master of Science degree in biology (see pages 61–62), but including 12 credits of business courses or 14 credits of biotechnology courses taken as a unit concentration.

Elective Concentration Courses

Elective courses (12 credits) for the concentration in business or 14 credits of biotechnology courses must be approved by the student's School of Natural Sciences graduate adviser and director of the intended concentration.

These courses may include additional graduate biology courses, independent studies or other graduate courses that will fulfill a student's specific needs.

Concentration in Business

Business Concentration Elective Courses (12 credits)

	Credits
ACCT5012	
Financial Accounting: End-User Applications.....	2
ACCT6012	
Managerial Accounting Applications.....	2
ECON5012	
Economic Analysis.....	2
ECON6012	
Managerial Economics.....	2
ENTR6012	
Entrepreneurship and Innovation.....	2
LAW6012	
Society, Ethics and the Legal Environment of Business.....	2
LAW6657	
Applied Business Law.....	3
MGMT5012	
Foundations of Management.....	2
MGMT6012	
Organizational Behavior and Leadership.....	2
MGMT6112	
Managing Sustainability in a Global Environment.....	2
MGMT6621	
Strategic Human Resource Management.....	2
MKTG5012	
Marketing Principles.....	2
MKTG6012	
Strategic Marketing.....	2
MKTG6112	
Social Media Strategy.....	2
Twelve credits may be selected from the above listed elective courses for the business concentration for the Master of Science in biology degree as approved by the graduate adviser and director.	
The 5000-level business concentration elective courses are prerequisites for the 6000-level courses. Chosen course electives must be completed with a minimum grade of C.	

Concentration in Biotechnology

Biotechnology Concentration Courses (16 credits)

	Credits
BIOL5306	
Immunology.....	3
BIOL6720	
Molecular Biotechnology.....	3
BIOL6743, BIOL6744	
Topics in Bioinformatics (Lecture and Laboratory).....	3
BIOL6840	
Cell Culture.....	3
BIOL6845, BIOL6846	
Molecular Biology Techniques (Lecture and Laboratory).....	4

Biotechnology Concentration Electives (14 credits)

Choose from the following free elective courses.

BIOL6240, BIOL6241	
Molecular Cell Biology (Lecture and Laboratory).....	4
BIOL6632	
Selected Studies in Biology.....	3
BIOL6661	
Lab: Advanced Microbiology.....	2
BIOL6705	
Advances in Cell Biology.....	3
BIOL6719	
Developmental Genetics.....	3
BIOL6724	
Human Genetics.....	3
BIOL6728	
Bioethics.....	3
BIOL6733	
Enzymology.....	3
BIOL6745	
Endocrinology.....	3
BIOL6747, BIOL6748	
Biotechniques (Lecture and Laboratory).....	3
BIOL6756	
Dermal Pharmacology and Immunology.....	3
BIOL6758	
Advances in Pharmacology.....	3
BIOL6760	
Virology.....	3
BIOL6761	
Advanced Microbiology.....	3
BIOL6772	
Ecotoxicology.....	3

Students have the option of completing their degrees with or without a research option. Students electing to do the research and thesis option must take the 4-credit sequence consisting of

	Credits
BIOL7803	
Research and Thesis I.....	2
BIOL7804	
Research and Thesis II.....	2

Elective Concentration Courses

Elective courses (12 credits) must be approved by the student's School of Natural Sciences graduate adviser and director of the intended concentration.

These courses may include additional graduate biology courses, independent studies or other graduate courses that will fulfill a student's specific needs.

For Information

For more information contact Dr. Marion McClary, professor of biological sciences and co-director, School of Natural Sciences, at (201) 692-2606 or mcclary@fdu.edu.

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate school director.

Biological Sciences

School of Natural Sciences

BIOL5306

3 Credits

Immunology

Study of the structure and function of the molecular and cellular components of the immune system, genetic bases of immune responses, normal and pathological responses, tumor immunology, transplantation and immunological techniques. Open to qualified undergraduates with permission of instructor or adviser.

BIOL6240

4 Credits

Molecular Cell Biology

Modern cell biology investigates the central concept for cellular functioning — DNA to RNA to protein — by integrating biomolecules, biotechnology, regulating mechanisms, signals and signaling pathways and aberrations that result in pathology, such as cancer. Corequisite: BIOL6241 Laboratory: Molecular Cell Biology.

BIOL6241

0 Credits

Laboratory: Molecular Cell Biology

The laboratory encompasses sequential experiments using tissue culture: cell toxicity; apoptosis; oxidative stress; immunocytochemistry; ELISA (enzyme-linked immunosorbent assay), siRNA (small interfering RNA) or promoter-reporter

transfection, mRNA isolation, polymerase chain reaction, gel electrophoresis; Northern blotting. Corequisite: BIOL6240 Molecular Cell Biology.

BIOL6632

3 Credits

Selected Studies in Biology

Recent developments in special fields of biology.

BIOL6661

2 Credits

Lab: Advanced Microbiology

Experiments illustrating topics discussed in BIOL6761 Advanced Microbiology. Corequisite: BIOL6761 Advanced Microbiology.

BIOL6700

3 Credits

Advanced Biotechnology

Molecular biotechnology encompasses the principles and applications of recombinant DNA technology in the production of commercial products such as ascorbate, antibodies, vaccines, growth factors, cytokines, nucleic acids, drugs, crops, livestock; the diagnosis of genetic diseases or infections with nucleic acids, immunological or biological probes/systems that are mostly PCR based; the analysis of information through bioinformatics, genomics and proteomics; and protein or nucleic-acid therapy with agents such as enzymes, aptamers or interfering nucleic acids.

BIOL6705

3 Credits

Advances in Cell Biology

Molecular organization of cells. Internal membranes and synthesis of macromolecules. The cell nucleus and cell division. Control of cell cycle. Cytoskeleton and cell-cell adhesion. The extra cellular matrix and signal transduction. *Fall, Spring*

BIOL6719

3 Credits

Developmental Genetics

This course introduces methods of current genetic and genomic analysis to understand the molecular mechanisms of development and regulation of genes in embryonic development. Lectures are based on developmental biology textbook and scientific literature on model organisms.

BIOL6720

3 Credits

Molecular Biotechnology

Purification of DNA. Manipulation of prokaryotic and eukaryotic DNA. Vectors, cloning, gene expression and in vitro mutagenesis. Production of proteins from cloned genes. Applications of recombinant DNA technology in basic research, medicine, agriculture and industry. *Spring*

BIOL6724

3 Credits

Human Genetics

Structure and function of human genes and chromosomes. Chromosome mapping and the human genome project. Numerical and structural chromosomal abnormalities, metabolic defects, genetic aspects of cancer and disorders of the immune system, gene therapy, genetic counseling and ethical issues. *Fall*

BIOL6725

3 Credits

Human Evolution

Evolutionary biology of human species. History of hominid lineage and how evolutionary pressures explain physical and behavioral adaptations to past and present environments. Modern human genetic diversity and its relevance to biomedical research. Prior course work in evolution is required. *Spring*

BIOL6728

3 Credits

Bioethics

Studies relating implications of biotechnological and biomedical innovations, individual perception of issues and the universal policies influencing the state of living species. *Summer*

BIOL6733

3 Credits

Enzymology

Enzyme sources and purification, structure, kinetics and mechanisms. Sequencing and characterization, biocatalysis, control of enzyme activity, clinical aspects of enzymology and applications in biotechnology. Use of protein data banks and molecular modeling. *Spring*

BIOL6740

3 Credits

Molecular Endocrinology

The course comprises of the biochemistry and molecular biology of hormone action: synthesis, secretion, release, regulation, metabolism, receptors, signal transduction, gene expression and the cellular effects of insulin, glucagon, catecholamines, glucocorticoids, growth hormone, growth factors, thyroxine, parathyroid hormone, calcitonin, gonadotropins, ovarian steroids, androgens, aldosterone, vasopressin; and hormone imbalance and effects in aging, malignancy and disease.

BIOL6743

3 Credits

Topics in Bioinformatics

Current biological research using mega amounts of data provided by microarrays, crystallographic, sequencing and other techniques. Topics explore such data and some

Biology

of the analysis methods available online focusing primarily on the DNA chips used for transcriptional profiling. Corequisite: BIOL6744 Lab: Topics in Bioinformatics.

BIOL6744

0 Credits

Lab: Topics in Bioinformatics

Experiments illustrating the topics discussed in BIOL6743 Topics in Bioinformatics. Corequisite: BIOL6743 Topics in Bioinformatics.

BIOL6745

3 Credits

Endocrinology

Physiology of hormones from endocrine and non-endocrine cells. Molecular structure, homology, biosynthesis, secretion, transport and metabolism of hormones. Mechanism of hormone action and receptor specificity. Pathophysiology of hormones. Techniques of measurement of hormone, production of hormone analogs.

Fall

BIOL6747

3 Credits

Biotechniques

Current biotechnology techniques, including DNA cloning, gene regulation and protein expression/activity, using in-vitro models such as prokaryotic and eukaryotic cells or tissue-equivalents. Corequisite: BIOL6748 Lab: Biotechniques.

BIOL6748

0 Credits

Lab: Biotechniques

Experiments illustrating the topics discussed in BIOL6747 Biotechniques. Corequisite: BIOL6747 Biotechniques.

BIOL6756

3 Credits

Dermal Pharmacology and Immunology

Skin structure, function and immunology and their impact on the application and efficacy of cosmetic products. Pharmacological principles such as pharmacokinetics and pharmacodynamics are reviewed. The importance of skin safety testing.

Spring

BIOL6758

3 Credits

Advances in Pharmacology

Development and approval of new medications in the United States. Current medications used in the management of pathophysiological conditions involving the cardiovascular, respiratory, gastrointestinal, endocrine and nervous systems. Antiviral and antibacterial agents. Immunotherapy. Orphan drugs.

BIOL6760

3 Credits

Virology

Virus morphology and chemical composition, transmission and dynamics of infection, virus entry, virus assembly and virus vectors. Recent discoveries in molecular biology, pathogenesis and medical aspects of viruses.

BIOL6761

3 Credits

Advanced Microbiology

Organization of physiological processes in microorganisms, including structure, energy-yielding mechanisms, macromolecular biosynthesis, growth and regulation. Prerequisite: undergraduate organic chemistry and microbiology.

Spring

BIOL6771

3 Credits

Behavioral Ecology

Behavioral ecology, conservative biology, mate choice, dispersal, reserve design, genetic diversity, subsistence harvesting and hunting. Note: FDU NetID (formerly Webmail) account required. Fully online course.

Summer

BIOL6772

3 Credits

Ecotoxicology

Principles and methods of biological testing for toxicity of effluents and receiving waters. Principles of cost-efficient compliance with toxicity limits placed on discharges.

Fall

BIOL6775

3 Credits

Physiological Ecology

Discussion of current topics addressing physiological adjustment of animals to the physical and chemical environment, tolerance of temperature, osmotic conditions, partial pressures of oxygen and starvation. Lecture and seminar. Note: FDU NetID (formerly Webmail) account required. Fully online course.

Summer

BIOL6776

4 Credits

Advances in Ecology

Interrelationships of biotic and abiotic components of the environment. Ecological energetics, population dynamics, distribution patterns, environmental imbalances and community succession will be studied. Corequisite: BIOL6777 Lab: Advances in Ecology.

Fall

BIOL6777

0 Credits

Lab: Advances in Ecology

Experiments illustrating the topics discussed in BIOL6776 Advances in Ecology. Corequisite: BIOL6776 Advances in Ecology.

Fall

BIOL6779

3 Credits

Darwinian Medicine

Application of Darwinian reasoning to medical research and clinical practice. Intrinsic biological aging, pathology due to defense mechanisms, acute and stealth infection, novel environments, genetic diversity, design compromises and evolutionary legacies. Prior course work in evolution is required.

Spring

BIOL6840

3 Credits

Cell Culture

Biology, characteristics and requirements of cells in culture. Aseptic cell culture methods and applications of the techniques to specific types of cell lines. Evaluation of cultured cell function. Scale-up of cell cultures. Cell-based assays and drug discovery. Applications in recombinant DNA technology.

Fall

Fee

BIOL6845

4 Credits

3 Contact hours

Molecular Biology Techniques

Classic and current biotechniques to include handling numbers, weighing and solution preparation, experimental design, spectrophotometry, chromatography, enzyme kinetics/inhibition, assays for reactive organ species, cell culture, agarose and polyacrylamide gel electrophoresis, Southern and Western blotting, cloning, eukaryotic cells, polymerase chain reaction (PCR) and real time. Corequisite: BIOL6846 Lab: Molecular Biology Techniques.

BIOL6846

0 Credits

Lab: Molecular Biology Techniques

Experiments illustrate the topics discussed in BIOL6845 Molecular Biology Techniques. Corequisite: BIOL6845 Molecular Biology Techniques.

BIOL6888

3 Credits

Physiology of Disease

The study of the physiological and biological manifestations of disease. Provides a basis as to how alterations in structure and function disrupt the human body as a whole. Prerequisites: BIOL3357 Human Structure and Function II and BIOL3358 Laboratory: Human Structure and Function II. Note: FDU NetID (formerly Webmail) account required. Fully online course.

BIOL6890

3 Credits

Neuroscience

The organization and function of the human nervous system including the molecular, cellular systems, behavioral and cognitive levels of analysis. Note: FDU NetID (formerly Webmail) account required. Fully online course.

BIOL6891

3 Credits

Histology

The structure and functional correlations of body tissues, cells, organs and organ systems. Note: FDU NetID (formerly Webmail) account required. Fully online course.

BIOL6892

3 Credits

Human Physiology

Molecular, cellular and systems physiology of the nervous, muscular, cardiovascular, respiratory, urinary, immune, endocrine and reproductive systems. Note: FDU NetID (formerly Webmail) account required. Fully online course.

BIOL6900, BIOL6901

1 Credit Each Semester

Biology Seminar I, II

A series of lectures by invited speakers on topics of current interest. Exposure of students to research developments and techniques in selected areas of specialization.

BIOL7803, BIOL7804

2 Credits Each Semester

Research and Thesis I, II

The student is required to write and then defend before a faculty committee a thesis based on laboratory research and prepared under the supervision of a faculty member.

Fall, Spring

Fee

BIOL7810

3 Credits

Selected Studies in Biology

As student interest requires, courses in highly specialized topics may be offered.

Fall, Wintersession, Spring

BIOL8000

1 Credit

Curricular Practical Training

A Curricular Practical Training (CPT) requirement for work-experience course/independent study registration in most academic programs at FDU. The training experience is integral to the course and the detailed course objectives will be on a separate independent study proposal form. The student's work or training experience will be: part-time (20 hours or less per week) or full-time (more than 20 hours per week). A non-letter grade of P for Pass or NC for No Credit will be applied to

degree audit as this course will be excess credit and not counted toward a degree requirement.

ENVR6552

3 Credits

Environmental Risk Assessment

This course describes the scientific basis for the steps in the risk-assessment processes and discusses current guidelines and procedures for performing them.

ENVR6569

3 Credits

Wetland and Watershed Resources

Includes the study of natural characteristics of inland (freshwater) and coastal (tidal) wetland ecosystems. It also provides an overview of basic ecological principles related to watershed planning and describes the benefits of watershed management. It also examines wetland and watershed functions and values with applications to environmental impact assessment, wetlands and watershed planning, management and restoration. Course lectures and discussions will be supplemented by short, on-campus and local, off-campus field trips.

Business

Programs

Master of Business Administration (M.B.A.) (Specializations)

Accounting

See page 68.

Business Administration

See page 68.

Finance

See page 68.

International Business

See page 69.

Management

See page 69.

Marketing

See page 69.

Pharmaceutical Management Studies

See page 70.

Post-M.B.A. Graduate Certificate Program

See page 70.

Master of Business Administration (M.B.A.) — Saturday M.B.A.

See page 72.

Master of Business Administration (M.B.A.) — Management for Executives

See page 73.

General Management Specialization

See page 73.

Health Sector Management Specialization

See page 74.

Master of Science (M.S.) — Accounting

See page 74.

Master of Science (M.S.) — Digital Marketing

See page 75.

Master of Science (M.S.) — Supply Chain Management

See page 76.

Master of Science (M.S.) — Taxation

See page 77.

The Silberman College of Business is accredited by AACSB International - The Association to Advance Collegiate Schools of Business. AACSB is the premier business school accrediting body.

The College of Business offers programs leading to the degrees of Master of Business Administration (M.B.A.) and Master of Science in taxation (M.S.),

Master of Science in accounting (M.S.), Master of Science (M.S.) in digital marketing and Master of Science in supply chain management (M.S.). Courses for the M.B.A. and M.S. degrees are scheduled during the evening and on Saturdays. Some courses are offered during the day. Courses for the M.S. in digital marketing are fully online. Programs may be pursued either on a full-time basis or part-time basis.

Admission Requirements

All students who wish to enroll for graduate course work within the Silberman College of Business must apply for admission as matriculated students. All students must meet the requirements for graduate status or receive special permission from the M.B.A. Office. Check the specific requirements for the program in which you are interested.

Academic Regulations

In addition to the academic regulations found elsewhere in this bulletin, the following regulations apply to all College of Business students.

1. Cumulative Grade Point Ratio

A cumulative grade point ratio of 3.00 is required for graduation from the graduate programs of the College of Business.

2. Graduation Requirements

To be eligible for graduation, students must be matriculated, must have completed a minimum of 30 credits in the M.B.A. and a minimum of 24 credits in the M.S. program, must have completed all required courses in the program and must have a cumulative grade point ratio of 3.00 or better. Core courses cannot be waived.

3. Incompletes

The grade of I must be removed by the third week of the next full semester (excluding summer sessions). An Incomplete that is not removed within this period is automatically changed to an F. In case of well-documented extenuating circumstances, an instructor and a student may jointly petition the dean for additional time in which to complete the course work. Such petitions must be submitted within the same period. The grade of I cannot be removed by registering for the course at Fairleigh Dickinson University or by taking its equivalent elsewhere.

4. Matriculation Status

At least 80 percent of each student's nonwaivable credits must be completed at Fairleigh Dickinson University.

5. Residency Requirement

Matriculated students must maintain residency with the University during the period of time required to complete the course work required for the graduate degree. Residence means that students must be enrolled in the fall and spring semesters. Summers are not counted in the residency requirement. In addition, a total of 30 credits must be completed in residency. A student who fails to enroll in a fall or spring semester without filing an *approved* leave of absence is considered to have broken residency and must apply for readmission. In this case, all rules and regulations effective at the time that the student applies for readmission are applicable to the student. M.B.A./M.S. students are permitted two one-semester leaves of absence. The total time permitted to complete the degree is seven calendar years, excluding leaves of absence. Any extension may be granted only under extenuating circumstances and only by the M.B.A./M.S. program director.

6. Second M.B.A.

Award of a second M.B.A. is not permitted; however, students with an M.B.A. degree may receive certification in a second specialization upon completion of required and elected credits for that specialization. Students seeking a second area of specialization should consult with the M.B.A. program director. A 3.00 grade point ratio is required. Contact the respective M.B.A. advisers at the Metropolitan Campus, (201) 692-2424; and at the Florham Campus, (973) 443-8459.

7. Scholarly Requirements

Grades for graduate work may be found in the academic regulations section in the front of this bulletin.

An average of 3.00 or better is required for graduation. A graduate student who receives a grade of F is required to present cause for consideration by the M.B.A. program director (in the case of non-M.B.A. students the program's director) as to why continued studies should be permitted. Documentation must be presented and approved before commencement of the next semester or the student will not be allowed to continue the graduate program.

A graduate student receiving the grade of F in a required course must repeat the course and achieve at least a grade of B. (Such a retake does not expunge the grade of F and it remains part of the student's

records.) Should this level of performance not be attained, the student will be denied further registration.

8. Probation, Suspension and Dismissal

A student who completes 9 or more credits with a cumulative grade point ratio (CGPR) of less than 3.00 will be placed on academic probation. If at the completion of an additional 9 credits the CGPR is still below 3.00, the student will be subject to suspension or dismissal. This decision will be based on the student's overall academic performance and the student's likelihood of obtaining the minimum CGPR of 3.00 needed for graduation. Subsequently, if the student is allowed to continue his or her studies, the student's records will be reviewed each semester in which the CGPR remains below 3.00. The student will either be dismissed or be subject to credit limitations and minimum grade point requirements in order to be permitted to continue his or her studies.

Please Note: A student who is *suspended* has a right to apply for readmission after the lapse of one 15-week semester, not including the summer sessions. To be readmitted, a student must submit evidence to the M.B.A. program director of the student's likelihood of successfully completing all remaining degree requirements.

A student who has been *dismissed* may not apply for readmission. The student is dropped from the University (full-time and part-time programs).

9. Transfer Credit

A maximum of 6 nonwaivable credits of graduate course work required for a degree may be approved for transfer from another AACSB-accredited college or university under the following conditions: the course work must be approved as part of the student's program of studies; it must not have been applied to the completion of the requirements for another degree; it must have been taken at the graduate level; it must have been taken within the past five years; and the student must have received a grade of B or better. Approval of transfer credit will be made by petition to the department chairperson for the course in question. A transcript of the course work must be on file before the petition can be considered.

Master of Business Administration (M.B.A.)

General Programs

Fairleigh Dickinson University's Silberman College of Business offers an M.B.A. program accredited by both the AACSB International - Association to Advance Collegiate Schools of Business and the Middle States Commission on Higher Education.* A graduate student in the Silberman College of Business currently earns an M.B.A. by completing 42 credits of course work.

Admission Requirements

Complete credentials for the evaluation of applicants for the M.B.A. degree program include the following:

1. A four-year bachelor's degree from an accredited or government-recognized college or university.
2. Official transcripts from all colleges and universities in which undergraduate or graduate course work was completed.
3. An official score report for the Graduate Management Admission Test (GMAT)/Graduate Record Examinations (GRE). FDU undergraduates with exemplary grade point ratios are eligible to waive the GMAT/GRE requirement. Contact the Office of Graduate Admissions for information.
4. An updated résumé.
5. A minimum score of 550 (paper-based) or 213 (computer-based) or 79 (internet-based) on the Test of English as a Foreign Language (TOEFL) is required for all applicants whose native language is not English.
6. International Student Proof of Financial Responsibility (for international students only).

Requirements for the Master of Business Administration Degree

The M.B.A. program consists of 42 credits. In addition to the requirements set forth by each specialization (10 of 42 credits) and the capstone course (2 of 42 credits), all

students must complete a set of foundation courses (12 credits) and the M.B.A. core module (18 credits) that includes the following courses:

Foundation Courses (12 credits)

The foundation includes six courses. All classes are two credits.

	Credits
ACCT5012	
Financial Accounting: End-User Applications.....	2
DSCI5012	
Statistical Data Analysis.....	2
ECON5012	
Economic Analysis.....	2
FIN5012	
Principles of Finance.....	2
MGMT5012	
Foundations of Management.....	2
MKTG5012	
Marketing Principles.....	2

For each foundation course, the Silberman College of Business grants waiver credit. The waiver policy that governs each course is established by the department responsible for that course. Requests for waivers must be submitted to the appropriate department and approvals received **before the end of the student's first semester in the program**. For further information visit the **Waiver Credit Policy Procedures** section of the M.B.A. Advising website.

Each waiver of a foundation course reduces the number of required credits by the amount indicated.

M.B.A. Core (18 credits)

The M.B.A. core consists of a total of **18 credits of required courses**. **These courses cannot be waived**; however, a student will be eligible to transfer a maximum of 6 credits provided these credits have been earned in an M.B.A. program at another AACSB-accredited institution under the conditions listed in the Transfer Credit section. The M.B.A. core includes:

ACCT6012	
Managerial Accounting Applications.....	2
DSCI6012	
Operations Management.....	2
ECON6012	
Managerial Economics.....	2
ENTR6012	
Entrepreneurship and Innovation.....	2
FIN6012	
Corporate Finance.....	2

LAW6012	
Society, Ethics and the Legal Environment of Business.....	2
MGMT6012	
Organizational Behavior and Leadership.....	2
MIS6012	
Information Systems for Managers.....	2
MKTG6012	
Strategic Marketing.....	2

Capstone (2 credits)

All M.B.A. students must, within the final 8 credits of course work, complete either: ENTR7012

Entrepreneurship Capstone
or

MGMT7012
Global Business Capstone.....2

International Student Requirement

In certain circumstances it may be necessary for students to further develop their proficiency in English to ensure academic success. In these cases, students are required to take EPS5109 English for Occupational Purposes and EPS5119 English for Academic Purposes.

NOTE: Although EPS is a 0-credit course, students may elect to apply 3 developmental credits (using EPS) to their first semester plus 6 credits of graduate course work to complete full-time student schedule requirements.

Graduation

To qualify for graduation, the student must, within seven years from the entry date, complete the prescribed curriculum and do so with no lower than a 3.00 cumulative grade point ratio. Only grades for graduate courses offered by the Silberman College of Business at Fairleigh Dickinson University or taken off-campus with prior authorization are used to compute the cumulative grade point ratio.

Students in the M.B.A. program have the option of earning a specialization in accounting, finance, international business, management, marketing, pharmaceutical management or through business administration electives. Details about the requirements for each specialization follow.

*3624 Market Street, Philadelphia, Pa. 19104-2680; telephone: (267) 284-5000.

Business • Accounting • Business Administration • Finance

Accounting (M.B.A.)

Due to the variations in the requirements specified by each state to sit for the CPA Exam and licensing, students are advised to refer to www.nasba.org.

This specialization is offered under the auspices of the department of accounting, taxation and law, Silberman College of Business, Florham Campus, Madison, New Jersey, and Metropolitan Campus, Teaneck, New Jersey.

Specialization Requirements

Specialization requirements consist of a total of 12 credits of accounting courses.

In addition to the College's requirements for the Master of Business Administration degree (see page 67), students must complete the specialization requirements specific to their majors.

Required Courses (6 credits)

	Credits
ACCT6630	
Intermediate Accounting I.....	3
ACCT6635	
Intermediate Accounting II.....	3

Elective (6 credits)

Choose from the following:

ACCT6605	
Federal Tax I: Individual.....	3
ACCT6617	
Cost: Measurement, Planning and Control*.....	3
ACCT6618	
Auditing Concepts and Methods.....	3
ACCT6640	
Advanced Financial Accounting.....	3
ACCT6800	
Graduate Independent Study.....	1–3

For up-to-date course information go to <http://view2.fdu.edu/academics/silberman-college/graduate/mba/mba-accounting/>.

Course Descriptions

See "Course Offerings," pages 78–90.

Business Administration (M.B.A.)

M.B.A. students who do not wish to specialize in a specific discipline may customize their education by choosing any five graduate courses offered by the Silberman College of Business that meet their specific career goals and interests.

All students interested in the business administration M.B.A. degree must still complete the M.B.A. foundation courses (unless they receive waivers in any of these courses), the M.B.A. Core courses, as well as the capstone requirement (either ENTR7012 Entrepreneurship Capstone or MGMT7012 Global Business Capstone). However, students may fulfill their elective requirements with a mix of five graduate courses offered by any of the five departments within Silberman College of Business, Florham Campus, Madison, New Jersey, and Metropolitan Campus, Teaneck, New Jersey (subject to course availability).

For current course information visit <http://view2.fdu.edu/academics/silberman-college/graduate/mba/business-administration-mba/>.

Course Descriptions

See "Course Offerings," pages 78–90.

Finance (M.B.A.)

This specialization is offered under the auspices of the department of economics, finance and international business, Silberman College of Business, Florham Campus, Madison, New Jersey, and Metropolitan Campus, Teaneck, New Jersey.

Specialization Requirements

In addition to the College's requirements for the Master of Business Administration degree (see page 67), students must complete the specialization requirements listed below.

Required Courses (6 credits)

	Credits
FIN6701	
Strategic Financial Decisions.....	2
FIN6721	
Financial Markets and Investments.....	2
FIN6731	
Portfolio Management.....	2

Electives* (4 credits)

Choose two from the following:

FIN6742	
Global Finance.....	2
FIN6751	
Mergers and Acquisitions.....	2
FIN6800	
Graduate Independent Study.....	1–2
FIN6801	
Seminar in Corporate Finance.....	2

For current course information visit <http://view2.fdu.edu/academics/silberman-college/graduate/mba/mba-finance/>.

Course Descriptions

See "Course Offerings," pages 78–90.

*Students take ACCT6617 Cost: Measurement, Planning and Control in lieu of ACCT6012 Managerial Accounting Applications within the MBA Core.

*Other elective courses in finance will be added to this list for satisfying this requirement.

Business • International Business • Management • Marketing

International Business (M.B.A.)

Rewarding careers for international business specialists exist in global corporate operations, international financial services, national and international government agencies, travel and leisure and transportation and banking, just to name a few.

The M.B.A. with a specialization in international business is offered under the auspices of the department of economics, finance and international business, Silberman College of Business, at the Metropolitan Campus, Teaneck, New Jersey.

Specialization Requirements

In addition to the College's requirements for the Master of Business Administration degree, general programs (see page 67), students must complete the specialization requirements listed below.

Required Courses (4 credits)

	Credits
IBUS6012	
International Business Concepts.....	2
IBUS6020	
Economics of International Trade.....	2

Electives (6 credits)

Choose three from the following:

IBUS6072	
International Management.....	2
IBUS6706	
International Marketing.....	2
IBUS6742	
Global Finance.....	2
IBUS6800	
Graduate Independent Study.....	1–2

For current course information visit <http://view2.fdu.edu/academics/silberman-college/graduate/mba/mba-international-business/>.

Course Descriptions

See "Course Offerings," pages 78–90.

Management (M.B.A.)

The M.B.A. with a specialization in management program is for professionals seeking to improve their skills in managing people and organizational systems. It is designed to build skills in leadership, team building and motivation of the workforce. The program builds knowledge of how business strategy affects organizational interaction with the marketplace and how to structure the workplace to enhance organizational growth and productivity.

This program is offered under the auspices of the department of management and entrepreneurship, Silberman College of Business, at the Florham Campus, Madison, New Jersey, and Metropolitan Campus, Teaneck, New Jersey.

Specialization Requirements

In addition to the College's requirements for a Master of Business Administration degree, general programs (see page 67), students must complete the specialization requirements listed below.

Required Courses (8 credits)

	Credits
MGMT6112	
Managing Sustainability in a Global Environment.....	2
MGMT6621	
Strategic Human Resource Management.....	2
MGMT6633	
Leadership and Change Management.....	2
MGMT6640	
Leadership Development Project.....	2

Elective (2 credits)

Choose one from the following

MGMT6625	
Managing a Healthy Workforce.....	2
MGMT6700	
Negotiation and Conflict Management..	2
MGMT6800	
Graduate Independent Study.....	1–2

For current course information visit <http://view2.fdu.edu/academics/silberman-college/graduate/mba/mba-management/>.

Course Descriptions

See "Course Offerings," pages 78–90.

Marketing (M.B.A.)

The marketing specialization curriculum prepares students with a solid foundation in the fundamentals of marketing strategy, consumer behavior and marketing research. Students build on this foundation by selecting from a number of marketing electives in specialized areas. The selection of electives is typically driven by the career goals of the students and include areas such as advertising, sales and promotions.

This specialization is offered under the auspices of the department of marketing, information systems and decision sciences, Silberman College of Business, at the Florham Campus, Madison, New Jersey, and Metropolitan Campus, Teaneck, New Jersey.

Specialization Requirements

In addition to the College's requirements for the Master of Business Administration degree (see page 67), students must complete the specialization requirements listed below.

Specialization courses are offered online only.

Required Courses (4 credits)

	Credits
MKTG6602	
Marketing Research.....	2
MKTG6603	
Consumer Behavior.....	2

Electives (6 credits)

Choose three courses

MKTG6111	
Digital Marketing Strategies.....	2
MKTG6112	
Social Media Strategy.....	2
MKTG6113	
Mobile Marketing Strategies.....	2
MKTG6605	
Marketing Communications.....	2
MKTG6800	
Graduate Independent Study.....	1–2

For current course information visit <http://view2.fdu.edu/academics/silberman-college/graduate/mba/mba-marketing/>.

Course Descriptions

See "Course Offerings," pages 78–90.

Business • Pharmaceutical Management Studies • Post-M.B.A. Graduate Certificate Program

Pharmaceutical Management Studies (M.B.A.)

The M.B.A. with a specialization in pharmaceutical management studies program has two objectives:

1) to prepare employees for greater management responsibilities in a challenging world and 2) to enhance the competitive position of pharmaceutical companies in global markets.

The program achieves these objectives by providing talented, motivated students with a thorough grounding in the principles of business management, coupled with training in subjects and skills of specific value to those working in these technology-intensive and heavily regulated pharmaceutical companies.

The program is sufficiently flexible to accommodate students of varied educational and industrial backgrounds. Past and present participants include men and women whose positions run the gamut from entry level to the executive suite, from production, research, finance and accounting to sales and marketing. Their educational backgrounds vary from undergraduate majors in liberal arts, science, engineering and business to earned master's and doctoral degrees.

This specialization is offered under the auspices of the department of management and entrepreneurship, Silberman College of Business, at the Florham Campus, Madison, New Jersey.

Specialization Requirements

In addition to the College's requirements for the Master of Business Administration degree (see page 67), students must complete the specialization requirements listed below.

Required Courses (6 credits)

	Credits
PHAR6601	
Health Care Systems and Policy.....	3
PHAR6690	
Managing the Value Proposition.....	3

Electives (4 credits)

	Credits
Choose two courses	
PHAR6615	
Pharmaceutical Marketing and Product Development.....	2
PHAR6640	
Management of Research and Technology in the Pharmaceutical Industry.....	2
PHAR6650	
Management of Production, Purchasing and Quality Control in the Pharmaceutical Industry.....	2
PHAR6680	
Structure, Regulation and Strategy of the Pharmaceutical Industry.....	2
PHAR6800	
Graduate Independent Study.....	1-2

For current course information visit <http://view2.fdu.edu/academics/silberman-college/graduate/mba/mba-pharmaceutical-management/>.

Course Descriptions

See "Course Offerings," pages 78-90.

Post-M.B.A. Graduate Certificate Program

The Post-M.B.A. Graduate Certificate Program was developed to meet the needs of M.B.A. graduates who, after receiving their degrees, find themselves working in environments that require a continuation of their education. Through promotion, employment with new companies, relocation or otherwise, M.B.A. degree holders often find themselves working in areas for which they were not originally trained. Other graduates realize the necessity of keeping current with a business environment that is rapidly changing. Courses are offered both in the evenings and on Saturdays.

Admission Requirements

To qualify for the Post-M.B.A. Graduate Certificate Program, applicants must have received an M.B.A. or a specialized master's degree in a business-related field from an accredited college or university.

Students are not required to submit Graduate Management Admission Test (GMAT) scores.

Requirements for the Post-M.B.A. Certificate

Students may choose courses from one of the following M.B.A. study areas:

Accounting
Finance
International Business
Management
Marketing
Pharmaceutical Management

To qualify for the certificate, students must have at least a 3.00 cumulative grade point ratio.

Accounting Graduate Certificate

For a Certificate in Accounting, students must complete the following five courses (13 credits):

	Credits
ACCT5012	
Financial Accounting: End-User Applications*.....	2
ACCT6012	
Managerial Accounting Applications.....	2

*Can be completed as part of the M.B.A. curriculum.

Business • Post-M.B.A. Graduate Certificate Program

	Credits
ACCT6630	
Intermediate Accounting I.....	3
ACCT6635	
Intermediate Accounting II.....	3
ACCT6640	
Advanced Financial Accounting.....	3
In addition students have to complete any two courses (6 credits) from the following list:	
ACCT6605	
Federal Tax I: Individual.....	3
ACCT6606	
Federal Tax II: Business Entities.....	3
ACCT6617	
Cost: Measurement, Planning and Control.....	3
ACCT6618	
Auditing Concepts and Methods.....	3

Finance Graduate Certificate

For a Certificate in Finance, students must complete the following six courses (12 credits):

ECON6012	
Managerial Economics*.....	2
FIN5012	
Principles of Finance*.....	2
FIN6012	
Corporate Finance*.....	2
FIN6701	
Strategic Financial Decisions.....	2
FIN6721	
Financial Markets and Investments.....	2
FIN6731	
Portfolio Management.....	2

In addition students will be required to complete any three courses (6 credits) from the following list:

FIN6112	
Finance Decisions for Sustainable Enterprise.....	2
FIN6742	
Global Finance.....	2
FIN6751	
Mergers and Acquisitions.....	2
FIN6800	
Graduate Independent Study.....	2
FIN6801	
Seminar in Corporate Finance.....	2

International Business Graduate Certificate (at Metropolitan Campus only)

For a Certificate in International Business, students must complete the following five courses (10 credits):

	Credits
ECON5012	
Economic Analysis*.....	2
ECON6012	
Managerial Economics*.....	2
IBUS6012	
International Business Concepts.....	2
IBUS6020	
Economics of International Trade.....	2
MKTG5012	
Marketing Principles*.....	2

In addition students have to complete any four courses (8 credits) from the following list:

IBUS6072	
International Management.....	2
IBUS6706	
International Marketing.....	2
IBUS6742	
Global Finance.....	2
IBUS6800	
Graduate Independent Study.....	2

Management Graduate Certificate

For a Certificate in Management, students must complete the following seven courses (14 credits):

MGMT5012	
Foundations of Management*.....	2
MGMT6012	
Organizational Behavior and Leadership*.....	2
MGMT6112	
Managing Sustainability in a Global Environment.....	2
MGMT6621	
Strategic Human Resource Management.....	2
MGMT6633	
Leadership and Change Management... 2	
MGMT6640	
Leadership Development Project.....	2
MGMT7012	
Global Business Capstone*.....	2

In addition students have to complete any two courses (4 credits) from the following list:

	Credits
MGMT6625	
Managing a Healthy Workforce.....	2
MGMT6700	
Negotiation and Conflict Management.....	2
MGMT6800	
Graduate Independent Study.....	2

Marketing Graduate Certificate

For a Certificate in Marketing, students must complete the following five courses (10 credits):

Marketing specialization courses are offered online only.	
ENTR6012	
Entrepreneurship and Innovation*.....	2
MKTG5012	
Marketing Principles*.....	2
MKTG6012	
Strategic Marketing*.....	2
MKTG6602	
Marketing Research.....	2
MKTG6603	
Consumer Behavior.....	2

In addition students have to complete any four courses (8 credits) from the following list:

ENTR6112	
Strategic Innovation Management.....	2
MKTG6111	
Digital Marketing Strategies.....	2
MKTG6112	
Social Media Strategy.....	2
MKTG6113	
Mobile Marketing Strategies.....	2
MKTG6605	
Marketing Communications.....	2
MKTG6800	
Graduate Independent Study.....	2

*Can be completed as part of the M.B.A. curriculum.

*Can be completed as part of the M.B.A. curriculum.

*Can be completed as part of the M.B.A. curriculum.

Pharmaceutical Management Graduate Certificate

For a Certificate in Pharmaceutical Management, students must complete the following five courses (12 credits):

	Credits
ECON5012	
Economic Analysis*	2
MGMT5012	
Foundations of Management*	2
MKTG5012	
Marketing Principles*	
or	
DSCI6012	
Operations Management*	2
PHAR6601	
Health Care Systems and Policy	3
PHAR6690	
Managing the Value Proposition	3
In addition students have to complete any three courses (6 credits) from the following list:	
PHAR6615	
Pharmaceutical Marketing and Product Development**	2
PHAR6640	
Management of Research and Technology in the Pharmaceutical Industry	2
PHAR6650	
Management of Production, Purchasing and Quality Control in the Pharmaceutical Industry***	2
PHAR6680	
Structure, Regulation and Strategy of the Pharmaceutical Industry	2
PHAR6800	
Graduate Independent Study	2

For Additional Information

Students interested in this program should contact the Silberman College of Business M.B.A. Offices on the Metropolitan Campus at (201) 692-2424 or on the Florham Campus at (973) 443-8459 or visit

<http://view2.fdu.edu/academics/silberman-college/graduate/mba/graduate-certificates/>.

*Can be completed as part of the M.B.A. curriculum.

**Must take MKTG5012 Marketing Principles.

***Must take DSCI6012 Operations Management.

Master of Business Administration (M.B.A.) — Saturday M.B.A.

The Saturday M.B.A. program is designed for the business professional. The curriculum is designed using a blended pedagogical model that combines in-class and online sessions. Courses are delivered in eight-week modules. Students complete the program as a cohort, and this design enables them to balance work, personal and class commitments and achieve their career goals. Students can earn their M.B.A. within a 21-month period while continuing to meet their full-time responsibilities at work.

The program consists of 21 courses, each comprising 2 credits, for a total of 42 credits. The in-class sessions are scheduled between 8:30 a.m. and 5 p.m. Program cohorts are established twice a year, in the spring semester (January start), as well as in the fall semester (August start). Students may apply for the fall cohort as late as the second week of August and for the spring cohort as late as the second week of January.

Admission Requirements

1. A four-year bachelor's degree from an accredited or government-recognized college or university.
2. Official transcripts from all colleges and universities in which undergraduate or graduate course work was completed.
3. An official score report for the Graduate Management Admissions Test (GMAT). Students who have taken the Graduate Record Examinations (GRE) may submit their GRE score in lieu of a GMAT score. FDU undergraduates with exemplary grade point ratios are eligible to waive the GMAT/GRE requirement. Contact the Office of Graduate Admissions for information.
4. An updated résumé.
5. A minimum score of 550 (paper-based), 213 (computer-based) or 79 (internet-based) on the Test of English as a Foreign Language (TOEFL) is required for all applicants whose native language is not English.

6. International Student Proof of Financial Responsibility (for international students only).

Requirements for the Master of Business Administration Degree

Foundation Courses (12 credits)

	Credits
ACCT5012	
Financial Accounting: End-User Applications	2
DSCI5012	
Statistical Data Analysis	2
ECON5012	
Economic Analysis	2
FIN5012	
Principles of Finance	2
MGMT5012	
Foundations of Management	2
MKTG5012	
Marketing Principles	2

Core Courses (20 credits)

ACCT6012	
Managerial Accounting Applications	2
DSCI6012	
Operations Management	2
ECON6012	
Managerial Economics	2
ENTR6012	
Entrepreneurship and Innovation	2
FIN6012	
Corporate Finance	2
LAW6012	
Society, Ethics and the Legal Environment of Business	2
MGMT6012	
Organizational Behavior and Leadership	2
MGMT7012	
Global Business Capstone	
or	
ENTR7012	
Entrepreneurship Capstone	2
MIS6012	
Information Systems for Managers	2
MKTG6012	
Strategic Marketing	2

Discipline-enrichment Courses

These courses are intended to enhance the content covered in the core courses by identifying a few specialized business topics that are of contemporary relevance and interest. Students have to complete five such courses, each worth 2 credits.

	Credits
DSCI6112	
Project Management.....	2
ENTR6112	
Strategic Innovation Management.....	2
FIN6112	
Finance Decisions for a	
Sustainable Enterprise.....	2
MGMT6112	
Managing Sustainability in a	
Global Environment.....	2
MKTG6112	
Social Media Strategy.....	2

Master of Business Administration (M.B.A.) — Management for Executives

The M.B.A. — Management for Executives program is structured such that it enables a current or future executive the opportunity to complete the academic requirements for the degree within 21 months while he or she continues to meet full-time work responsibilities. Each group of students (cohort) goes through the entire program as an integrated cohort, thereby developing a close working relationship that enriches and reinforces the learning process.

The program consists of 45 credits. The **general management specialty** includes two specialty courses (45-credit program) and **health sector management specialty** includes one specialty course (45-credit program).

Classes are scheduled on Saturdays, from 8:30 a.m. to 4:30 p.m.

The program curriculum also includes a required, 12-day study-abroad visit to an emerging market in Europe, Asia or Latin America. This visit is associated with the EXEC6509 International Business course. This visit is designed to provide the student with an appreciation of the opportunities and challenges associated with pursuing global business opportunities. In addition, students in the program also benefit from an executive coaching experience where each student works individually with an executive coach on issues ranging from career development to strengths and areas for improvement.

The program charge* includes tuition, fees, books, meals, round-trip airfare and room and board during the overseas seminar. Tuition is payable at the beginning of each semester, intersession and summer session. The tuition is nonrefundable after the semester begins.

**For tuition and fees, see Registration, Tuition and Billing Information, pages 22–24. New tuition and fee charges will be announced in the spring of each year. Please check with the Office of Enrollment Services for current charges.*

Program cohorts are established twice a year, both in the spring (February) and in the fall (September). New students may apply for the fall cohort as late as the third week of August and for the spring cohort as late as the third week of January.

This program is offered under the auspices of the Office of Executive Programs, Silberman College of Business.

Admission Requirements

Complete credentials for the evaluation of applicants for the Master of Business Administration for Executives program include the following:

1. A bachelor's degree from an accredited college or university.
2. Official transcripts from all colleges and universities in which undergraduate or graduate course work was completed.
3. A minimum of five years of business experience.
4. A personal interview with the program director.
5. A current professional résumé.
6. Two letters of recommendation, with one from the student's immediate supervisor.
7. At the discretion of the program director, the Graduate Management Admission Test (GMAT) requirement may be waived, based on experience and prior academic achievement.

Requirements for the Master of Business Administration Degree

M.B.A. — Management for Executives

- General Management Specialization (45 credits)
- Health Sector Management Specialization (45 credits)

General Management Specialization (45 credits)

Foundation Courses (13.5 credits)

	Credits
EXEC5501	
Macroeconomic Analysis.....	1.5
EXEC5502	
Social, Legal and Ethical Issues.....	1.5
EXEC5503	
Fundamentals of Management.....	1.5
EXEC5504	
Fundamentals of Marketing.....	1.5
EXEC5505	
Fundamentals of Financial	
Accounting.....	1.5

Business • Accounting

	Credits
EXEC5506	
Principles of Microeconomics.....	1.5
EXEC5507	
Principles of Finance.....	1.5
EXEC5508	
Statistical Thinking and Methods.....	3
Core Courses (28.5 credits)	
EXEC6501	
Corporate Creativity and Innovation... 1.5	
EXEC6502	
Financial Accounting and Reporting.....	3
EXEC6503	
Managerial Economics.....	3
EXEC6504	
Finance for Managers.....	3
EXEC6505	
Organizational Behavior and Leadership.....	3
EXEC6506	
Strategic Marketing.....	3
EXEC6507	
Strategic Management of Information Systems.....	3
EXEC6508	
Supply Chain Management.....	3
EXEC6509	
International Business.....	3
EXEC6510	
Global Business Capstone.....	3
Specialization Courses (3 credits)	
EXEC6901	
Managing Sustainability for Competitive Advantage.....	1.5
EXEC6902	
Project Management.....	1.5
Health Sector Management Specialization (45 credits)	
Foundation Courses (13.5 credits)	
EHCM6901	
Fundamentals of Health Systems and Policy.....	3
EHCM6902	
Essentials of Health Care Financial Management.....	1.5
EXEC5503	
Fundamentals of Management.....	1.5
EXEC5504	
Fundamentals of Marketing.....	1.5
EXEC5505	
Fundamentals of Financial Accounting.....	1.5
EXEC5506	
Principles of Microeconomics.....	1.5
EXEC5508	
Statistical Thinking and Methods.....	3

Core Courses (28.5 credits)

	Credits
EHCM6903	
Finance for Health Care Managers.....	3
EHCM6904	
Health Care Operations Management....	3
EXEC6501	
Corporate Creativity and Innovation... 1.5	
EXEC6502	
Financial Accounting and Reporting.....	3
EXEC6503	
Managerial Economics.....	3
EXEC6505	
Organizational Behavior and Leadership.....	3
EXEC6506	
Strategic Marketing.....	3
EXEC6507	
Strategic Management of Information Systems.....	3
EXEC6509	
International Business.....	3
EXEC6510	
Global Business Capstone.....	3
Specialization Course (3 credits)	
EHCM6905	
Contemporary Issues in Health Sector Management.....	3

Course Descriptions

See “Course Offerings,” pages 78–90.

Master of Science (M.S.) — Accounting

There are two tracks in this 30-credit program. Completion of Track A will academically qualify students to take the CPA Exam. Track A is designed for students who have an undergraduate major or concentration in accounting. Track B is suited for those students who lack an undergraduate background in accounting and desire a focus in this area at the graduate level. Track B students need an additional 24 business course credits to sit for the New Jersey CPA Exam. The tracks are offered evenings and Saturdays.

This program is offered under the auspices of the department of accounting, taxation and law, Silberman College of Business, at the Florham Campus, Madison, New Jersey; the Metropolitan Campus, Teaneck, New Jersey; and offsite.

Admission Requirements

Complete credentials for the evaluation of applicants for the M.S. degree program include the following:

1. A four-year bachelor's degree from an accredited or government-recognized college or university.
2. Official transcripts from all colleges and universities in which undergraduate or graduate course work was completed.
3. An official score report for the Graduate Management Admission Test (GMAT). FDU undergraduates with exemplary grade point ratios are eligible to waive the GMAT/GRE. The GMAT requirement may be waived based on experience and prior academic achievement. Contact the Office of Graduate Admissions for information.
4. An updated résumé.
5. A minimum score of 550 (paper-based) or 213 (computer-based) or 79 (internet-based) on the Test of English as a Foreign Language (TOEFL) is required for all applicants whose native language is not English.
6. International Student Proof of Financial Responsibility (for international students only).

Requirements for the Master of Science Degree — Accounting

Track A

This 30-credit program is for students who have the bachelor's degree or concentration in accounting and is designed to meet the 150-hour educational requirements for the CPA Exam.

Completion of Track A will academically qualify students to take the CPA Exam in New Jersey.

Required Courses (15 credits) Credits

ACCT6606	
Federal Tax II: Business Entities.....	3
ACCT6680	
Advanced Financial Reporting Topics.....	3
ACCT6682	
Advanced Auditing.....	3
ACCT6690	
Seminar: Accounting and Auditing Case Studies.....	3
LAW6657	
Applied Business Law.....	3

Electives (15 credits)

Accounting Elective.....	3
Accounting or Tax Electives.....	6
Business Electives.....	6

Tax electives may be chosen from the tax courses offered by the M.S. in taxation program at the University. See pages 77–78 or <http://www.fdu.edu/tax>. Subject to prior approval, such tax courses may be counted toward the M.S. in taxation degree.

Track B

This 30-credit program is for students who do not have the bachelor's degree in accounting. NOTE: At least one undergraduate course in financial accounting is required for admission into the program.

The requirements for the New Jersey CPA Exam have changed effective June 2017. In addition to 24 credits of accounting courses, 24 credits of business courses are also required. Six credits of business courses are already included in this Track B program. Students who have a business background with sufficient number of business credits will qualify to sit for the New Jersey CPA Exam. Students who do not have any business credits or have insufficient business credits will have to take up to an additional 18 credits of business courses to take the New Jersey CPA Exam.

Required Courses (30 credits)

ACCT6605		Credits
Federal Tax I: Individual.....	3	
ACCT6606		
Federal Tax II: Business Entities.....	3	
ACCT6617		
Cost: Measurement, Planning and Control.....	3	
ACCT6618		
Auditing Concepts and Methods.....	3	
ACCT6630		
Intermediate Accounting I.....	3	
ACCT6635		
Intermediate Accounting II.....	3	
ACCT6640		
Advanced Financial Accounting.....	3	
ACCT6680		
Advanced Financial Reporting Topics....	3	
FIN6020		
Financial Analysis for Accountants*	3	
LAW6657		
Applied Business Law.....	3	

For Information

For detailed information contact the department of accounting, taxation and law at (973) 443-8459 or (201) 692-2424.

Course Descriptions

See “Course Offerings,” pages 78–90.

Master of Science (M.S.) — Digital Marketing

The emergent digital environment has been transforming all aspects of business. Firms, regardless of their specialty, industry and size, are increasingly using digital technologies to communicate with clients, recruit employees, form relationships with consumers and develop brands. Spending on digital marketing is rising with 80 percent of companies planning to increase their digital budget with digital ads estimated to make up 41.4 percent of total media ad expenditures by 2019. Digital engagement and marketing operations/technology are top areas for skill development. Specifically, digital marketing, social media, search-engine optimization and analytics-related jobs are particularly in high demand.

This **online program** is offered under the auspices of the department of marketing, information systems and decision sciences, Silberman College of Business, Florham Campus, Madison, New Jersey, and Metropolitan Campus, Teaneck, New Jersey.

The M.S. in digital marketing prepares students to be tech savvy and strategically creative to fill a range of digital marketing positions ranging from content creation and social media to creative services and production.

The 30–34 credit program is **delivered entirely online**. The program credits are distributed across a core curriculum followed by elective courses and a flexible experiential learning module (i.e. internship or thesis option).

Admission Requirements

Complete credentials for the evaluation of applicants for the M.S. degree program include the following:

1. A bachelor's degree from an accredited college or university.
2. Official transcripts from all colleges and universities in which undergraduate or graduate course work was completed.

*An ACCT or TAX course may be substituted with documentation of an equivalent finance class.

Business • Supply Chain Management

3. An official score report for the Graduate Management Admissions Test (GMAT)/GRE taken within the last five years. GMAT may be waived based on experience and prior academic achievement.

4. Current résumé.

5. A minimum score of 550 (paper-based) or 79 (internet-based) on the Test of English as a Foreign Language (TOEFL) is required for all applicants whose native language is not English.

6. International Student Proof of Financial Responsibility (for international students only).

Requirements for the Master of Science Degree

Foundation Module (4 credits)

Provides an understanding of the marketing discipline. May be waived based on prior academic preparation, reducing the degree to 30 credits.

Credits

DSCI5012

Statistical Data Analysis.....2

MKTG5012

Marketing Principles.....2

Digital Marketing Core (14 credits)

In addition to covering core topics in marketing strategy and consumer behavior, this module will provide a comprehensive understanding of digital marketing, social media marketing and mobile marketing.

MKTG6012

Strategic Marketing.....2

MKTG6111

Digital Marketing Strategies.....2

MKTG6112

Social Media Strategy.....2

MKTG6113

Mobile Marketing Strategies.....2

MKTG6602

Marketing Research.....2

MKTG6603

Consumer Behavior.....2

MKTG6605

Marketing Communications.....2

Specialized Core (up to 12 credits)

Enables acquisition of specialized knowledge and skills based on personal interest and career path. Courses include topics related to search-engine optimization, web analytics, harnessing big data, database management and emerging technologies in marketing.

Credits

MKTG6614

Search Engine Optimization
and Advertising.....3

MKTG6615

Email and Database Marketing.....3

MKTG6616

Content Marketing.....3

MKTG6617

Web Analytics.....3

Experiential Learning (4 credits)

Students may seek academic credit for internships, or they may write a thesis on a digital marketing topic of their choice.

Course Descriptions

See “Course Offerings,” pages 78–90.

Master of Science (M.S.) — Supply Chain Management

Effective management of their supply chain and operations is the key to value creation for many organizations, especially in today's fast-paced and highly global business environment. Employers increasingly seek candidates with skills that will enable their organizations to better manage their supply chains and operations. The supply chain management (SCM) profession has therefore witnessed significant job growth coupled with steadily increasing salaries. Whether individuals are starting off in their careers or are looking to make a career transition into supply chain management, an advanced degree such as a Master of Science in supply chain management will train them in critical aspects of supply chain management and will enable them to take advantage of the growing opportunities in the field.

The M.S. in supply chain management program at Silberman College of Business is an interdisciplinary program that emphasizes methodological, conceptual and strategic aspects of the management of supply chains and operations. The program is designed to foster the development of critical skills and capabilities required to manage globally distributed and diversified supply chains.

The program can be completed within 12 months while still being employed full time.

This program is offered under the auspices of the department of marketing, information systems and decision sciences, Silberman College of Business, Florham Campus, Madison, New Jersey, and Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

Complete credentials for the evaluation of applicants for the M.S. degree program include the following:

1. A bachelor's degree from an accredited college or university.

2. Official transcripts from all colleges and universities in which undergraduate or graduate course work was completed.

3. An official score report for the Graduate Management Admissions Test (GMAT)/GRE taken within the last five years. GMAT may be waived based on experience and prior academic achievement.

4. Current résumé.

5. A minimum score of 550 (paper-based) or 79 (internet-based) on the Test of English as a Foreign Language (TOEFL) is required for all applicants whose native language is not English.

6. International Student Proof of Financial Responsibility (for international students only).

Requirements for the Master of Science Degree — Supply Chain Management

The M.S. in supply chain management is obtained by completing 10 required classes in foundation courses (6 credits), core courses (12 credits), enrichment courses (9 credits) and capstone (3 credits).

Foundation Courses (6 credits)

Credits

DSCI6600	
Business Analytics.....	3
DSCI6700	
Introduction to Supply Chain Management.....	3

Core Courses (12 credits)

DSCI6820	
Logistics Management.....	3
DSCI6830	
Pricing and Demand Management.....	3
DSCI6840	
Global Sourcing, Procurement and Negotiations.....	3
DSCI6850	
Global Supply Chain Finance.....	3

Enrichment Courses (9 credits)

DSCI6650	
Project Management.....	3
DSCI6750	
Supply Chain Technologies.....	3
DSCI6780	
Sustainable and Lean Six Sigma.....	3

Capstone Course (3 credits)

DSCI7004	
Capstone Experiential Learning of Supply Chain Management.....	3

Course Descriptions

See “Course Offerings,” pages 78–90.

Master of Science (M.S.) — Taxation

The Master of Science in taxation is designed for those who currently practice in the field of taxation, such as accountants, attorneys and financial planners, as well as those who wish to enter the field by undertaking an intense study of the subject. It is highly focused and practice oriented, dedicated exclusively to the study of taxation. In scope, it is much more specific than the traditional course of study pursued in an M.B.A. program with only a concentration in taxation. The M.S. in taxation program provides students with an in-depth exposure to many areas of taxation, including individual, partnership, corporate, international, compensation, trusts, procedures and estate taxation. The course offerings in the program will not only cover the basic areas of taxation but will also encompass advanced subject matter and procedural areas of tax law. Credits in the M.S. in taxation program may qualify toward the 150 semester hours of education requirement for obtaining CPA certification. Details on what will qualify may, however, vary from state to state depending on the rules of each state accounting board.

Weekday evening classes are offered at the Florham Campus, Madison, New Jersey. From time to time, classes may be offered at the Metropolitan Campus, Teaneck, New Jersey. In addition, some classes are offered on Saturdays at the Florham Campus.

For more information, contact graduate advising at (973) 443-8459.

For the latest updates about the M.S. program, visit the M.S. in taxation website at <http://www.fdu.edu/tax>.

The program is offered under the auspices of the department of accounting, taxation and law, Silberman College of Business, Florham Campus, Madison, New Jersey.

Admission Requirements

Complete credentials for the evaluation of applicants for the M.S. degree in taxation program include the following:

1. A bachelor's degree from an accredited college or university.
2. Official transcripts from all colleges and universities in which undergraduate or graduate course work was completed.
3. An official score report for the Graduate Management Admissions Test (GMAT) or Graduate Record Examinations (GRE) taken within the last five years (see GMAT Waiver below).
4. An updated résumé.
5. A minimum score of 550 (paper-based) or 213 (computer-based) or 79 (internet-based) on the Test of English as a Foreign Language (TOEFL) is required for all applicants whose native language is not English.
6. International Student Proof of Financial Responsibility (for international students only).

GMAT Waiver

The GMAT requirement is waived for CPAs, Enrolled Agents, Certified Financial Planners, Certified Management Accountants, Chartered Financial Analysts, attorneys and graduates with an M.B.A. degree from an AACSB-accredited college or university as long as applicants have undergraduate/graduate grade point ratios (GPRs) of 3.00 or higher (or if the Graduate Admissions Committee grants an exception for lower than 3.00 GPR).

Fairleigh Dickinson University graduates with exemplary GPRs are eligible to waive the GMAT.

The GMAT is also waived for applicants who have relevant and substantial professional work experience in the field of accounting, financial planning and/or taxation. Such applicants will need to document at least three years of relevant professional work experience. Students admitted under the work-experience exception will gain conditional admission and will be required to maintain at least a cumulative 3.00 GPR in their first 9 credits in the M.S. in taxation program or else be required to take the GMAT.

Contact the Office of Graduate Admissions for information.

For more information about the GMAT, call 1-800-717-4628 or 609-771-7330. Its website is <https://www.mba.com>.

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Requirements for the Master of Science Degree — Taxation

The M.S. in taxation degree is obtained by completing 10 tax classes (30 credits) in required and elective courses. Seven core courses (21 credits) listed below are required of all students. The remaining courses (9 credits) may be selected from electives listed below. To graduate, students must maintain a cumulative grade point ratio (CGPR) of 3.00 or better.

Additional prerequisite courses may be required of incoming students not meeting the appropriate undergraduate requirements. These prerequisite courses (or equivalents) include 3 credits in accounting, 6 credits in taxation, 3 credits in business law and 3 credits in finance.

Required Courses

	Credits
TAX6621	
Advanced Federal Tax: Individual Income Taxation.....	3
TAX6622	
Advanced Corporate Tax I.....	3
TAX6670	
Tax Accounting.....	3
TAX6850	
Tax Research.....	3
TAX7724	
Tax Practice and Procedure I.....	3
TAX7727	
Advanced Federal Tax: Property Transactions.....	3
TAX7728	
Partnership Taxation.....	3

Electives

Three courses (9 credits) from the following:

TAX6625	
Estate and Gift Taxation.....	3
TAX7705	
U.S. International Corporate Taxation.....	3
TAX7708	
International Tax I: Sourcing and Inbound.....	3
TAX7710	
International Tax II: Outbound.....	3
TAX7711	
International Tax III: Special Topics.....	3
TAX7723	
Estate and Gift Tax Planning.....	3
TAX7725	
Advanced Corporate Tax II.....	3
TAX7726	
Compensation: Executive Compensation and Nonqualified Plans.....	3

	Credits
TAX7730	
Income Taxation of Estates and Trusts.....	3
TAX7732	
Tax Practice and Procedure II.....	3
TAX7734	
Consolidated Returns.....	3
TAX7735	
Tax-exempt Organizations.....	3
TAX7736	
State and Local Taxation: Constitutional Issues.....	3
TAX7738	
Compensation: Qualified Pension and Profit-sharing Plans.....	3
TAX7750	
State and Local Taxation: Corporate and Individual Income Taxation.....	3
TAX7752	
State and Local Taxation: Sales, Use and Property Taxes.....	3
TAX8840	
Taxation of S Corporations: Selected Studies.....	3
TAX8850	
Taxation of Financial Products.....	3
TAX8860	
Accounting for Income Taxes.....	3

Course Descriptions

See “Course Offerings,” pages 78–90.

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate department chair.

Note: Prerequisite courses for 6000-level and higher courses typically include the discipline's M.B.A. core courses. Check with your adviser.

ACCT5012

2 Credits

Financial Accounting: End-User Applications

This course focuses on the information needs of the users-of-financial-statements community that includes, but is not limited to, managers, investors, creditors and regulators. The primary context of the course is financial accounting for corporate entities. This course assumes no prior knowledge of financial accounting.

ACCT5521

3 Credits

Financial Accounting: An End-user Approach

An introduction to the financial reporting environment. Develops an understanding of the conceptual framework that underlies financial-statement preparation and presentation for both domestic and multinational firms. The course will provide students with the necessary skills to understand, use and analyze financial statements.

ACCT6012

2 Credits

Managerial Accounting Applications

This course focuses on the decision-support information that managers regularly use and need in the contemporary business setting. Topics include cost-volume profit, cost behavior, product costing, pricing, quality costs, budgeting variance analysis, short-term decision making and business-unit performance measurement. The course will begin with a session on understanding financial statements to provide articulation with the financial accounting course prerequisite. Prerequisite: ACCT5012 Financial Accounting: End-User Applications.

ACCT6605

3 Credits

Federal Tax I: Individual

A first course in taxation for graduate students without prior study in taxation. It examines tax principles as they affect the individual.

ACCT6606

3 Credits

Federal Tax II: Business Entities

This course is a sequel to ACCT6605 Federal Tax I: Individual. It examines taxation as it concerns business entities, such as C and S corporations, LLCs and partnerships. Students

are encouraged to take ACCT6605 Federal Tax I: Individual before ACCT6606 Federal Tax II: Business Entities. Any student who has not taken ACCT6605 Federal Tax I: Individual will be instructed to self study certain materials from ACCT6605 Federal Tax I: Individual. Prerequisite: ACCT4267 Fundamentals of Federal Taxation or ACCT6605 Federal Tax I: Individual.

ACCT6610

3 Credits

Managerial Accounting Applications

An introduction to management accounting as part of a company's quantitative information system. Emphasis is placed on the role of accounting in decision making.

ACCT6612

3 Credits

Planning and Budgeting

Importance of business planning and control from the managerial point of view. Emphasis is on budgeting as a tool for profit planning and control. Prerequisite: ACCT5012 Financial Accounting: End-User Applications.

ACCT6617

3 Credits

Cost: Measurement, Planning and Control

The basic elements of cost and cost control. Cost-accounting systems such as process costing, job-order costing, standard and direct costing, the planning, budgeting and control functions. Prerequisite: ACCT2021 Introductory Financial Accounting or ACCT5012 Financial Accounting: End-user Applications.

ACCT6618

3 Credits

Auditing Concepts and Methods

The auditor's report. Basic auditing concepts and methods are studied in detail as they relate to assets, liabilities, revenues and expenses. Prerequisite: ACCT6630 Intermediate Financial Accounting I.

ACCT6630

3 Credits

Intermediate Accounting I

An in-depth study of generally accepted accounting principles as they relate to corporations; particular attention is given to financial reporting, revenue recognition, asset valuation and measurement. Basic difference in U.S. and international accounting are identified. Topics of current interest and controversy are introduced to prepare the student for more advanced courses. Prerequisite: ACCT2021 Introductory Financial Accounting, ACCT5012 Financial Accounting: End-User Applications or chair permission.

ACCT6635

3 Credits

Intermediate Accounting II

This course continues the in-depth study of financial accounting began in ACCT6630 Intermediate Accounting I. Pronouncements of the Financial Accounting Standards Board and their applications, such as imgmtn the areas of accounting for liabilities, stockholders equity, dilutive securities, earnings per share and statement of cash flows are examined. Basic differences in U.S. and international accounting are identified. Recent developments and prospects for the future change in accounting thought are considered. Prerequisite: ACCT6630 Intermediate Accounting I or undergraduate equivalent.

ACCT6640

3 Credits

Advanced Financial Accounting

An in-depth study of the accounting principles related to special areas such as business combinations, consolidations, foreign operations and partnerships. There is some exposure to accounting for nonprofit institutions such as state and local governments, educational systems, institutions and hospitals. Prerequisite: ACCT6630 Intermediate Financial Accounting I.

ACCT6680

3 Credits

Advanced Financial Reporting Topics

A graduate-level course for students with a strong financial-theory background. The course focuses on a wide range of financial-reporting issues. Topics include leasing, accounting for income taxes, accounting for derivatives, foreign currency translation and hedging; accounting for pensions, accounting for share-based compensation, IFRS and cash-flow statements. Prerequisite: ACCT6635 Intermediate Accounting II.

ACCT6682

3 Credits

Advanced Auditing

The material for the first half of the course introduces the concept of auditing in the environment of a modern information system. The second half of the course covers analytic methods and statistics in an auditing environment. Prerequisite: ACCT4263 Auditing Concepts or ACCT6618 Auditing Concepts and Methods.

ACCT6684

3 Credits

Advanced Managerial Applications

This is an advanced course in managerial accounting designed to develop a further appreciation for the uses of cost information in the administration and control of business organizations. The course focuses on measurement, analysis and use of accounting information for management decision-making in

manufacturing, merchandising and service-oriented businesses. The course may employ the case method to better understand how managerial accounting can create positive change in business organizations in a variety of industries. The course focuses on critical-thinking skills, decision making and communication. Prerequisite: ACCT3243 Cost Accounting: Measurement and Control or ACCT6617 Cost: Measurement, Planning and Control.

ACCT6690

3 Credits

Seminar: Accounting and Auditing Case Studies

A capstone course in the graduate program integrating technical and analytical accounting and auditing skills acquired throughout the program. The course makes exclusive use of case studies and group problem solving conducted by faculty and professionals from the corporate and public accounting sectors. Prerequisites: ACCT3242 Intermediate Financial Accounting II and ACCT4263 Auditing Concepts or ACCT6618 Auditing Concepts and Methods and ACCT6635 Intermediate Accounting II.

ACCT6800

1-3 Credits

Graduate Independent Study

Studies in area of discipline with departmental approval.

ACCT7701

3 Credits

International Accounting

International accounting concepts and practices, including the influence of foreign national policies, legal requirements and business structures. Prerequisite: ACCT6630 Intermediate Accounting I.

ACCT7702

3 Credits

Forensic Accounting and Litigation Support

Focuses on the role of the accountant in the area known as litigation support services. The course will be heavily case oriented and will encompass the accountant's role in such diverse consulting services as fraud investigation, commercial damages, business valuation, matrimonial disputes and forensic accounting services.

ACCT7737

3 Credits

Corporate Financial Reporting

The fundamental underlying assumptions of accounting, the communications problem, the uses of the financial statements and the subjective standards of "fairness." Ethical problems of reporting as they relate to management and to the auditor. The surveillance and enforcement functions of the

Business • Course Offerings

Securities and Exchange Commission and other related institutions. The expansion of the reporting function to include forecasting, disclosures by diversified companies and other topics of current interest. Prerequisite: ACCT6630 Intermediate Accounting I.

BUSI5500

3 Credits

Executive Communication and Leadership

This course is designed to provide students with: 1) a foundation in communication theory; 2) opportunities to evaluate and improve their managerial communication skills, both written and oral; and 3) an understanding of the strong correlation between communication and the responsibilities of top-level executives in organizations. Sample topics include persuasion theory, leadership styles, active listening, the writing process, audience analysis and platform dynamics.

DSCI5012

2 Credits

Statistical Data Analysis

This course introduces statistical thinking and practices of how to draw conclusions from the sample data. Topics include descriptive statistics, probability theory, statistical influence methods, analysis of variance and regression. Statistical software is frequently used for the computation. Emphasis is on understanding and interpreting statistical information and explaining statistical ideas to non-specialists.

DSCI6012

2 Credits

Operations Management

The course provides concepts and knowledge on how firms design, produce and deliver goods and services to their customers. The broad themes of the course touch upon strategy, planning and control operations to achieve quality, efficiency, flexibility and speed. The course emphasizes the flows of material and information among the various supply-chain participants that create value. Analytical techniques in management science are introduced to solve various operations-management problems. Prerequisite: DSCI5012 Statistical Data Analysis.

DSCI6112

2 Credits

Project Management

This course is designed to offer the student the opportunity to learn how to effectively plan and manage projects that meet their organization's business goals. The course addresses fundamental concepts of successful project management, and the technical and managerial issues, methods and techniques of project management, and of managing project managers.

DSCI6600

3 Credits

Business Analytics

This course explores data-driven methods that are used to analyze and solve complex business problems. Students will acquire analytical skills in building, applying and evaluating various models with hands-on computer applications. Topics include descriptive statistics, time-series analysis, regression models, decision analysis, Monte Carlo simulation and optimization models.

DSCI6650

3 Credits

Project Management

This course addresses fundamental concepts of successful project management, with emphasis on project selection, planning and scheduling, team formation and governance, risk management, resource allocation and progress monitoring. Students will develop the skills on how to effectively plan, execute and manage projects and project portfolios that meet their organization's business goals.

DSCI6700

3 Credits

Introduction to Supply Chain Management

This course provides an integrated and comprehensive coverage of topics in supply-chain management, emphasizing issues, challenges and opportunities. It surveys current best practices in strategies and business models in a global supply chain. Topics include supply chain coordination, management of demand sourcing, inventories, operations and logistics. In a global supply chain, supply-chain risk management and role of information technology (Block chain technology in supply chain management).

DSCI6750

3 Credits

Supply Chain Technologies

This course examines information technology applications that support a firm's operations in supply-chain management, purchasing, logistics and customer/supplier relations. It illustrates how the internet and information technologies are used to gain and sustain competitive advantage. Topics include ERP systems, SCM systems, CRM systems, e-procurement and e-logistics management systems and other e-business applications. Prerequisite: DSCI6700 Introduction to Supply Chain Management.

DSCI6780

3 Credits

Sustainable and Lean Six Sigma

As organizations strive to provide high-quality goods and services while achieving financial sustainability and growth, they are facing increasing pressures and government regulations in terms of environmental responsibilities. This course presents a holistic

approach to operational excellence in supply chains, demonstrating the methodologies and practices that successfully combine Six Sigma ideas with lean and environmental sustainability. Prerequisite: DSCI6700 Introduction to Supply Chain Management.

DSCI6800

1–6 Credits

Graduate Independent Study

Studies in an area of discipline with departmental approval.

DSCI6810

3 Credits

Operations Analysis

This course focuses on developing skills in building, implementing and evaluating optimization models and techniques to facilitate and assist decision making in the supply-chain and operations-management context. It is a hands-on course with applied fields including production planning, workflow scheduling, process analysis, inventory management, capacity management, resource planning and allocation and assortment planning. Prerequisites: DSCI6600 Business Analytics and DSCI6700 Introduction to Supply Chain Management.

DSCI6820

3 Credits

Logistics Management

Stressing both analytical and strategic aspects, this course covers key logistics functions within the supply chain such as logistics network design, transportation planning and execution, distribution operations, order fulfillment and reverse logistics. Emphasis is placed on being able to recognize and manage risk, and analyze various tradeoffs in the global marketplace. Prerequisites: DSCI6600 Business Analytics and DSCI6700 Introduction to Supply Chain Management.

DSCI6830

3 Credits

Pricing and Demand Management

This course aims to give students an understanding of current topics and tools addressing the needs of an organization at the demand end of the supply chain. Rather than the traditional supply-chain management approach of minimizing costs, this course considers the demand and value-chain management focus on maximizing contributions and revenues. The strategic and tactical management of demand requires the use of appropriate pricing policies and the active balancing of supply and demand. Executive decisions, informed by best practices, are needed to best meet modern stakeholder expectations. Topics discussed include market segmentation and pricing strategy. Proven tools such as prior optimization and revenue management are introduced. Prerequisite: DSCI6600 Business Analytics.

DSCI6840

3 Credits

Global Sourcing, Procurement and Negotiations

This course teaches concepts and processes in supply and sourcing management, including analysis and selection of supply markets and suppliers, price and cost analysis, development of requirements, procurement of materials, services and equipment, buyer-supplier relationships, international contracts and negotiations and negotiation simulation with emphasis on global competitiveness, legal issues, social responsibilities and ethics. Prerequisite: DSCI6700 Introduction to Supply Chain Management.

DSCI6850

3 Credits

Global Supply Chain Finance

This course demonstrates how successful management of the supply-chain activities and processes tie to the financial systems, objectives and performance of the firm. Topics include financial-statements analysis, supply-chain valuation, activity-based costing, capital-investment analysis, management of working capital, international financial markets, global trade finance and financial risk management. Prerequisite: DSCI6700 Introduction to Supply Chain Management.

DSCI7004

3 Credits

Capstone Experiential Learning of Supply Chain Management

This capstone experience will require students to work on a project solicited and provided from real companies. The projects are related to specific knowledge and skills gained in the Master of Science in supply chain management program. The project will entail the detailed description of the project by clearly identifying the issues and the objectives the company is facing and hopes to achieve. Students will need to work with the company's executives and faculty adviser to collect the real data, analyze them and provide a feasible solution. The primary objective of this experience is to give students the opportunity to demonstrate that they are able to apply knowledge and skills accumulated in the Master of Science in supply chain management program to a specific supply chain problem. The capstone should be completed within the last module of the program prior to graduation. Students will be advised by faculty in the completion of their project. Prerequisite: All M.S. in supply chain management 6000-level courses.

ECON5012

2 Credits

Economic Analysis

Microeconomics foundations of consumers and business decisions, review of the rationale for

government intervention in specific markets, macroeconomic principles relating to the level of aggregate economic activity and government policies aimed at meeting growth, employment and price-stability goals.

ECON6012

2 Credits

Managerial Economics

The application of microeconomic theory to decision making in the business firm. Overview of demand and consumer behavior, production and cost management, market structure and pricing. Understanding of tools developed to support the decision-making process at managerial level. Prerequisite: FIN5012 Principles of Finance.

ECON6620

2 Credits

Economics of International Trade

An introduction to international trade, including elements of international economics and finance: barriers to trade, international commercial policies and their impact on the balance of trade, the balance of payments, capital flows, the international monetary systems. Prerequisite: ECON5012 Economic Analysis.

ECON6800

1-3 Credits

Graduate Independent Study

Studies in area of discipline with departmental approval.

ECON7745

2 Credits

Econometrics

The construction and testing of econometric models. Estimation of economic parameters, multiple regression analysis, cross section and time-series data.

EHCM6801

3 Credits

Health Sector Management and Policy

This course provides a comprehensive overview of the structure and operations of the health care industry in the United States. Special emphasis is placed on the major forces and trends that are likely to shape the industry landscape and influence relationships among key stakeholders. Fundamentals of health care delivery, funding, insurance and reimbursement are addressed. Contemporary approaches to managing access, quality, technology and costs are discussed. The political policymaking process is examined with due regard for social and ethical implications of system reform initiatives.

EHCM6802

3 Credits

Health Care Insurance, Reimbursement and Cost Control

The course will provide an overview of the principles of insurance and alternative methods of reimbursing providers for delivery of health services. Techniques used in prospective rate setting and financial risk-sharing will be discussed within the context of managed care. Contractual, regulatory and legal issues between insurers and health care providers are also examined. Contemporary approaches to managing the utilization and cost of health care services are considered. The course concludes with an assessment of future trends in health care insurance, reimbursement and cost control within the changing health care environment. Prerequisite: EHCM6801 Health Sector Management and Policy.

EHCM6803

3 Credits

Health Care Quality and Service Management

A study of the techniques and applications for measuring, assessing and improving the efficiency and effectiveness of organizational outcomes for health care firms. Qualitative and quantitative tools for managing the clinical and experiential domains of health care are presented. Contemporary models and methods for controlling process/outcome variance, enhancing health-service quality, benchmarking performance and reporting results are discussed. This course will also consider strategies for managing the human-service experience as a means to enhance patient satisfaction and achieve competitive advantage. Topical coverage will be adjusted to reflect current issues in the health care industry. Prerequisite: EHCM6801 Health Sector Management and Policy.

EHCM6901

3 Credits

Fundamentals of Health Systems and Policy

This course is designed to provide students with an overview of the fundamental characteristics of health systems in the United States relative to those in place globally. Identifies the major economic, social, demographic, political and regulatory forces that are likely to shape the external environment and linkages among the firms in this important and growing sector. The impact of these forces on health care decision making and policy formulation are discussed with due regard for legal and ethical implications.

EHCM6902

1.5 Credits

Essentials of Health Care Financial Management

This course focuses on providing students with an understanding of the unique aspects of

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managing financial transactions in the heavily regulated health care industry. The role of insurance coverage, health-plan design, managed-care protocols and third-party reimbursement methods will be examined from the health care provider's perspective. Attention will also be given to managing the health care revenue cycle, including medical coding systems, billing procedures and claims adjudication. The course is intended to establish the contextual foundation of the health care financial environment and to prepare students to receive formal exposure to the principles and theories of finance at the graduate level. Prerequisite: EHCM6901 Fundamentals of Health Systems and Policy.

EHCM6903

3 Credits

Finance for Health Care Managers

This course is targeted for the health care sector manager and is intended to provide an understanding of the role of financial management in the context of health care operations. It provides both the financial theories that a general manager needs to know and their applications to decision making in the health services. The course will build on the contextual foundations of the health care environment discussed in earlier courses. Prerequisites: EHCM6902 Essentials of Health Care Financial Management, EXEC5508 Statistical Thinking and Methods, EXEC6502 Financial Accounting and Reporting and EXEC6503 Managerial Economics.

EHCM6904

3 Credits

Health Care Operations Management

This course aims to provide the student with an understanding of — and skills to apply — the techniques for improving the performance of decision-making and delivery processes that enable provision of high-value health care services from a multi-stakeholder perspective. The course will present contemporary qualitative and quantitative operations management tools and methodologies with applications in health care service infrastructure, including balanced scorecards, performance measurement, monitoring, benchmarking and reporting, statistical process control, quality management, process design and improvement, scheduling and capacity management. This course will also consider strategies for managing the human service experience as a means to enhance patient satisfaction and achieve competitive advantage. Prerequisites: EHCM6901 Fundamentals of Health Systems and Policy, EHCM6902 Essentials of Health Care Financial Management and EXEC5508 Statistical Thinking and Methods

EHCM6905

3 Credits

Contemporary Issues in Health Sector Management

This course is designed to offer students the opportunity to explore emerging issues and trends influencing the delivery of health care that may not have been covered in the standard set of health sector management specialization courses. The learning experience is designed as a seminar and will offer sufficient flexibility to accommodate the educational interests of the unique group of participants enrolled in a particular class cohort. Prerequisites: EHCM6901 Fundamentals of Health Systems and Policy, EHCM6902 Essentials of Health Care Financial Management, EHCM6903 Finance for Health Care Managers and EHCM6904 Health Care Operations Management.

EHLS6801

3 Credits

The Health Care and Life Sciences Industry Cluster

The course provides an overview of the health care/life sciences super-cluster. It identifies major forces and trends that are likely to shape the operating environment for companies in the sector and linkages among the firms in the cluster. The fundamentals of health care economics, financing, reimbursement, quality assurance and political policymaking are discussed. The spectrum of life science entities is considered in relation to the continuum of health care delivery.

EHLS6802

3 Credits

Legal and Ethical Issues in Health Care and Life Sciences Management

This course outlines the underlying social framework for current legal, regulatory and ethical issues affecting health-policy formulation and the provision of medical services. It will address how the regulatory environment impacts health care and life sciences companies. It also provides an understanding of key ethical principles of decision-making in clinical practice and research involving human subjects. An overview of intellectual property and patent law is presented.

EHLS6803

3 Credits

Managed Care and Provider Reimbursement

The study of current public- and private-sector reimbursement methodologies for acute, primary and chronic-care service providers. Techniques used in prospective rate setting and financial risk-sharing arrangements in the context of managed care will also be discussed. The course also examines regulatory and contractual issues as well as methods for expense management such as the use of formularies and tiered-benefits

designs. The impact of managed care and reimbursement trends are considered as future challenges to health care and life sciences managers.

EHLS6804

3 Credits

Health Sector Marketing and Consumer Behavior

An integrated overview of the theory and processes of modern marketing and consumer behavior as they apply to the delivery of health products and services to diverse populations. Emphasis is placed on the uniqueness of health services and social responsibility. Topics include market analysis, competitive positioning, development of the strategic marketing mix and customer service quality. Principles of product-concept development, pricing and distribution are presented. Strategies for promotion of health-related goods and services as well as regulations governing advertising, education and use of opinion leaders are discussed.

EHLS6805

3 Credits

Health Care Financial Operations

A manager's view of the principles of finance and their application to the internal operations of health care organizations. Methods for assessing the financial performance of health care facilities are reviewed. Techniques for financial planning, budgeting, cost analysis and current asset management are discussed. Issues pertaining to capital formation, project analysis and corporate combinations are also addressed. Emphasis is on managerial decision-making rather than on the technical aspects of accounting and financial analysis.

EHLS6807

3 Credits

Health Quality and Outcomes Management

A study of the techniques and applications for measuring and improving the efficiency and effectiveness of organizational and service performance outcomes. Research methods, study designs and measurement issues are presented in the context of improving health care quality and outcomes. Contemporary models and methods of clinical-outcome research, benchmarking, performance measurement and public-outcomes reporting are also presented.

ENTR6012

2 Credits

Entrepreneurship and Innovation

This course is an integral component of the M.B.A. core curriculum. It provides students with an understanding of the processes associated with innovation in the context of changing economic environments that are marked by fast cycle times for services and products. Challenges and opportunities

associated with creating sustainable value for an organization will be considered through the application of key concepts, processes and tools of decision-making at the level of the firm. Key concepts associated with innovation, entrepreneurship and business strategy will be validated by the use of appropriate pedagogical tools and the development of a business model project.

ENTR6101

2 Credits

Small Business Management

Given the low survival rates of start-ups, the primary aspect of small business management is scaling — moving from start-up to an ongoing business. In this course, students will learn through simulation tools how to iterate products in response to changes in the market, adapt the initial business model for different stages in the lifecycle of an entrepreneurial business and address capacity-constraint dilemmas with respect to distribution-channel issues on rapid product launch. Students will also learn how to raise growth capital through crowd-funding and learn the concept of pivoting through case studies and by examining companies. Prerequisite: ENTR6012 Entrepreneurship and Innovation.

ENTR6112

2 Credits

Strategic Innovation Management

This course provides an opportunity for students to gain an understanding, from a strategy perspective, of what innovation is, the importance of innovation within organizations and how it can be managed. It introduces students to key concepts and models from the strategic management and innovation management literature. Prerequisite: ENTR6012 Entrepreneurship and Innovation.

ENTR6301

2 Credits

Family Business Management

Family businesses are both the most complex and common form of business worldwide, but 85 percent fail within three generations. In this course, students will use cases and play the role of a business consultant in the process of learning how to successfully incorporate the needs of family, business and ownership, and use simulation to develop a business model that allows family businesses to successfully work together from one generation to the next — namely, from family and business development through management to succession and change in the business. Though this course is particularly relevant for students who work in or may become part of a family business, it will give students the knowledge necessary for them in their future careers to advise family businesses. Prerequisite: ENTR6012 Entrepreneurship and Innovation.

ENTR6502

2 Credits

Entrepreneurial Finance

This course covers all aspects of entrepreneurial finance including company and investor strategy, expectations and negotiations, angel investors, venture capital, private equity, strategic alliances, the informal investor market, initial and secondary public offerings, bank lending and alternative sources of funding. Emphasis is on financing elements and techniques that make deals succeed, the implications of strategic decisions on finance and the impact of financing on the company strategy. Students are immersed in concepts such as valuation, cash flow, cash burn and analysis of viable revenue models and cost structures from both internal financing strategy and outside investor viewpoints. Financing issues will be explored in the context of start-ups, small businesses, growing ventures and internal ventures of established companies. Prerequisites: ACCT6012 Managerial Accounting Applications, ENTR6012 Entrepreneurship and Innovation and FIN6012 Corporate Finance.

ENTR6800

1–2 Credits

Graduate Independent Study

Studies in area of discipline with departmental approval.

ENTR7012

2 Credits

Entrepreneurship Capstone

This course immerses students in strategic planning, financing and growing of a business or a new venture within an existing business. Under the guidance of a faculty member, student teams partner with the management teams of real businesses to create and develop an entrepreneurial strategy and a business plan. Each team develops its business plan to provide an integrated framework for profitable growth in the context of the venture's strategic objectives. The course provides hands-on fieldwork in which students apply concepts they have acquired in their previous course work in addition to their professional experiences. Client companies typically cover a wide range of industries, markets, sizes and growth opportunities. MBA capstone course; available to every MBA candidate.

ENTR7804

2 Credits

Social Entrepreneurship

This course provides an opportunity for students to gain an understanding of the importance of employing entrepreneurial approaches to solving social problems and how social enterprises can be created and effectively managed. It introduces students, through lectures and case analyses, to challenges in running a social enterprise and strategies

available to social entrepreneurs to effectively meet the challenges. Students will have an opportunity to develop a business model for a new social enterprise or analyze the strategies and performance of an existing social enterprise, through a project. Prerequisite: ENTR6012 Entrepreneurship and Innovation.

EXEC5501

1.5 Credits

Macroeconomic Analysis

This course will introduce students to the principles of macroeconomics and the application of theory for analyzing the impacts of government regulation of fiscal and monetary policy on employment, economic growth, inflation, interest rates and exchange rates.

EXEC5502

1.5 Credits

Social, Legal and Ethical Issues

This course is an introduction to the legal environment of business and includes coverage of regulatory agencies, litigation, contracts, business organizations and agency and employment issues.

EXEC5503

1.5 Credits

Fundamentals of Management

This course provides a baseline understanding of the processes of working with people and resources to accomplish organizational goals. In today's business world, highly effective executives not only apply the fundamental management principles of planning, organizing, leading and controlling, but also anticipate and adapt to change. This course explores the nature and application of these fundamental principles in the evolving environment of globalization and increased competitiveness. An integrative case study will be used to connect management principles to those from other disciplines in the executive M.B.A. foundations module.

EXEC5504

1.5 Credits

Fundamentals of Marketing

This course will introduce students to marketing terminology and concepts. The goal is to provide sufficient foundation knowledge to enable students to take courses in the core M.B.A. program. Accordingly, this course introduces students to such fundamental marketing concepts as the marketing mix, segmentation, marketing research and consumer behavior.

EXEC5505

1.5 Credits

Fundamentals of Financial Accounting

An introduction to the basic financial statements and the underlying concepts, conventions and principles.

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EXEC5506

1.5 Credits

Principles of Microeconomics

Microeconomic foundations of consumer and business decisions, market structure and industrial organization.

EXEC5507

1.5 Credits

Principles of Finance

The course studies the essential compounding-discounted techniques used to price assets and projects with deterministic cash flows. The course also studies the role of financial systems with regard to raising capital.

EXEC5508

3 Credits

Statistical Thinking and Methods

This course introduces statistical ideas and methods of how to draw conclusions from the data. It provides students with the ability to think statistically and appreciate statistical ideas. Topics include descriptive statistics, probability theory, confidence intervals, hypothesis testing, correlation, regression, analysis of variance and an introduction to nonparametric statistics. Statistical software is used frequently for computations. Emphasis is on interpreting statistical results and using statistical analyses for decision making.

EXEC6501

1.5 Credits

Corporate Creativity and Innovation

This 1.5-credit course is an integral part of the core curriculum in the M.B.A. management for executives program. It provides students with an appreciation for the role of creativity and innovation in facilitating the emergence of organizations and their continued development and growth. Students will examine the opportunities and challenges associated with applying these concepts in the creation of sustainable organizational value. A variety of individual and team-based assignments will be used to validate and apply the concepts presented in this course.

EXEC6502

3 Credits

Financial Accounting and Reporting

This course focuses on the decision-support information that managers regularly use and need in the contemporary business setting. Topics include cost-volume profit, cost behavior, product costing, pricing, quality costs, budgeting variance analysis, short-term decision making and business-unit performance measurement. The course will begin with a session on understanding financial statements to provide articulation with the financial accounting prerequisite. Prerequisite: EXEC5505 Fundamentals of Financial Accounting.

EXEC6503

3 Credits

Managerial Economics

Microeconomic theory as applied to decision making in the business firm. Emphasis is placed on customer demand, cost management, strategic and tactical pricing, market and competitive actions and analyses. Prerequisites: EXEC5501 Macroeconomic Analysis and EXEC5506 Principles of Microeconomics.

EXEC6504

3 Credits

Finance for Managers

The course provides a practical view of the theories and models of finance for the general manager. It will explore risk-return models, cost of capital, capital budgeting, capital structure theory and practice. The course will also introduce a selection of topics such as, but not limited to, corporate reorganization and governance, quantifying strategic decisions with real options, dividend policy mergers and acquisitions or other timely topics of interest. Prerequisite: EXEC5507 Principles of Finance.

EXEC6505

3 Credits

Organizational Behavior and Leadership

Creating and leading sustainable, ethical, successful and responsive organizations is the primary challenge for business and nonprofit leaders today. This course brings together the knowledge, research, insights and experiences of both management academics and organization development and management practitioners to address the challenges and opportunities in understanding and managing organizational behavior. This course emphasizes concepts and tools for assessing the social processes encountered in the workplace, so that one can become an effective and responsible leader, and it develops the students' own leadership skills and competencies. Prerequisite: EXEC5503 Fundamentals of Management

EXEC6506

3 Credits

Strategic Marketing

This course addresses the strategic and consequent tactical concerns of a business in terms of building value. The course will address topics such as segmentation and positioning, new-product development and launch, brand equity, sustainability, product policy, pricing policy, distribution choices (bricks-and-mortar and e-commerce) and supply-chain management, promotional strategy and customer relationship management. Students will apply marketing principles in formulating marketing strategies and making managerial recommendation. Prerequisite: EXEC5504 Fundamentals of Marketing.

EXEC6507

3 Credits

Strategic Management of Information Systems

This course focuses on the alignment of information systems (IS) with business strategies in order for business organizations to gain competitive advantage in a globalized environment. It explores fundamental concepts, models and frameworks of IS regarding the planning, investment, implementation and evaluation of information systems for strategic purposes. The course also examines the role of IS in transforming the organizational and business environment through the employment of various strategies, applications and technologies.

EXEC6508

3 Credits

Supply Chain Management

The course addresses the strategic and operational role of supply-chain management in the global business environment. It examines how supply-chain participants enhance the value of their products and services by orchestrating the management of quality, efficiency, flexibility and speed. Management science methods are utilized to obtain analytical solutions using mathematical models and software.

EXEC6509

3 Credits

International Business

The study of basic managerial functions appropriate to international business. The role of the multinational corporation in contemporary world trade is discussed. Topics covered include organization, foreign licensing, international aspects of management, finance, taxation and cultural differences. This course includes a structured foreign-study tour to permit students to compare international business practices with those of U.S. firms. Knowledge acquired through the experience will be linked to other courses.

EXEC6510

3 Credits

Global Business Capstone

The focus of this course is on corporate-level strategy for multidivisional firms striving to strategically restructure their business portfolios by expanding and diversifying domestically and internationally. Topics will include diversification strategies, tactics for global market entry/exit and structural alternative to support growth. Emphasis will be placed on integrating functional plans for implementing strategy at the corporate level. Students will work in teams to develop a comprehensive strategic plan using case studies of real-world companies as the primary learning modality.

EXEC6901

1.5 Credits

Managing Sustainability for Competitive Advantage

Pursuing the “triple bottom line” of financial success, ecological stewardship and social equity has become essential to achieving sustained competitive advantage. This course will focus on the current and future challenges and opportunities relating to climate change, sustainable economic development and the role of business. It also will explore the theory, values and practical aspects of sustainability with special emphasis on strategic effectiveness. The class will draw on real issues and experiences of managers through case studies and guest speakers. Career opportunities in relation to sustainability will also be discussed.

EXEC6902

1.5 Credits

Project Management

This course is designed to offer students the opportunity to learn how to effectively plan and manage projects that meet their organization's business goals. The course addresses fundamental concepts of successful project management, and the technical and managerial issues, methods and techniques of project management and of managing project managers.

FIN5012

2 Credits

Principles of Finance

This course surveys the financial environment and performs comparisons of firms based on their financial statements. It studies the essential compounding-discounting techniques used to price assets and projects with deterministic cash flows. Prerequisites: ACCT5012 Financial Accounting: End-user Applications, DSCI5012 Statistical Data Analysis and ECON5012 Economic Analysis.

FIN6012

2 Credits

Corporate Finance

This course discusses how some of the most important financial theories are applied to a corporate setting. Blending theory and practice, the course introduces the concepts of risk, cost of capital, commitment of funds for long-term capital investment and other applications of interest. Prerequisites: DSCI5012 Statistical Data Analysis and FIN5012 Principles of Finance.

FIN6020

3 Credits

Financial Analysis for Accountants

The course covers the essential financial topics for the CPA exam. An introduction to time value of money and financial markets is followed by the valuation of bonds and stocks. Risk return models and capital structure are incorporated into a discussion of the cost of

capital. Evaluation of cash-flow and project selection introduces the student to asset valuation. Analysis of financial ratios and of cash-conversion cycle lead to an understanding of the short-term management of the financial position of the firm.

FIN6112

2 Credits

Finance Decisions for Sustainable Enterprise

This course introduces the student to strategic financial decisions for a sustainable enterprise. The course discusses various strategic real options that would ensure that the corporation acts at the best time capturing the most value from its multiple strategic options. In addition, the course discusses capital structure and the various theories leading to a minimum cost of capital that would ensure that corporations have access to more projects and thus could create more value. Finally, concepts of valuation and its maximization toward achieving sustainability of the enterprise as well as the social and natural environment would be presented. Therefore, the course proposes to raise the awareness of the student to concepts of sustainable enterprise from financial perspectives leading to sound actions. Prerequisite: FIN6012 Corporate Finance.

FIN6701

2 Credits

Strategic Financial Decisions

This course explores how sophisticated financial theory and knowledge can be used for the strategic decisions of the corporation. Prerequisite: FIN6012 Corporate Finance.

FIN6721

2 Credits

Financial Markets and Investments

This course sets forth the theoretical framework underlying the role of capital markets. It studies the various financial instruments within the many asset classes and their trading. In addition, it introduces macro and industry analysis, the term structure of interest rates and other relevant concepts for investment analysis. Prerequisite: FIN6012 Corporate Finance.

FIN6731

2 Credits

Portfolio Management

Applications of economics, statistics and investment analysis to the process of constructing, managing, revising and analyzing equity and fixed-income portfolios. Futures, options and other derivative securities are also considered, along with international investments. Prerequisite: FIN6721 Financial Markets and Investments.

FIN6742

2 Credits

Global Finance

This course examines how the access and exposure to different currency, country and market environments can affect the financial and investment decisions of the firm. Topics include the determination of the exchange rates, measurement and management of the different exposures to currency risk, international investment decisions by firms, hedging and other timely topics. Prerequisite: FIN6012 Corporate Finance.

FIN6751

2 Credits

Mergers and Acquisitions

The course covers mergers and acquisitions (M&A), leveraged buyouts and joint ventures and strategic alliances as well as corporate restructurings. The history, laws and strategy of M&A along with corporate governance, sell-offs and business valuation are covered. Prerequisite: FIN6012 Corporate Finance.

FIN6800

1–2 Credits

Graduate Independent Study

Studies in area of discipline with departmental approval.

FIN6801

2 Credits

Seminar in Corporate Finance

Advanced study in corporate finance. Specific topics vary by instructor. May be taken more than once with different instructors. Prerequisite/Corequisite: FIN6012 Corporate Finance.

IBUS6012

2 Credits

International Business Concepts

This is a survey course that introduces graduate students to international business. The underlying factors that drive globalization, shape international business environments and influence business strategies and organizational structures of multinational corporations are critically examined in the course. Thus, the course provides students with the necessary concepts, tools and skills that will permit them to analyze and respond effectively to dynamic changes in the global environment.

IBUS6020

2 Credits

Economics of International Trade

An introduction to international economics, including international commercial policies and their impact on the balance of trade, the balance of payments, capital flows and the international monetary system. Prerequisite: ECON5012 Economic Analysis.

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IBUS6072

2 Credits

International Management

Operation of businesses in an international environment and the issues involved in ownership, management, labor, production, legal, control and public affairs as a result. Prerequisite: MGMT5012 Foundations of Management.

IBUS6706

2 Credits

International Marketing

An introduction of marketing considerations in international markets. Cultural differences, social patterns, channels of distribution, product attributes, pricing policies and promotional policies are examined within an international framework. Prerequisite: MKTG5012 Marketing Principles.

IBUS6742

2 Credits

Global Finance

This course examines how the access and exposure to different currency, country and market environments can affect the financial and investment decisions of the firm. Topics include the determination of the exchange rates, measurement and management of the different exposures to currency risk, international investment decisions by firms, hedging and other timely topics. Prerequisite: FIN6012 Corporate Finance.

IBUS6800

1–2 Credits

Graduate Independent Study

Studies in area of discipline with departmental approval.

IBUS7715

1–3 Credits

Doing Business in Europe

The development and conduct of business between the United States and Europe is analyzed with a focus on U.S. relations with the region in terms of its economic goals and business practices. Emphasis is placed on the growth of economic regionalism and the movement toward European integration since 1945.

LAW6012

2 Credits

Society, Ethics and the Legal Environment of Business

This course provides an overview of the legal environment of business, including the court system, business litigation and alternate dispute-resolution methods; the regulatory agencies and administrative law; basic contract and commercial law; and tort law as it relates to business issues. It also explores the relationship that exists between legal issues and the ethical

issues that arise in connection with the ways that legal and social problems are addressed within the legal system.

LAW6657

3 Credits

Applied Business Law

This course covers the essential areas of the Uniform Commercial Code, namely contracts, agency, negotiable instruments, secured transactions, bankruptcy, partnerships and corporations. In addition, the Securities and Exchange Acts are given appropriate coverage.

MGMT5012

2 Credits

Foundations of Management

This course prepares students to understand at a basic level how the functional areas of business fit within the larger context of organizations. The role of managers and the evolution of management from the classical, human relations and behavioral-systems schools of thought will be discussed. The general management functions of planning, organizing, controlling, staffing and leading will be introduced. Also covered in this course will be the basics of competitive strategy formulation, organization design, motivation, goal setting, group/team dynamics, international management and ethical decision making, as foundations for more advanced treatment of these topics in the M.B.A. core.

MGMT6012

2 Credits

Organizational Behavior and Leadership

This course emphasizes concepts and tools for assessing the social processes encountered in the workplace. Although the primary focus is on understanding and managing individuals and teams, there is significant attention to system-level behavior and change. Students will focus on the application theories and the development of managerial skills, such as understanding individual differences, effectively working in teams, motivating and influencing others, managerial communications, ethical decision-making and leadership, as well as managing organizational change. Prerequisite: MGMT5012 Foundations of Management.

MGMT6112

2 Credits

Managing Sustainability in a Global Environment

The course will focus on the current and future challenges and opportunities relating to climate change, sustainable economic development and the role of business. It will explore theory, the values and practical aspects of sustainability, with special emphasis on the role of leadership and managing change. Prerequisite: MGMT6012 Organizational Behavior and Leadership.

MGMT6621

2 Credits

Strategic Human Resource Management

This course focuses on the new and expanded role of the human resource professional. The course content is centered on the activities performed by a human resource department, for example, recruitment and selection, and compensation and benefits, which are the building blocks for the HR professional. An understanding of these HR functions also is important for line managers who have substantial responsibility for managing people. Prerequisite: MGMT6012 Organizational Behavior and Leadership.

MGMT6625

2 Credits

Managing a Healthy Workforce

People are the most important resource in determining the overall performance of organizations. Business enterprises are the largest financiers of health insurance in the United States and are uniquely positioned to promote and influence the health, well being and productivity of workers. This course adopts an interdisciplinary approach to the challenge of managing a healthy workforce. Students will utilize knowledge acquired in their M.B.A. core courses to analyze and propose solutions to contemporary challenges such as responding to the mandates of recent health care reform legislation, promoting the health status of employees and their dependents, occupational health and safety, coping with job stress, managing the chronic-care needs of an aging workforce, controlling the cost and quality of health care and creating a corporate culture of health and wellness. Course participants will identify current issues and use a team approach to develop actionable management programs that foster workforce health and welfare. Prerequisites: MGMT6012 Organizational Behavior and Leadership and MGMT6621 Strategic Human Resource Management.

MGMT6633

2 Credits

Leadership and Change Management

Organizations must become more nimble so they can readily adapt to the shifting needs of the global marketplace. To that end, the ability to navigate organizational change is a competitive advantage. This course focuses on the development and application of strategies that will enable individuals to successfully lead organizational change. Topics include models and frameworks of change, as well as ethical responsibility and stakeholder engagement. Prerequisite: MGMT6012 Organizational Behavior and Leadership.

MGMT6640**2 Credits****Leadership Development Project**

This course would include project-based and reflective learning. Emphasis will be placed on negotiation, conflict or knowledge management. This serves as the capstone experience within the management major. Prerequisite: MGMT6012 Organizational Behavior and Leadership.

MGMT6700**2 Credits****Negotiation and Conflict Management**

Negotiation is a crucial aspect of the interactions among individuals, teams and organizations. Moreover, successful negotiations can create value for all participants. This course will introduce students to the theory and practice of negotiation through readings, role-play and other experiential exercises. Influences of culture and ethics on negotiation strategies will be assessed. Students will develop self-awareness through the discovery of their own negotiating style and build a repertoire of personal negotiation strategies. Prerequisite: MGMT6012 Organizational Behavior and Leadership.

MGMT6800**1-3 Credits****Graduate Independent Study**

Studies in area of discipline with departmental approval.

MGMT7012**2 Credits****Global Business Capstone**

Students will integrate strategic, marketing, operating and financial theories and practices to evaluate the formulation and implementation of business strategy in multinational-firm contexts. Issues pertaining to corporate diversification will be examined. Prerequisites: DSCI6012 Operations Management, MGMT6012 Organizational Behavior and Leadership and MKTG6012 Strategic Marketing. Note: This course is restricted to students who have 10 or fewer credits remaining for graduation.

MIS6012**2 Credits****Information Systems for Managers**

This course helps students understand the role of information systems (IS) in supporting business operations and strategy and become effective in IS-related decision making as it relates to the organization and the global marketplace. The students learn the key information technologies and their business applications, including e-business, m-commerce and web-based applications. The influence of information technologies on management and organizations is also studied. Challenges and opportunities that arise in using and managing information resources are examined together with the application of emerging technologies.

MKTG5012**2 Credits****Marketing Principles**

This course will introduce students to marketing terminologies and concepts. The goal is to provide sufficient foundation knowledge to enable students to take courses in the core M.B.A. program. Accordingly, the course introduces students to such fundamental marketing concepts as the marketing mix, segmentation, marketing research and consumer behaviors.

MKTG6012**2 Credits****Strategic Marketing**

This course addresses the set of strategic and tactical decisions that marketers need to make to be able to create, communicate and deliver value to selected target markets. The course will address topics such as segmentation, targeting and positioning; new-product development and launch; management of brand equity; and product, price, distribution and promotional strategy. Students will critique firms' marketing strategies that illustrate these issues. Students will also be responsible for integrating these concepts into a marketing plan for a new product. Prerequisite: MKTG5012 Marketing Principles.

MKTG6111**2 Credits****Digital Marketing Strategies**

This course explores digital marketing trends from a theoretical and practical perspective. The class will examine topics such as website design, search-engine optimization, search-engine advertising, email marketing, reputation management and analytics. Exercises and assignments are designed to provide students with the skills to develop, implement and evaluate effective digital marketing programs. Prerequisite: MKTG6012 Strategic Marketing.

MKTG6112**2 Credits****Social Media Strategy**

This course explores current social media platforms and their role in a company's marketing communication strategy, facilitating customer relationships, product innovation and brand equity. Specifically, the course examines how to create and implement a social media campaign, measure and track its performance and utilize appropriate analytic metrics and software platforms. Social media will be examined as part of a larger integrated marketing communication strategy. In addition, it will briefly cover social media's potential role in overall business operations. Applicable consumer behavior, communication and advertising theories will be covered. Prerequisite: MKTG5012 Marketing Principles.

MKTG6113**2 Credits****Mobile Marketing Strategies**

This course will examine the strategic uses of mobile marketing to be able to create and critique a mobile marketing plan. Students will be introduced to the quickly evolving mobile field and be exposed to topics such as mobile-ready websites, proximity marketing, mobile advertising, mobile applications, messaging and analytics. Prerequisites: MKTG6012 Strategic Marketing and MKTG6111 Digital Marketing Strategies.

MKTG6602**2 Credits****Marketing Research**

This course is designed to provide an in-depth understanding of the marketing research process. This includes identifying and defining marketing problems with sufficient precision to permit the collection of the appropriate market data using a variety of methods. In addition, the course will focus on analyzing data using appropriate techniques to yield useable knowledge that can aid marketers in making better educated decisions. Prerequisites: DSCI5012 Statistical Data Analysis and MKTG6012 Strategic Marketing.

MKTG6603**2 Credits****Consumer Behavior**

This course will expose students to various theories and concepts relevant to understanding consumer behavior. The course will focus heavily on consumer psychology and consumer decision-making processes, including factors that influence these processes. This foundation will form the basis of understanding how managers can benefit from such knowledge so that they are better equipped to both predict and influence consumers' responses to marketing strategies and tactics. Prerequisite: MKTG6012 Strategic Marketing.

MKTG6605**2 Credits****Marketing Communications**

The course is designed to provide an overview of marketing communications theory, strategy, management and tactics. Students will be exposed to a mixture of applied theory and practical examples of how marketing communications plans and tactics are developed and executed. Prerequisite: MKTG6012 Strategic Marketing.

MKTG6614**3 Credits****Search Engine Optimization and Advertising**

This course will provide an overview on search engine optimization (SEO), search engine marketing (SEM) and display advertising. Students will learn the importance of keyword

Business • Course Offerings

research, onsite and offsite SEO best practices, writing effective ad copy, ad bidding, account monitoring and organizing and display networks. Prerequisites: MKTG6012 Strategic Marketing, MKTG6111 Digital Marketing Strategies and MKTG6605 Marketing Communications.

MKTG6615

3 Credits

Email and Database Marketing

This course will provide an overview of email marketing and database management and their role within an integrated marketing communication strategy. The course will examine how to create, manage and measure an email campaign as well as navigate ethical issues. In addition, emphasis will be given to developing and maintaining customer databases to further the students' understanding of consumer behavior and build stronger customer relationships. Prerequisite: MKTG6012 Strategic Marketing, MKTG6111 Digital Marketing Strategies, MKTG6603 Consumer Behavior and MKTG6605 Marketing Communications.

MKTG6616

3 Credits

Content Marketing

This course will explore the important role that marketing plays in a company's inbound marketing strategy. Students will learn how to identify/develop engaging content, manage digital assets, understand applicable copyright and legal regulations, execute a content strategy and measure campaign results. Prerequisites: MKTG6012 Strategic Marketing, MKTG6111 Digital Marketing Strategies and MKTG6605 Marketing Communications. Corequisite: MKTG6112 Social Media Strategy.

MKTG6617

3 Credits

Web Analytics

This course will explore how to utilize quantitative and qualitative data to better inform marketing decisions. Students will identify key performance indicators (KPI), be exposed to a variety of analytic tools, conduct A/B testing, familiarize themselves with analytic dashboards and create actionable analytic reports that will provide insight into website design, buying behavior, social media and advertising-related decisions. Prerequisites: DSCI5012 Statistical Data Analysis, MKTG6012 Strategic Marketing, MKTG6111 Digital Marketing Strategies and MKTG6602 Marketing Research.

MKTG6800

1–2 Credits

Graduate Independent Study

Studies in area of discipline with departmental approval. (Internship or special projects)

MKTG8850

1–2 Credits

Advanced Special Projects: Marketing

Studies in an area of marketing, with departmental approval. It is the student's responsibility to obtain a faculty mentor. Prerequisite: MKTG5012 Marketing Principles.

PHAR6601

3 Credits

Health Care Systems and Policy

This course provides a comprehensive overview of the structure and operations of the United States health care delivery system. Major forces and trends that are likely to shape the external environment and linkages among industry stakeholders are identified and examined. Fundamentals of health care economics, financing, reimbursement, quality assurance and political policymaking are discussed with due regard for social and ethical implications. The spectrum of life sciences is considered in relation to the continuum of health care delivery. Students will prepare a position paper that applies course concepts to a contemporary issue of relevance to their specific career interests.

PHAR6615

2 credits

Pharmaceutical Marketing and Product Development

This course surveys sales and marketing practices, constraints and promotion tools in the pharmaceutical and related industries, including new product development and licensing. Prerequisites: MKTG5012 Marketing Principles and PHAR6601 Health Care Systems and Policy.

PHAR6640

2 credits

Management of Research and Technology in the Pharmaceutical Industry

Strategic, organizational and human factors involved in successful research and development operations in pharmaceutical and chemical companies are reviewed. Also covered are the selection and development of projects, creativity, liaison problems, control devices, analysis, reports and communications and other factors involved in program/project management. Prerequisites: MGMT5012 Foundations of Management and PHAR6601 Health Care Systems and Policy.

PHAR6650

2 credits

Management of Production, Purchasing and Quality Control in the Pharmaceutical Industry

Overview of the problems and factors involved in effective supply-chain management of pharmaceutical facilities, from purchasing through production and quality control. Prerequisites: DSCI6012 Operations

Management and PHAR6601 Health Care Systems and Policy.

PHAR6680

2 Credits

Structure, Regulation and Strategy of the Pharmaceutical Industry

This course examines industry structure and its implications for both industry regulation and corporate strategy. Key issues of corporate strategy are addressed including, globalization, vertical integration, diversification and focus. Strategy and regulation are considered from the point of view of biotech companies, big pharmaceutical companies and industry suppliers. Prerequisite: PHAR6601 Health Care Systems and Policy.

PHAR6690

3 Credits

Managing the Value Proposition

Of strategic concern to pharmaceutical managers, regardless of their particular career focus, is the current emphasis on delivering "value" to stakeholders (whomever they may be). Successful response to this challenge requires a balanced approach to managing the effectiveness (quality) and efficiency (cost) of products/services delivered. The role of managed-care organizations as adjudicators of health care coverage and value will be explored. As their course project, students will be challenged to develop a compelling value proposition for a product or service germane to their chosen area of industry specialization. Prerequisites: PHAR6601 Health Care Systems and Policy and PHAR elective.

PHAR6800

1–2 Credits

Graduate Independent Study

Studies in area of discipline with departmental approval.

PHAR7715

2 credits

Topics in Current Developments

Current issues, ideas and problems of interest to the pharmaceutical and chemical industries. An emphasis on the use of current literature, the participants in current issues, specialists and intervention by government authorities. Enrollment by special permission only.

TAX6621

3 Credits

Advanced Federal Tax: Individual Income Taxation

This course is designed to introduce the student to the case method and the use of the Internal Revenue Code as a foundation for tax research and planning. Substantively, the course examines gains and losses, basis rules, capital assets, section 1231, taxation of capital transactions, depreciation and recapture, interest, charitable contributions and tax aspects

of divorce. Prerequisite: ACCT6605 Federal Tax I: Individual.

TAX6622

3 Credits

Advanced Corporate Tax I

This course introduces the study of corporate taxation. It covers the tax aspects of incorporation, financing the entity, distributions, redemptions and liquidations. S corporations also are covered, as well as the alternative minimum tax and computation of taxable income and tax. Prerequisite: ACCT6606 Federal Tax II: Business Entities.

TAX6625

3 Credits

Estate and Gift Taxation

The study of transfer taxes during life and death. Concepts such as gross and taxable estate and gifts will be explored in detail. The course covers inclusions, deductions, valuations, exemptions, credits and tax computations for gifts and estates.

TAX6670

3 Credits

Tax Accounting

The study of tax law as it pertains to the timing and treatment of tax items. Topics will include the cash and accrual method for income tax, installment sales, inventories (including unicap), changes in accounting methods, the tax benefit rule, accounting periods, time value of money and the annual accounting period.

TAX6850

3 Credits

Tax Research

A study and implementation of tax research techniques, including internet and proprietary research databases. Through a variety of written projects, oral presentations and class material, the student will develop the ability to identify, research and communicate the solutions to a variety of tax issues that are encountered in practice. Emphasis will be on the development of sound research and writing skills. Prerequisites: TAX6621 Advanced Federal Tax I: Individual Income Taxation, TAX6622 Advanced Corporate Tax I and TAX7724 Tax Practice and Procedure I.

TAX7705

3 Credits

U.S. International Corporate Taxation

A comprehensive course for corporate tax practitioners who do not choose to specialize in international tax. The course is an intensive course limited in scope. Certain topics, such as foreign tax credit and Subpart F, are covered in the same depth as they are in specialist courses, but offer only limited, if any, coverage of other specialist topics. The goal is to teach those operating in a large corporate environment what they need to know to function as an

international tax person. This course covers topics such as the foreign tax credit, sourcing of income, deemed paid credits, separate limitation categories, allocation and apportionment rules and Subpart F. Prerequisite: TAX6622 Advanced Corporate Tax I. TAX7725 Advanced Corporate Tax II recommended. Waivers may be granted by the program director in consultation with the course professor.

TAX7708

3 Credits

International Tax I: Sourcing and Inbound

This first of three courses for international tax specialists provides in-depth coverage of the source-of-income rules and U.S. taxation of foreign persons. The course also explains the rules for U.S. taxation of international assignees, provides an overview of income tax treaties and covers withholding taxes.

TAX7710

3 Credits

International Tax II: Outbound

This second course for international tax specialists covers foreign tax credits for corporations and related topics. Included are creditable taxes, separate limitation categories, deemed paid credits, allocation and apportionment, Subpart F, PFIC rules and the various international tax implications of the American Jobs Creation Act of 2004.

Prerequisites: TAX6622 Advanced Corporate Tax I and TAX7708 International Tax I: Sourcing and Inbound or TAX7705 U.S. International Corporate Taxation or permission from the director of the tax program in consultation with the course professor.

TAX7711

3 Credits

International Tax III: Special Topics

This third course for international tax specialists provides a comprehensive review of international structuring and reorganizations, including use of hybrid entities. In addition, there is coverage of the U.S. transfer pricing rules and sourcing rules related to produced inventory. Prerequisites: TAX7710 International Tax II: Outbound and TAX7725 Advanced Corporate Tax II.

TAX7725

3 Credits

Estate and Gift Tax Planning

This course explores estate planning for gifts and other transfers by use of various techniques. Planning for business and other wealth transfers among family members will be highlighted. Topics will include marital deduction, split gifts, life insurance, charitable gifts, use of trusts and planning for estate liquidity. Prerequisite: TAX6625 Estate and Gift Taxation.

TAX7724

3 Credits

Tax Practice and Procedure I

A study of Subtitle F of the Code, dealing with tax procedures applicable to individuals and businesses. Topics include IRS organization, tax aspects of returns, administrative rulings and position statements, civil litigation in tax and district court, statutes of limitations, various types of assessments, waivers, overpayment and refunds, interest and civil penalties. The course also will include a study of Circular 230, professional responsibility and penalties that apply to practitioners.

TAX7725

3 Credits

Advanced Corporate Tax II

A continuation of TAX6622 Advanced Corporate Tax I, this course covers corporate acquisitions and dispositions, including both taxable transactions and nonrecognition reorganizations. The course examines acquisitive reorganizations in depth, followed by reorganizations within a single corporation and divisive reorganizations. Topics include the judicial doctrine of business purpose, step transaction and continuity of interest. The course ends with a study of the transfer and survival of corporate tax attributes after reorganization. Prerequisite: TAX6622 Advanced Corporate Tax I.

TAX7726

3 Credits

Compensation: Executive Compensation and Nonqualified Plans

A study of the tax aspects of various forms of executive and employee compensation. The major focus of the course will be on nonqualified plans. The course covers various compensation techniques, including traditional deferred compensation arrangements, nonqualified stock options, stock appreciation rights, phantom stock plans, stock awards, restricted stock plans, excess benefit arrangements, rabbi trusts, split-dollar plans and severance-pay plans.

TAX7727

3 Credits

Advanced Federal Tax: Property Transactions

This course concentrates on the tax aspects of acquisitions and dispositions of property. Topics will include like-kind exchanges, involuntary conversions, assignment of income doctrine, disposition of residence, cancellation of indebtedness and limitation on losses, such as at-risk rules and passive activity rules, hobby losses, home office and net operating losses (NOL). Prerequisite: ACCT6605 Federal Tax I: Individual.

Business • Course Offerings

TAX7728

3 Credits

Partnership Taxation

The study of the federal taxation of partnerships and partners. The course covers formation, operation and liquidation of a partnership, including the acquisition of partnership interests, compensation of a service partner, treatment of partnership distributions, basis, allocations, liquidations and problems associated with the disposition of partnership interests or property by sale. Prerequisites: ACCT6606 Federal Tax II: Business Entities, TAX6621 Advanced Federal Tax: Individual Income Taxation and TAX7727 Advanced Federal Tax: Property Transactions.

TAX7730

3 Credits

Income Taxation of Estates and Trusts

A study of the federal income taxation of estates and trusts (grantor, simple and complex). The course analyzes tax consequences to fiduciaries, beneficiaries, grantors and other parties from inception through termination. Topics include general rules for taxation, fiduciary accounting income, distributable net income, income distribution deduction, computation of taxable income, various distributions and income in respect of a decedent.

TAX7732

3 Credits

Tax Practice and Procedure II

A complete review of procedures and strategies involved in the audit, appeal and collection process. Other topics include liens and levies, offers in compromise, installment agreements, closing agreements, summons enforcement, IRS investigatory powers and criminal aspects of the tax laws. Prerequisite: TAX7724 Tax Practice and Procedure I or permission from the director of the tax program.

TAX7734

3 Credits

Consolidated Returns

This course covers in depth the most important aspects of the current consolidated return regulations. Topics include intercompany transactions with a detailed study of both the matching principle and acceleration rules, loss disallowance rules, consolidated Section 382, investment adjustments in the basis of the stock of subsidiaries, excess loss accounts and allocation of consolidated tax liability to members of an affiliated group. Class discussions emphasize working through important examples contained in the regulations. Prerequisites: TAX6622 Advanced Corporate Tax I and TAX7725 Advanced Corporate Tax II.

TAX7735

3 Credits

Tax-exempt Organizations

This course covers the formation, operation and taxation of tax-exempt organizations. Emphasis will be placed on the qualification process for tax exemption, the unrelated business tax and the special “excise” taxes on private foundations. Compliance requirements also are reviewed.

TAX7736

3 Credits

State and Local Taxation: Constitutional Issues

This foundation course examines the constitutional limits on states’ rights to impose various forms of taxation on income, capital and transactions of individuals and multistate businesses. Topics include nexus, constitutionally acceptable income-allocation methods and strategies for avoiding unnecessary taxation by nondomiciliary states.

TAX7738

3 Credits

Compensation: Qualified Pension and Profit-sharing Plans

A study of qualified compensation arrangements, including pension and profit-sharing plans. The course covers plan selection, qualification requirements, limitations on contributions, benefits, deductions and funding, nondiscrimination, taxation of distributions, rollovers, minimum distributions, incidental benefits, spousal rights, multiple-entity structure, reporting and disclosure, prohibited transactions and fiduciary responsibility.

TAX7750

3 Credits

State and Local Taxation: Corporate and Individual Income Taxation

A study of the major income and franchise tax issues confronting nonresident individuals, pass-through entities, nonresident shareholders of S corporations and multistate and multinational corporate businesses covered in the context of current litigation and rule-making at the state and local levels. The course also explores tax-planning opportunities for the multistate business and the use of transfer pricing in state and local income tax matters. Individual income taxation and the interaction between the state and federal systems also are discussed. Special attention is paid to tax systems used in New York and New Jersey.

TAX7752

3 Credits

State and Local Taxation: Sales, Use and Property Taxes

This course examines the sales, use and property tax schemes prevailing in the United States. Sales and use tax constitutes roughly 33 percent of all state tax collections, whereas property tax constitutes about 50 percent. The course

examines the definition of a sale, the nuances relative to a manufacturing and construction, the power of the states to assert jurisdiction over aspects of a transaction occurring beyond their borders and exemptions. Relating to property tax, the course examines State Constitutional Principles of Uniformity and Equal Protection, approaches to valuation, exemption and incentives. Special attention is paid to tax systems used in New York and New Jersey. Other common levies also may be covered.

TAX8840

3 Credits

Taxation of S Corporations: Selected Studies

This course undertakes an in-depth study and analysis of the tax laws that apply to S corporations and their shareholders. Topics will include eligibility, election, revocation and termination, stock and debt basis, losses, distributions, various corporate level taxes, subsidiaries, fringe benefits and comparisons to other forms of business entities. Prerequisites: ACCT6606 Federal Tax II: Business Entities and TAX6622 Advanced Corporate Tax I.

TAX8850

3 Credits

Taxation of Financial Products

This course focuses on the taxation of financial instruments, products and transactions. It begins by covering basic principles, including financial terminology, types of market participants, as well as the tax concepts of timing, character and source. It then proceeds with a study of the detailed rules regarding tax treatment of financial instruments including stocks, bonds, options, forward contracts, futures contracts, convertible and contingent payment instruments, swaps, as well as hybrid instruments. Tax issues that will be addressed include wash sales, constructive sales, short-sale rules, straddles, market discount, original issue discount, Section 1256 and notional principal contract regulations. International tax and reporting issues will also be covered.

TAX8860

3 Credits

Accounting for Income Taxes (ASC 740/FAS 109/FIN 48)

This course provides an in-depth analysis of the financial accounting for income taxes under U.S. Generally Accepted Accounting Principles (GAAP). The course begins with a conceptual framework and then discusses such practical applications as computing the tax provision, effective tax rate, quarterly and annual reporting and financial disclosures for income taxes. All major elements of ASC 740 (FAS 109) are considered, as are related pronouncements such as (pre-codification) FIN 48, APB 28, FIN 18 and other accounting guidance. Emphasis will be given to practical application of the accounting standards to “real-world” situations.

Chemistry (M.S.)

This program is offered at both the Florham Campus, Madison, New Jersey, and the Metropolitan Campus, Teaneck, New Jersey. These programs are listed by campus on this page through 95.

Chemistry (M.S.)

Florham Campus

The Master of Science in chemistry program provides training for those who wish to advance their careers in research, industry, government service or teaching. In addition to advancing students toward a doctoral program, the program also provides courses of interest to industrial chemists who already may hold advanced degrees. In addition to full-time faculty, the department of chemistry and biochemistry draws part-time faculty from local industries, allowing a broader range of offerings.

This program is offered under the auspices of the department of chemistry and biochemistry, Maxwell Becton College of Arts and Sciences, Florham Campus, Madison, New Jersey.

Admission Requirements

1. Graduation from an accredited college or university.
2. Satisfactory completion of a minimum of 24 credits in undergraduate chemistry with laboratory work, including physical and organic chemistry, a working knowledge of calculus and one year of physics with laboratory.
3. Submission of an official score report for the Graduate Record Examinations (GRE) General Test taken within the last five years. (The GRE requirement is waived for applicants who have completed a master's degree.)
4. Three letters of recommendation.

Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a nonmatriculated or nondegree basis.

Requirements for the Master of Science Degree

1. Satisfactory completion of a minimum of 32* credits in courses prescribed or approved for the degree of Master of Science in chemistry.
2. Compliance with the minimum course requirements listed in the this column.

Core Courses

	Credits
CHEM6613	
Advanced Inorganic Chemistry.....	3
CHEM6673	
Physical Organic Chemistry.....	3
CHEM6781	
Biochemistry.....	3
CHEM6805	
Graduate Seminar.....	1
CHEM7771	
Advanced Organic Synthesis.....	3

Two of the following three courses:

CHEM6641	
Quantum Chemistry.....	3
CHEM6651	
Chemical Thermodynamics.....	3
CHEM7751	
Chemical Kinetics.....	3

Other Courses

CHEM6801, CHEM6802	
Research and Thesis (Optional)* —	
3 credits each semester.....	6
CHEM6803	
Thesis Seminar (Optional)*.....	1
Minimum of 6 credits in additional chemistry courses approved by adviser.**	

*A student may substitute 9 credits of additional chemistry courses for the CHEM6801, CHEM6802 Research and Thesis and CHEM6803 Thesis Seminar (total 7 credits) requirements. This makes a minimum of 34 credits in courses for the Master of Science degree when a student elects the nonthesis option. The thesis option is not open to the pharmaceutical chemistry concentration student.

**Up to 6 credits of graduate courses in a single area outside of chemistry to be approved by adviser may be substituted.

Chemistry

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate department chair.

Chemistry

Department of Chemistry and
Biochemistry

CHEM5242

3 Credits

Physical Chemistry II

Introduction to the principles of kinetics, quantum mechanics, spectroscopy and molecular structure.

Spring

CHEM5803

2 Credits

Foundations in Chemical Analysis

Instrumental methods, including electrochemical methods, spectroscopy (UV/Vis, IR, NMR) and chromatography (GC-MS, HPLC). Computer handling of data and report writing. Corequisite: CHEM7733 Instrumental Analysis.

Fee

CHEM6605

3 Credits

Chemical and Pharmaceutical Statistics

This class presents applied statistical procedures and research designs in pharmacology research contexts. The major techniques and methods of analyzing research results commonly published in pharmacology are highlighted. Note: FDU NetID (formerly Webmail) account required.

CHEM6613

3 Credits

Advanced Inorganic Chemistry

Modern theories of bonding, structure, stability of molecules, complexes and reaction mechanisms, using examples drawn from the current literature.

Spring

CHEM6631

3 Credits

Theories of Analytical Chemistry

Theoretical principles and applications of selected modern methods of analysis.

CHEM6641

3 Credits

Quantum Chemistry

Fundamental theories of quantum chemistry applied to chemical bonding and molecular structure.

CHEM6651

3 Credits

Chemical Thermodynamics

Principles of classical thermodynamics and an introduction to statistical thermodynamics.

CHEM6663

3 Credits

Introductory Medicinal Chemistry

This course is based on all branches of chemistry, but especially organic chemistry. Its focus is on improving a drug's therapeutic effect while minimizing its undesirable side effects.

CHEM6673

3 Credits

Physical Organic Chemistry

Current theories of structure and reactivity of organic compounds.

CHEM6685

3 Credits

Pharmacology

A study of drugs, their history, sources, physical and chemical properties, compounding, biochemical and physiological effects, mechanism of action, absorption, distribution in the body and therapeutic uses.

CHEM6757

3 Credits

Neuropharmacology

This course studies the functional neuropharmacology and receptology of the mammalian central nervous system, focusing on the neurochemistry of precursors, synthesis, release and second messenger systems for various neurotransmitter systems as well as the mechanism of action of psychoactive drugs and medications used to treat pain, mental illnesses and disorders such as Parkinson's disease, Alzheimer's and epilepsy.

CHEM6759

3 Credits

Radiochemistry

A presentation of radioisotope production, detection and application in chemistry. Statistical and safety aspects of radiation also are included.

CHEM6768

0-3 Credits

Engaging Students in Physical Science Classroom

Students will participate in an interactive workshop course to discuss and explore effective ways to excite and engage students in areas of chemistry, physics and earth science. Note: For Institute for the Enhancement of Teaching Science and Math (IETSM) teachers only.

CHEM6769

0-3 Credits

Curricular Change in Physical Science

The course is offered to support teachers currently involved within the Institute for the Enhancement of Teaching Science and Math.

CHEM6773

3 Credits

Polymer Chemistry

A study of natural and synthetic polymers derived from free radical, cationic and anionic polymerizations.

CHEM6775

3 Credits

Chemistry of Natural Products

Chemical and biochemical transformations of selected natural products.

CHEM6781

3 Credits

Biochemistry

Structure and function of biological molecules. (Equivalent to HSCI6781 Biochemistry for the Medical Sciences.)

Fall

CHEM6800

1-3 Credits

Graduate Independent Study: Chemistry

An in-depth independent study of a problem in chemistry.

CHEM6801, CHEM6802

6 Credits (3 Credits Each Semester)

Research and Thesis

Individual research investigation in an area of chemistry under the supervision of a faculty adviser. Approved thesis must be submitted.

CHEM6803

1 Credit

Thesis Seminar

An oral presentation and defense of thesis before a departmental committee. Prerequisites or corequisites: CHEM6801, CHEM6802 Research and Thesis.

CHEM6805

1 Credit

Graduate Seminar

Chemical literature is reviewed through lectures, library assignments and student seminars.

Spring

CHEM6806

0-3 Credits

Graduate (Nonthesis) Research in Chemistry

Graduate level, nonthesis research with an adviser in the chemistry and pharmaceutical science department. Prerequisite: undergraduate degree in chemistry.

CHEM6830, CHEM6831, CHEM6832, CHEM6833

3 Credits

Special Topics in Chemistry

CHEM7733**3 Credits****Instrumental Analysis**

Applications of spectroscopy, electrochemistry and chromatography to chemical problems, with particular emphasis on comparison of methods and interpretation of experimental data.

*Fall***CHEM7735****3 Credits****Pharmaceutical Analysis**

The analytical chemistry unique to pharmaceutical compounds from the viewpoint of a pharmaceutical scientist.

CHEM7747**3 Credits****Protein Chemistry**

The chemistry and physical properties of amino acids, peptides and proteins; the three-dimensional structure of proteins; protein function in enzymes, biological membranes, connective tissues, oxygen transport and storage; biosynthesis of proteins in muscle contraction, membrane transport, sensory systems, hormones and the immune response.

CHEM7751**3 Credits****Chemical Kinetics**

Theory of homogeneous and heterogeneous reactions, factors influencing reaction rates, theory of absolute rates, chain reactions, catalysis. Prerequisite: CHEM5242 Physical Chemistry II.

CHEM7753**3 Credits****Pharmacokinetics**

The study of the rate of change of drug concentration in the body. Understanding the absorption, distribution, biotransformation and excretion of drugs is used in the design and optimization of drug formulations and dosage regimens.

CHEM7765**3 Credits****Heterocyclic Chemistry**

A discussion of the preparation and chemical properties of mono- and polycyclic compounds containing oxygen, nitrogen and sulfur atoms. Those of biological interest also will be discussed.

CHEM7771**3 Credits****Advanced Organic Synthesis**

A study of selected synthetic organic reactions. (Equivalent to HSCI7771 Advanced Organic Synthesis.)

CHEM7783**3 Credits****Biochemistry II**

Continues the study of the molecular basis of life. Topics include more details and discussions of current research: structure of biological molecules, mechanisms of enzyme action, metabolism with emphasis on energy production and use, the expression of genetic information and cellular signaling and signal transduction.

CHEM7785**3 Credits****Physical Biochemistry**

The physical chemistry of biological macromolecules and systems of biochemical interest.

CHEM7891**1-3 Credits****Internship/Laboratory Work Experience**

Provides on-the-job education and training in the concepts presented in the graduate pharmaceutical chemistry curriculum. Students must submit for the University's approval a proposal from the employer detailing the nature of the intended work. Weekly contact must be maintained with the University's adviser to confirm the quality of the work experience. A report at the conclusion of the working experience is required, detailing both the educational and training aspects of the job. Prerequisite: students must have been enrolled in the graduate pharmaceutical chemistry program for at least 18 graduate chemistry credits.

Chemistry (M.S.)

Metropolitan Campus

The School of Natural Sciences, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey, offers a Master of Science in chemistry with **concentrations in informatics and pharmaceutical chemistry**. This focused concentration is designed to fulfill the practical and intellectual needs of chemists pursuing research and development careers within the pharmaceutical industry. For those without industrial experience, the programs can help launch a career in the pharmaceutical industry. It is also geared to current technologists aspiring to supervisory roles in the laboratory or plant. To accommodate part-time students who are already working in the industry, classes are offered in the evenings.

Admission Requirements

1. Graduation from an accredited college or university with a baccalaureate degree in an allied science (biology, chemistry, biochemistry or pharmacy).

2. Satisfactory completion of a minimum of 24 credits in chemistry including a two-semester sequence of organic and physical chemistry.

3. Submission of the general Graduate Record Examinations (GRE) scores and three letters of recommendation.

4. A minimum score of 550 (paper-based) or 213 (computer-based) or 79 (internet-based) on the Test of English as a Foreign Language (TOEFL) is required for all applicants whose native language is not English.

Note that financial assistance in the form of teaching assistantships and research scholarships is not available.

Informatics Concentration

This concentration is an interdisciplinary program including training not only in chemistry but also in applied statistics and computer science. Students will complete graduate course work in chemistry, biology and mathematics.

Graduates of this concentration will be able to use information technology to improve productivity and success rates in pharmaceutical research. They will develop and evaluate new chemical research strategies by analyzing or mining large amounts of data available in drug

Chemistry

discovery, public health, clinical research and genomics databases. Since informatics is a rapidly evolving field, there are career opportunities in the pharmaceutical industry as well as in academic research.

To accommodate part-time students already working in the industry, classes are offered on an evening schedule.

Chemistry Core Requirements (12 credits)

	Credits
CHEM6525	
Physical Chemistry.....	3
CHEM6673	
Physical Organic Chemistry.....	3
CHEM6781	
Biochemistry	
or	
CHEM6733	
Enzymology.....	3
CHEM7713	
Structural Inorganic Chemistry.....	3

Informatics Concentration Requirements (21 credits)

BIOL6743	
Topics in Bioinformatics.....	3
BIOL6744	
Lab: Topics in Bioinformatics.....	0
CHEM6751	
Pharmaceutical Discovery	
Informatics.....	3
CHEM6752	
Drug Design and Discovery.....	3
CHEM6755	
Medicinal Chemistry.....	3
CHEM7737	
Chemical Analysis of	
Pharmaceuticals.....	3
MATH6729	
Statistical Programming.....	3
MATH6737	
Applied Statistics I.....	3

Pharmaceutical Chemistry Concentration

This focused concentration is designed to fulfill the practical and intellectual needs of chemists pursuing research and development careers within the pharmaceutical industry. For those without industrial experience, the programs can help launch a career in the pharmaceutical industry. It is also geared to current technologists aspiring to supervisory roles in the laboratory or plant. To accommodate part-time students who are already working in the industry, classes are offered in the evenings.

Chemistry Core Requirements (12 credits)

	Credits
CHEM6525	
Physical Chemistry.....	3
CHEM6673	
Physical Organic Chemistry.....	3
CHEM6781	
Biochemistry	
or	
CHEM6733	
Enzymology.....	3
CHEM7713	
Structural Inorganic Chemistry.....	3

Pharmaceutical Chemistry Concentration Requirements (12–13 credits)

BIOL6758	
Advances in Pharmacology.....	3
BIOL6845, BIOL6846	
Molecular Biology Techniques	
(Lecture and Laboratory).....	4
or	
CHEM7737	
Chemical Analysis of	
Pharmaceuticals.....	3
CHEM6752	
Drug Design and Discovery.....	3
or	
CHEM6755	
Medicinal Chemistry.....	3
CHEM6754	
Drug-delivery Systems.....	3

Free Electives (9 credits)

9 credits selected from any 5000-level or higher chemistry (CHEM), cosmetic science (COSC), biology (BIOL), marketing (MKTG), pharmaceutical management (PHAR), mathematics (MATH), management (MGMT) or physics (PHYS) courses including:

CHEM6801	
Research and Thesis.....	3
CHEM6806	
Graduate (Non-thesis)	
Research in Chemistry.....	3
Graduate Elective selected from	
any 5000-level or higher CHEM,	
COSC, BIOL, PHAR or MATH.....	3

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate school director.

Chemistry

School of Natural Sciences

CHEM6525

3 Credits

Physical Chemistry

Principles of thermodynamics, kinetics, quantum chemistry, statistical mechanics, spectroscopy and molecular structure. Assumes prior knowledge of MATH2202 Calculus II or equivalent.

CHEM6526

3 Credits

Product Development

Principles of research and development of new products from ideation to market distribution. An overview of the product-development process from the perspective of the cosmetic chemist, from project inception through manufacturing.

CHEM6529

3 Credits

Microtoxicology and Biochemistry

Relationships between microorganisms, toxicity and cosmetic products. The application of principles of biochemistry and toxicology as they relate to and impact on both microorganisms and human metabolism.

Fall

CHEM6546

3 Credits

Lecture

Perfumery

The history, raw materials, development and marketing of fragrances.

CHEM6613

3 Credits

Advanced Inorganic Chemistry

Modern theories of bonding, structure, stability of molecules, complexes and reaction mechanisms, using examples drawn from the current literature.

CHEM6631

3 Credits

Advanced Analytical Chemistry

Physicochemical methods used to effect separations prior to analytical measurements and a study of matter and energy-matter interactions.

CHEM6641

3 Credits

Quantum Chemistry

Fundamental theories of quantum chemistry applied to chemical bonding and molecular

structure. Prerequisite: one year of calculus including differential equations.

CHEM6651

3 Credits

Chemical Thermodynamics

Principles of classical thermodynamics and statistical thermodynamics.

CHEM6673

3 Credits

Physical Organic Chemistry

Current theories of the structure and reactivity of organic compounds, including dipole moments, stereochemistry and modern mechanisms.

CHEM6697

1 Credit

Introduction to Research

An individual research investigation in a selected area of chemistry is planned under the supervision of a faculty mentor. Preliminary readings are assigned, and a report outlining the proposed investigation is submitted to the department at the conclusion of the course. Prerequisite: 12 graduate credits in chemistry.

CHEM6751

3 Credits

Pharmaceutical Discovery Informatics

This course introduces how information systems and computer technology interrelate to collect, manipulate and disseminate data and information within the context of pharmaceutical and biotechnology industries. The course examines the concepts, techniques and methods used in the description and analysis of data and in statistical inference.

CHEM6752

3 Credits

Drug Design and Discovery

Structure and mechanism of drug action, rational drug designing on basis of structure-activity relationship and biotechnology approaches for drug discovery.

CHEM6754

3 Credits

Drug-delivery Systems

Theoretical and practical considerations in the development and design of drug-delivery systems.

CHEM6755

3 Credits

Medicinal Chemistry

Principles of absorption, distribution, metabolism and excretion (ADME); drug-protein interactions; concepts of drug targets; and toxicology.

CHEM6761

3 Credits

Advanced Organic Chemistry

Advanced topics in organic chemistry, stereochemistry, organophosphorous-, organoboron-, organosilicon-, organometallic chemistry, significant current developments.

CHEM6773

3 Credits

Polymer Chemistry

Polymerization of vinyl monomers by free radical, cationic and anionic mechanisms; polymerization kinetics; copolymerization; stereospecific polymerization; condensation polymerization; chemistry and properties of vinyl, diene and condensation polymers and rubbers; natural and inorganic polymers.

CHEM6775

3 Credits

Chemistry of Natural Products

Structural and biogenetic relationships of natural products, chemical transformations, stereochemistry and synthesis.

CHEM6781

3 Credits

Biochemistry

Chemistry of substances of biological significance, structures and mechanisms of hydrolytic and respiratory enzymes, biosyntheses of proteins, bio-oxidations and molecular structures of complex molecules.

CHEM6830

3 Credits

Special Topics in Chemistry

Topics of current interest in theoretical and applied chemistry. Prerequisite: permission of the department. Course may be repeated in successive years for credit with the permission of the department.

CHEM7713

3 Credits

Structural Inorganic Chemistry

Structural patterns of inorganic molecules and crystals, emphasizing symmetry concepts and the group theory of symmetry operations, with applications of this theory to metal complexes and other compounds.

CHEM7733

3 Credits

Instrumental Analysis

Applications of spectroscopy, electrochemistry and chromatography to chemical problems, with particular emphasis on interpretation of experimental data.

CHEM7735

3 Credits

Pharmaceutical Analysis

The analytical chemistry unique to pharmaceutical compounds from the viewpoint of a pharmaceutical scientist.

CHEM7737

3 Credits

Chemical Analysis of Pharmaceuticals

Analytical chemistry, techniques and methods most commonly used in the pharmaceutical industry.

CHEM7747

3 Credits

Protein Chemistry

Chemistry and physical properties of amino acids, polypeptides and proteins; sequence and structure determination; correlation of structure and biological properties; protein biosynthesis.

CHEM7771

3 Credits

Advanced Organic Synthesis

Modern synthetic techniques and procedures, emphasizing the theoretical background of the procedures and preparing the student for advanced research.

CHEM7785

3 Credits

Physical Biochemistry

The physical chemistry of biological macromolecules: osmometry, light scattering, viscosity, ultra centrifugation, electrophoresis and X-ray diffraction. Thermodynamics, electrostatics and acid-base equilibria, with reference to biochemistry. Structure and function of nucleic acids, bioinorganic chemistry.

CHEM8000

1 Credit

Curricular Practical Training

A Curricular Practical Training (CPT) requirement for work-experience course/independent study registration in most academic programs at FDU. The training experience is integral to the course and the detailed course objectives will be on a separate independent study proposal form. The student's work or training experience will be: part-time (20 hours or less per week) or full-time (more than 20 hours per week). A non-letter grade of P for Pass or NC for No Credit will be applied to degree audit as this course will be excess credit and not counted toward a degree requirement.

PHYS6753

3 Credits

Applied Colloid and Surface Science

The technical aspects of emulsions, solubilized systems, foams and dispersions. Structure and dynamics of complex systems. Polyphase equilibrium, phase transitions and kinetic distributions. The physics of interfaces and effects of surface structure. Principles of colloid science along with practical procedures as applied in cosmetic formulations, including examples.

Clinical Mental Health Counseling

Clinical Mental Health Counseling (M.A.)

The clinical mental health counseling program, accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP), prepares its graduates for the professional practice of counseling in a variety of work settings such as universities, community agencies, clinics, hospitals, drug abuse centers, child protective services, private practice, business and industry. The program also prepares highly competent counseling professionals — including entry- and advanced-level counselors, counseling researchers and counseling administrators — to have a significant impact on the mental health field as counselors, program directors, researchers, grant writers and policy makers on the local, state and national levels. With those goals in mind, the curriculum focuses on a broad spectrum of issues including: assessing, treating or working to ameliorate a disability, problem or disorder; the antecedent conditions that predispose people to developmental, emotional, personality or relationship problems experienced by individuals, couples, families or groups; the nature and treatment of those disorders, crisis-intervention strategies; and the influence of various family and group dynamics, gender differences, cultural diversity, social problems and age on the emergence of various problems and symptoms.

Students will be trained to conduct intake and assessment interviews, to develop treatment plans and counseling interventions and to function as an ethical and competent counselor. Students also will acquire a knowledge of research and assessment techniques and the pragmatic concerns (e.g., managed care and budget constraints) facing the mental health field today.

In order to apply what they have learned in the classroom, students will, in consultation with and with the approval of the coordinator of practicum/internship, procure a practicum and internship site and complete 100 hours of practicum and 600 hours of internship at a mental-health counseling site. Experiences will be

arranged with the coordinator of practicum/internship, and the student will be supervised both “on-site” and on campus by licensed personnel.

The M.A. in clinical mental health counseling is a 60-credit degree. To meet the requirements of New Jersey licensure as a **licensed professional counselor (LPC)**, students must complete 60 credits. To meet the requirements for the **student assistant coordinator (SAC)**, students must complete 24 graduate credits.

This program is offered under the auspices of the department of psychology and counseling, Maxwell Becton College of Arts and Sciences, Florham Campus, Madison, New Jersey.

Admission Requirements

1. Graduation from an accredited college or university.
2. If a person's undergraduate degree was in psychology (with a minimum of 12 credits in psychology), he/she must have completed at least one course in statistics and experimental psychology, and have a minimum grade point ratio (GPR) of 3.30 in the psychology major and a 3.00 overall GPR.
3. If a person's undergraduate degree was *not* in psychology, he/she must successfully complete an undergraduate general psychology course or a graduate advanced general psychology course with a grade of B or better.
4. Submission of undergraduate transcripts.
5. Submission of three letters of recommendation.
6. A written personal statement of professional goals.
7. Completion of a Fairleigh Dickinson Graduate School application form.
8. A personal interview, which will be scheduled after the application is submitted, is required.

Requirements for the Master of Arts Degree

Required Professional Core Courses in Counseling

	Credits
COUN7700	
The Counseling Profession: History and Theories.....	3
COUN7701	
Counseling Skills and Practices.....	3

Credits

COUN7702	
Diagnosis/Treatment Planning (in Counseling).....	3
COUN7703	
Development Across the Life Span.....	3
COUN7704	
Crisis Intervention.....	3
COUN7705	
Group Counseling.....	3
COUN7706	
Lifestyle and Career Counseling.....	3
COUN7707	
Family Systems and Counseling.....	3
COUN7708	
Appraisal of Individuals: Assessment and Measurement.....	3
COUN7709	
Multicultural Counseling.....	3
COUN7710	
Behavioral Research.....	3
COUN7711	
The Professional Counselor: Ethical Issues.....	3
COUN7713	
Addictions Counseling.....	3
COUN8700	
Program Planning and Evaluation: Prevention and Education.....	3
COUN8706	
Counseling: Sexual Issues.....	3
COUN9800	
Fundamentals of Supervision in Counseling.....	3
EDUC6810	
Schools, Communities and Substance Abuse*.....	3

Clinical Course Sequence

COUN9701	
Practicum.....	3
COUN9702	
Internship I.....	3
COUN9703	
Internship II.....	3
COUN9704	
Internship III (for students unable to complete 600 hours in two semesters or who opt for additional fieldwork).....	3

Comprehensive Exam

COUN9900	
Comprehensive Exam**.....	0
COUN9901	
Comprehensive Exam II: Electronic Portfolio Review.....	0

*See Education Course Offerings.

**The student will register for the comprehensive exam in the next to final or final semester of the program.

Clinical Mental Health Counseling

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate department chair.

Clinical Mental Health Counseling

Department of Psychology and Counseling

COUN7700

3 Credits

The Counseling Profession: History and Theories

This course will acquaint students with the profession of counseling. This is the introductory graduate course in counseling which provides a general overview and survey of the profession. Students will explore their personal motivation and interest in a counseling profession as well as integrate professional concepts with personal style. Emphasis is placed on the development of professional identity, standards in the profession, accreditation and credentialing, counseling theory, application and ethics. Roles and responsibilities of counselors across a variety of settings will be addressed. The course should be taken concurrently with COUN7701 Counseling Skills and Practices.

COUN7701

3 Credits

Counseling Skills and Practices

This is a competency-based course with experiential emphasis which addresses basic skills and techniques of counseling. Students will be able to demonstrate basic counseling skills, techniques and professionally ethical and legal behavior; accurately critique one's own level of skills development; explain how one's life experiences have led him/her to the profession of counseling; and increase one's self-awareness of interpersonal dynamics. The student is required to demonstrate proficiency in counseling skills, concepts and techniques before proceeding to COUN7705 Group Counseling, COUN7709 Multicultural Counseling and COUN9701 Practicum. The course should be taken concurrently with COUN7700 The Counseling Profession: History and Theories.

COUN7702

3 Credits

Diagnosis/Treatment Planning (in Counseling)

A consideration of the etiology, treatment and prevention of psychopathology. An exploration of the most frequently appearing abnormal behaviors in American culture, such as psychosomatic disorders, alcoholism, drug addiction, character disorders, psychoses and disorders associated with brain pathology. Recent research in this area and its practical applications will be emphasized.

COUN7703

3 Credits

Development Across the Life Span

This course is an introduction to theories and patterns of development from conception through late adulthood, emphasizing early childhood and adolescence. The focus is on growth and development of sensory, motor, language, cognitive, emotional and social processes. Individual, family and environmental factors which affect development throughout the life span are explored.

COUN7704

3 Credits

Crisis Intervention

A form of brief therapy, focusing on stress-induced reactions studied in historical and theoretical contexts. Course will cover treatment of family conflicts, child abuse, divorce, illness, substance abuse and national disasters. Prevention techniques and evaluation of services also are discussed.

COUN7705

3 Credits

Group Counseling

This course covers the therapeutic nature of the group process by drawing from counseling, social, psychological and psychotherapeutic literature. The many approaches to counseling, ranging from encounter to more traditional methods, are discussed in depth. Classroom process is used as a demonstration of group process.

COUN7706

3 Credits

Lifestyle and Career Counseling

This course introduces strategies for career planning and counseling (e.g., skills and interest assessment and values clarification). The course provides an understanding of career-development theories, lifestyle and career decision-making and career-development program planning. It includes important components such as enhancing the client's sense of self-esteem and self-efficacy and career and leisure counseling.

COUN7707

3 Credits

Family Systems and Counseling

This course will examine the broader context of a client's life to include families, schools, work groups, religious institutions and other significant organizations. Its primary goal is to promote an understanding of family-development structure, history and process to aid in the assessment, intervention and treatment of psychological problems and other dysfunctional behaviors. Emphasis will be on understanding the family, forming a therapeutic system, exploring areas of dysfunction and initiating a change process.

COUN7708

3 Credits

Appraisal of Individuals: Assessment and Measurement

A critical survey of the philosophy and techniques of measurements and appraisal, with emphasis given to the administration, interpretation and evaluation of intelligence, achievement, interest, aptitude and objective personality instruments.

COUN7709

3 Credits

Multicultural Counseling

This course builds on previous assessment and counseling skills to consider the systemic and cultural issues that influence an individual's world view and life experience. An in-depth exploration of cultural heritage and multidimensional (racial/gender/class/religious) identify development in relation to the therapeutic relationship. The goal is to develop the skills of a culturally competent counselor.

COUN7710

3 Credits

Behavioral Research

The goals of this course are to acquaint the student with the basic premises of scientific investigation, the major methods of conducting psychological research and the statistical procedures employed in analyzing data. The methodological section includes experimental design, questionnaire construction and interviewing strategies, field projects, evaluation research and survey techniques.

COUN7711

3 Credits

The Professional Counselor: Ethical Issues

This course will focus on issues that counselors and supervisors face due to their professional roles. It includes topics such as ethics, ACA (American Counseling Association) guidelines, supervisory challenges and the pressures from public policy and managed-care decisions.

COUN7713

3 Credits

Addictions Counseling

This course is designed to review the etiology, diagnoses and treatment of alcohol and drug addiction. Ethical considerations and philosophy of treatment are discussed. The physiology and pharmacology of alcohol and drugs are also covered.

COUN7714

3 Credits

Psychopharmacology

Study in the relationship between drugs and behavior, especially maladaptive behavior, and research in human biochemical changes.

Clinical Psychology • Clinical Psychopharmacology

COUN8700

3 Credits

Program Planning and Evaluation: Prevention and Education

The course provides an overview of the approaches to the planning, formulation and evaluation of programs in various community and industrial settings, principles and applications of needs assessment and use of research findings to inform programs and policy-level decision making. The course also covers the issues that must be addressed in designing effective prevention and education programs. Planning of realistic service delivery with built-in evaluation components, survey research.

COUN8706

3 Credits

Counseling: Sexual Issues

This is an advanced counseling course that focuses on the diagnosis and treatment of sexual issues. The range of topics include psychosexual issues and the gay, bisexual and transvestite/transsexual client. Dealing with sexual dysfunction for the individual and in a relationship is explored.

COUN9701

3 Credits

Practicum

A course designed to be a transitional experience from the graduate counseling classroom to the professional-counselor role in a mental health setting. Students engage in a clinical experience appropriate to their level of professional development. Class includes didactic and experiential activities and supervision of field experience. Requires 100 hours with 40 direct-client contact supervised by on-site mental health professionals.

COUN9702

3 Credits

Internship I

Following successful completion of their practicum, students complete a supervised 300-hour field experience in a clinical setting. Interns are supervised by an on-site mental health professional and on campus in weekly group supervision by University faculty. The goal is integration of intake assessment, case conceptualization, treatment planning, case management and counseling skills as a professional counselor. Course will be pass/fail. Prerequisite: COUN9701 Practicum.

COUN9703

3 Credits

Internship II

This course is the second half of an already established course of field placement for counseling students. The student must complete a minimum of 300 hours in the field for the course. Course will be pass/fail. Prerequisites: COUN9701 Practicum and COUN9702 Internship I.

COUN9704

3 Credits

Internship III

This course is for students who are unable to complete their 600 hours of internship in two semesters or for those students who wish to obtain additional clinical experience. Prerequisites: COUN9701 Practicum, COUN9702 Internship I and COUN9703 Internship II.

COUN9800

3 Credits

Fundamentals of Supervision in Counseling

This course will provide a summary and critique of the literature in counselor supervision. The course will focus on defining and conceptualizing various supervision models; the dynamics of supervisory relationship and counselor development; supervision methods and techniques; and multicultural and ethical concerns. Prerequisites: COUN9701 Practicum, COUN9702 Internship I, COUN9703 Internship II and permission of the department chair.

COUN9900

0 Credits

Comprehensive Exam

The student will register for the comprehensive exam in the final semester of the program.

COUN9901

0 Credits

Comprehensive Exam II: Electronic Portfolio Review

Capstone requirement for M.A. in clinical mental health counseling program. The student will present a portfolio representative of learning objectives throughout the clinical mental health counseling program.

Clinical Psychology (Ph.D.)

See Psychology, Clinical Psychology, pages 223–227.

Clinical Psychopharmacology (Postdoctoral M.S.)

See Clinical Psychopharmacology (Postdoctoral M.S.), pages 227–229.

Communication (M.A.)

The M.A. in communication is offered by the department of communication studies in the Maxwell Becton College of Arts and Sciences at the Florham Campus, Madison, New Jersey. The program offers continuing students and returning professionals a theory-based curriculum that incorporates communication principles and practices into applied learning in cultural, interpersonal and public contexts. The program's mission is to produce critically informed and creative graduates who will be competitive contributors to a challenging global workplace. Courses emphasize the development of skills in critical thinking, collaboration, leadership, ethics, interpersonal relations and cultural intelligence, as well as enhancing students' professional writing and presentation skills.

Admission Requirements

1. A bachelor's degree from an accredited college or university.
2. A cumulative undergraduate grade point ratio (CGPR) of at least 3.00 on a scale of 4.00.
3. An essay articulating the prospective student's goals and expectations and the relationship of those goals and expectations to the program.
4. Two recent letters of recommendation.

Students may be admitted on a nonmatriculated or probationary status with full matriculation upon maintaining a minimum CGPR of 3.00 and no grade below B in the first 9 credits.

Admission to the five-year B.A./M.A. program requires an undergraduate CGPR of 3.00 or higher.

Requirements for the Master of Arts Degree

1. The completion of a minimum of 30 credits.
2. The completion of the six required courses with a minimum grade of B in all six.
3. Students must complete three context courses, one each in the cultural, interpersonal and public contexts.
4. A minimum overall CGPR of 3.00.
5. The successful completion of the capstone experience.

Basic Requirements

Required Courses (18 credits)

	Credits
MCOM6001	
Principles and Practices of Communication.....	3
MCOM6002	
Professional Writing and Editing.....	3
MCOM6003	
Presentation Methods.....	3
MCOM6004	
Executive Lectures.....	3
MCOM6005	
Group Communication and Leadership.....	3
MCOM6006	
Research Methods.....	3

Capstone Experience (3 credits)

MCOM6099	
The Capstone Experience: Principles into Practice.....	3

Context Courses (9 credits)

The following courses will provide students with experience applying principles they learn to communication practices in cultural, interpersonal and public contexts. Students must take one course in each context.

Cultural Context

MCOM7001	
Communication, Culture and Change....	3
MCOM7002	
International Communication and Culture (at Wroxton College)....	3
MCOM7003	
Communication and Globalization.....	3

Interpersonal Context

MCOM7101	
Communication and Technology.....	3
MCOM7102	
Narrative Communication.....	3
MCOM7103	
Language and Communication.....	3

Public Context

MCOM7201	
PR in the Modern Organization.....	3
MCOM7202	
Crisis Communication.....	3
MCOM7203	
Public Communication.....	3

The Global Experience

The M.A. program offers a unique, intensive, 12-day seminar in international communication and culture, held at Wroxton College, Fairleigh Dickinson University's campus in Oxfordshire,

England (MCOM7002 International Communication and Culture). The seminar includes panel discussions and lectures conducted by recognized international experts from business, academia, politics and the media and offers unique insight into professional communication experiences in other parts of the world.

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate department chair.

Communication

Department of Communication Studies

MCOM6001

3 Credits

Principles and Practices of Communication

This course introduces new graduate students to foundational theories and essential concepts of communication studies and their application to everyday problems and unique practices they are likely to encounter in their professional lives. Course activities include introduction to the communication studies faculty and their areas of specialization, familiarization with key sources in the discipline and application of course materials to contemporary discourses and interactions.

Fall

MCOM6002

3 Credits

Professional Writing and Editing

This course introduces students to writing techniques in the academic, professional and workplace settings. Students will be required to communicate with clarity of thought and appropriate tone and style. Students will demonstrate their professional writing and editing skills in a variety of assignments. The goals of this course are to acquaint students with professional writing practices, editing and revision procedures and methods for polishing their professional and scholarly writing skills.

Fall

MCOM6003

3 Credits

Presentation Methods

This course emphasizes the design and delivery of oral presentations by and for communication professionals. Lectures, discussions and workshop sessions will consider such topics as brainstorming, audience analysis, gathering and organizing data, citing sources, integrating media, presentation techniques and managing questions and answers.

Fall

Communication

MCOM6004

3 Credits

Executive Lectures

The Schering-Plough Executive Lecture Series is a forum in which communication experts and students explore skills such as collaboration, creativity and problem-solving relevant to a wide range of professional settings. Theories and their application to practice will be presented through readings, case studies, lectures and discussions. Students will actively engage in exercises and projects to develop and demonstrate comprehension of course content.

Spring

MCOM6005

3 Credits

Group Communication and Leadership

Organizations function and survive according to the ability of their members, and in particular their leaders, to communicate effectively. This course is an in-depth study of current theories of message-processing in organizations: leadership and followership communication, service leadership, innovation and creativity and more. Course work includes experiential learning that allows students to explore practical applications of theory. The course is as much about developing personal leadership as organizational leadership.

Spring

MCOM6006

3 Credits

Research Methods

This is a survey course examining both quantitative and qualitative approaches to investigating communication problems, practices and phenomena. The course provides students with an introduction to and experience in a diverse range of principles and methods appropriate for conducting research in a variety of professional communication contexts.

Spring

MCOM6099

3 Credits

The Capstone Experience: Principles into Practice

The capstone experience seeks to blend knowledge/theory and application/action. Students will be expected to apply concepts learned during the course of the program toward the completion (i.e. action) of a communication-based project of suitable scope within their own workplace or within another appropriate professional site. In addition to integrating knowledge gained from course work, capstone students must be able to conduct research to determine the viability of the projects they elect to undertake, and in presenting their project, must demonstrate the oral and written communication skills expected of those nearing the completion of a Master of Arts degree in communication. The capstone

experience is taught as a blended, three-credit course, and students complete their projects under the supervision of the course instructor. All graduate faculty will be involved in the review of project proposals and final projects.

Fall, Spring

MCOM7001

3 Credits

Communication, Culture and Change

This course analyzes the relationship among communication, change management and organizational culture. Discussions and lectures include: definitions and types of organizational culture, methods for the study of corporate cultures, the essence and functions of organizational culture, diagnosis of corporate culture, managing and auditing communication and culture and perpetuating or reshaping cultures. In addition, the connection between effecting organizational change by transforming the culture is a dominant theme throughout the course.

MCOM7002

3 Credits

International Communication and Culture

This 12-day seminar is offered at Wroxton College, England, each summer and consists of invited speakers, case studies, site visits and leisure trips to London, Stratford-upon-Avon and Oxford. The objective of the seminar is to make students familiar with the cultural, historical and political contexts in which professional and other interactions take place from a U.K. and European perspective. Students will also examine case studies conducted by U.K. media, advertising and public relations practitioners which show how issues of culture, history, politics and theory play out in actual corporate communication practice.

Summer

MCOM7003

3 Credits

Communication and Globalization

This course examines communication in intercultural contexts, both domestic and international. The course focuses on (a) how culture influences the communication process and the development of relationships, (b) the dynamics of intercultural encounters and (c) the impact of globalization on intercultural communication.

MCOM7101

3 Credits

Communication and Technology

This course gets students to think critically about how digital innovations are shaping our communication and aims to help students gain some perspective on the influences that the rapid transition to the digital age have on almost every aspect of society. The class will discuss where society is today technologically speaking

(and ask how it got there), but students will spend most of their time trying to figure out what impacts emerging communication technologies have and are likely to have on the essentials of the human condition: on sense of identity as individuals, on how they form and regulate their communities (on- and offline) and on how the nation and world function politically, socially and economically.

MCOM7102

3 Credits

Narrative Communication

This seminar explores a variety of forms narrative communication takes in institutional and professional contexts and considers the multiple functions they may serve for individuals and institutions working in various professions. Students are guided through a selection of theory and methodology offered in required readings and the application of them to exercises. The course culminates with a research project analyzing narrative communication addressing a contemporary problem or crisis.

MCOM7103

3 Credits

Language and Communication

This course draws on contemporary theories of language and social interaction to examine how practices of human communication are designed and used to accomplish the work that people do in a variety of professions. Readings, exercises and assignments train students to analyze how language is used to constitute certain roles, relationships, activities and responsibilities. The approach of the class is pragmatic, microanalytic and highly interactive.

MCOM7201

3 Credits

PR in the Modern Organization

This course will focus on theories, strategies and techniques for organizational public relations. This course specifically examines the dynamic practice of public relations on the organizational level, with particular focus on the publics that organizations serve. Organizations must be proactive and reactive in their public relations practices. The class will cover a variety of topics throughout the course. Each week the class will engage in scholarly readings that deal with a specific topic in public relations.

MCOM7202

3 Credits

Crisis Communication

This course specifically examines the dynamic practice of crisis communication on the organizational level. It seems that people live in a culture of crisis — organizations must be proactive and reactive in their public relations practices. Topics discussed will include image-repair strategies, options available to organizations facing crisis, crisis-management

teams, crisis management as a form of public relations and examinations of case studies. Using the most recent scholarship, students will learn about this timely topic in an interactive and engaging environment.

MCOM7203

3 Credits

Public Communication

This course examines practices of communication that are goal-oriented, deliberate or purposive. Cases will be studied in which communication is designed and targeted to achieve goals such as running a campaign; building or repairing a reputation; or bringing about social, cultural or institutional change. Course work will explore ways of dealing with real-world challenges in domestic and global contexts of professional communication.

Computer Engineering (M.S.)

Fairleigh Dickinson University's Master of Science in computer engineering program is designed to train and educate students to work as computer engineers who understand the design tradeoff and the interdependency between hardware and software in computers, computer-based systems, computer communications and computer networks. Computer-based systems are widely used in data acquisition, signal processing and conditioning, instrumentation, communications, control, automation and manufacturing. The curriculum provides students with design skills, theoretical concepts and a solid foundation in both hardware and software design in an integrated manner, as well as competency in advanced computer technology. The program emphasizes practical applications of computer engineering.

This program is offered under the auspices of the Lee Gildart and Oswald Haase School of Computer Sciences and Engineering, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

1. A Bachelor of Science degree in electrical engineering, computer engineering or computer science from an accredited university. This should include courses or equivalent experience in the following areas: introductory computer programming, digital system design, microprocessor system design and data structures. These courses can be taken at Fairleigh Dickinson University but will not count toward the 30-credit master's degree requirement. Students with a Bachelor of Science degree in technology or other areas of science and engineering may be admitted if they complete undergraduate prerequisites as determined by an adviser of the school.

2. Submission of an official score report for the Graduate Record Examinations (GRE) General Test taken within the last five years. The GRE may be waived if the applicant enrolls initially as a nonmatriculating student and completes 9 graduate credits in computer engineering

with a minimum grade point ratio (GPR) of 3.00 and no grade below C or is a graduate of Fairleigh Dickinson University's computer science, electrical engineering or closely related programs with an undergraduate GPR of 3.00 or is a graduate of computer science, computer engineering or electrical engineering programs from other institutions with an undergraduate GPR of 3.50. This GRE-waiver policy is only applicable to applicants who graduated from a regionally accredited college or university in the United States. (The GRE requirement also is waived for applicants who have completed a master's degree from a regionally accredited college or university in the United States.)

3. Three letters of recommendation.

Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a nonmatriculated or nondegree basis.

Requirements for the Master of Science Degree

Students must successfully complete 30 credits, including 12 credits of core requirements and 18 credits of electives as described below:

Core Requirements (12 credits)

CSCI6620 Software Engineering
CSCI6638 Operating Systems
EENG7701 Logic System Design
EENG7702 Microprocessor Design*

Electives (18 credits)

6 credits from the following:

CSCI6623 Database Systems
CSCI6730 Advanced Network: TCP/IP and Routing
CSCI6731 Computer Networks**
CSCI6732 Local Area Networks
CSCI7645 Systems Programming
CSCI7871 Unix Shell Programming

6 credits from the following:

EENG6610 Computer-aided Analysis and Design
EENG6633 Digital Signal Processing
EENG6747 Digital Communications
EENG7706 Robotics Engineering
EENG7707 Neural Networks and Fuzzy Logic Systems

**Students may substitute EENG7709 Embedded Systems.*

***Either EENG7737 Computer Communication Networks or CSCI6731 Computer Networks may be taken, but not both.*

Computer Science

EENG7737 Computer Communication Networks*

EENG7773 Digital Image Processing

6 additional credits from computer science or electrical engineering courses (6000-level and higher) must be taken.

Students may register for CSCI8891 Internship/Work Experience or EENG8891 Internship/Work Experience only after completing 18 graduate credits.

Telecommunications and Networking Certificate

Admissions requirements and requirements for the certificate are provided in the Computer Science section (page 104).

Course Offerings

See Computer Science and Electrical Engineering course offerings pages 104–110 and 156–158.

Computer Science (M.S.)

The graduate program in computer science prepares students for the direct pursuit of productive careers in industry and for continued graduate study. The program's orientation is toward educating professionals to become leaders in various areas of computer science ranging from software engineering to computer design, and from systems analysis to the management of information systems.

The M.S. in computer science program is offered under the auspices of the Lee Gildart and Oswald Haase School of Computer Sciences and Engineering, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey. The program is offered full-time at the Metropolitan Campus, Teaneck, New Jersey, and part-time at the Florham Campus, Madison, New Jersey.

Admission Requirements

1. Graduation from an accredited college or university with a satisfactory academic record.
2. Submission of an official score report for the Graduate Record Examinations (GRE) General Test taken within the last five years. The GRE may be waived if the applicant enrolls initially as a nonmatriculating student and completes 9 graduate credits in computer science with a minimum cumulative grade point ratio (CGPR) of 3.00 and no grade below C, or is a Fairleigh Dickinson University computer science graduate with an undergraduate CGPR of 3.00 or is a non-Fairleigh Dickinson University computer science graduate with an undergraduate CGPR of 3.50. This GRE-waiver policy is only applicable to applicants who graduated from a regionally accredited college or university in the United States. (The GRE requirement also is waived for applicants who have completed a master's degree.)
3. Three letters of recommendation.

Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a nonmatriculated or nondegree basis.

Requirements for the Master of Science Degree

1. Students must complete 42 credits in approved graduate courses. The 42 credits are distributed as follows: 12 credits of prerequisite courses, 15 credits of core requirements and 15 credits of electives. Students with backgrounds in the field may reduce the number of required credits by having some, or all, of the prerequisite courses waived. In any event, a minimum of 30 credits will be required for the degree. Requests for waivers must be made in writing to the department prior to the student's first semester.

2. Students must earn a cumulative grade point ratio (CGPR) of at least 2.75 for the prerequisite courses if required or be subject to dismissal from the program. Students may take no more than 6 credits of core or elective courses before completing all of the prerequisites.

3. Students must earn a CGPR of at least 2.75 for the 30 credits beyond the prerequisite courses.

Prerequisite Courses (12 credits)

The prerequisite courses for the M.S. in computer science are:

	Credits
CSCI5505	
Introduction to Computer Programming.....	3
CSCI5525	
Introduction to Computer Science.....	3
CSCI5555	
Data Structures.....	3
CSCI5565	
Assembly Language.....	3

Core Requirements (15 credits)

The required core courses for the M.S. in computer science are:

CSCI6603	
Computer Architecture.....	3
CSCI6620	
Software Engineering.....	3
CSCI6623	
Database Systems.....	3
CSCI6638	
Operating Systems.....	3
CSCI7645	
Systems Programming.....	3

*Either EENG7737 Computer Communication Networks or CSCI6731 Computer Networks may be taken.

Elective Courses (15 credits)

Elective courses in computer science are listed with course numbers ranging from CSCI6617 to CSCI8891. Students may register for CSCI8891 Internship/Work Experience only after completing 18 graduate credits.

Students may take up to 6 credits in non-CSCI prefixed courses with the permission of their adviser. An additional 3 to 6 credits of non-CSCI prefixed courses may be taken in electrical engineering with the permission of an adviser.

Advanced Computer Programming Certificate

The certificate program in advanced computer programming provides individuals with comprehensive experience in program development in several languages, including C/C++, assembly language, Java, ASP.NET, C#, VB.NET, Unix Shell and systems programming.

Admission Requirements

Admission to the certificate program requires a baccalaureate degree from a regionally accredited college or university with a satisfactory academic record.

Requirements for Certificate in Advanced Computer Programming

18 credits (six courses) are to be chosen from the following:

	Credits
CSCI5505	
Introduction to Computer Programming.....	3
CSCI5555	
Data Structures	
or	
CSCI5565	
Assembly Language.....	3
CSCI6617	
Computer Game Programming.....	3
CSCI6723	
Database Project with Visual Basic.....	3
CSCI6810	
Java and the Internet.....	3
CSCI6844	
Programming for the Internet.....	3
CSCI7645	
Systems Programming.....	3
CSCI7871	
Unix Shell Programming.....	3
Students must satisfy the prerequisites of the courses that they will take.	

Academic Credits: Courses with numbers 6000 or higher completed through this certificate can be credited toward the **M.S. in computer science** program. Other courses may be substituted with prior approval of the student's academic adviser.

Computer Security Certificate

The certificate program in computer security provides individuals with expertise in hardening computer systems, as well as in establishing information security policies and business-continuation planning in organizations.

Admission Requirements

Admission to the certificate program requires a baccalaureate degree from a regionally accredited college or university with a satisfactory academic record.

Requirements for Certificate in Computer Security

18 credits (six courses) are to be chosen from the following:

	Credits
CSCI5525	
Introduction to Computer Science.....	3
CSCI6731	
Computer Networks.....	3
CSCI6869	
Network Security.....	3
CSCI6873	
Firewalls and Intrusion-detection Systems.....	3
CSCI7741	
Disaster Recovery.....	3
CSCI7783	
Information Security.....	3
Students must satisfy the prerequisites of the courses that they will take.	
Academic Credits: Courses with numbers 6000 or higher completed through this certificate can be credited toward the M.S. in computer science program. Other courses may be substituted with prior approval of the student's academic adviser.	

Database Administration Certificate

The certificate program in database administration provides expertise in the development, maintenance and supervision of databases.

Admission Requirements

Admission to the certificate program requires a baccalaureate degree from a regionally accredited college or university with a satisfactory academic record.

Requirements for Certificate in Database Administration

18 credits (six courses) are to be chosen from the following:

	Credits
CSCI5505	
Introduction to Computer Programming	
or	
CSCI5525	
Introduction to Computer Science.....	3
CSCI6623	
Database Systems.....	3
CSCI6882	
Data Warehouse and Data Mining.....	3
CSCI7741	
Disaster Recovery.....	3
CSCI7781	
Advanced Database Systems.....	3
CSCI7783	
Information Security.....	3
CSCI7785	
Distributed Database Systems.....	3
Students must satisfy the prerequisites of the courses that they will take.	

Degree Options or Academic Credits:

Courses with numbers 6000 or higher completed through this certificate can be credited toward the **M.S. in computer science** program. Other courses may be substituted with prior approval of the student's academic adviser.

Internet Programming Certificate

Internet programming is a contemporary field of computer programming. It refers to network communication, distributed computing and web applications. The certificate program in internet programming provides expertise in computer-programming fundamentals, web programming and internet-based application software development.

Computer Science

Admission Requirements

Admission to the certificate program requires a baccalaureate degree from a regionally accredited college or university with a satisfactory academic record.

Requirements for Certificate in Internet Programming

18 credits (six courses) are to be chosen from the following:

	Credits
CSCI5505	
Introduction to Computer Programming.....	3
CSCI5555	
Data Structures.....	3
CSCI6731	
Computer Networks.....	3
CSCI6735	
Client-server Computing.....	3
CSCI6810	
Java and the Internet.....	3
CSCI6844	
Programming for the Internet.....	3
Students must satisfy the prerequisites of the courses that they will take.	

Academic Credits: Courses with numbers 6000 or higher completed through this certificate can be credited toward the **M.S. in computer science** program. Other courses may be substituted with prior approval of the student's academic adviser.

Telecommunications and Networking Certificate

The certificate program in telecommunications and networking provides expertise in the development, maintenance and supervision of telecommunications systems and computer networks.

Admission Requirements

Admission to the certificate program requires a baccalaureate degree from a regionally accredited college or university with a satisfactory academic record.

Requirements for Certificate in Telecommunications and Networking

One 3-credit course is to be chosen from the following:

CSCI6731	
Computer Networks.....	3
EENG7737	
Computer Communication Networks.....	3

15 credits (five courses) are to be chosen from the following:

	Credits
CSCI6730	
Advanced Network: TCP/IP and Routing.....	3
CSCI6732	
Local Area Networks.....	3
CSCI6736	
Wireless LANs.....	3
CSCI6844	
Programming for the Internet.....	3
CSCI6869	
Network Security.....	3
EENG6747	
Digital Communications.....	3
EENG7738	
Wireless Communication.....	3
EENG7748	
Advanced Digital Communications.....	3
Students must satisfy the prerequisites of the courses that they will take.	

Degree Options: Courses appropriately selected and completed for this certificate program under the direction of the student's academic adviser can be credited toward the **M.S. in computer science**, **M.S. in computer engineering** or **M.S. in Electrical Engineering (specialization in digital signal processing and communications)** program. Other courses may be substituted with prior approval of the academic adviser.

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate school director

Computer Science

Lee Gildart and Oswald Haase School of Computer Sciences and Engineering

CSCI5505 3 Credits Introduction to Computer Programming

Use of computers in problem solving. Algorithm development using stepwise refinement. Structured programming techniques. Top-down design and modularity. Readability and documentation techniques. Programming in a high-level language, such as Java.
Fall

CSCI5525 3 Credits

Introduction to Computer Science
Introduction to computer hardware and software, interactions and tradeoffs. Essentials of computer organization and arithmetic, data manipulation, operating systems, computer networks and computer theory. Foundation for more advanced courses. Corequisite: CSCI5505
Fall

CSCI5526 3 Credits

Introduction to Computer Science II
Advanced C++ programming constructs and features will be covered including structured data, file operations, advanced objects and classes, exceptions and templates. Prerequisite: CSCI5525 Introduction to Computer Science.

CSCI5551 3 Credits

Mathematics for Computer Science and MIS
Introduction to basic mathematical concepts and how they relate to computer science; formal logic, set theory, functions, relations, Boolean algebra, graph theory and combinatorics.
Fall

CSCI5555 3 Credits

Data Structures
Organized collections of data and their use. Arrays, records, linear lists, trees, graphs. Sorting and searching. Sequential and linked memory allocation. Prerequisite: CSCI5505
Fall

CSCI5565 3 Credits

Assembly Language
Assembly language programming and discussion of assembly systems. Numerical and symbolic applications. Prerequisites: CSCI5505
Introduction to Computer Programming and CSCI5525 Introduction to Computer Science.
Fall

CSCI6603 3 Credits

Computer Architecture
Study of the relation between the structure and functional behavior of computer systems. Data representation and instruction sets. Control function, memory hierarchy, input-output processors and devices. Micro- and multiprocessors. Prerequisite: CSCI5525
Introduction to Computer Science.
Fall, Spring

CSCI6605

3 Credits

Combinatorics

Arrangements, selections and distributions. Generating functions, partitions and recurrence relations. Inclusion-exclusion principle. Graph models and isomorphisms. Planarity, Euler and Hamilton circuits. Graph coloring. Trees and graphs algorithms. Applications particularly to computer science. Prerequisite: CSCI5551 Mathematics for Computer Science and MIS.

CSCI6617

3 Credits

Computer Game Programming

Introduction to computer-game development. Topics include fundamentals of Microsoft DirectX game and graphics libraries, 2D graphics and animation, audio output, keyboard/ mouse handling and fundamentals of 3D modeling and programming. Prerequisite: CSCI5505 Introduction to Computer Programming.

CSCI6618

3 Credits

Cloud Computing

This course covers critical cloud topics such as cloud-service models (IaaS, PaaS, SaaS); elastic computing; cloud storage; cloud databases; cloud security; and architecting, developing and deploying apps in the cloud. Prerequisite: CSCI5505 Introduction to Computer Programming.

CSCI6620

3 Credits

Software Engineering

Creation of reliable software. Software development life-cycle models. Requirements of engineering object-oriented analysis and design. Documentation of development with Unified Modeling Language (UML). Software quality assurance. A project-oriented course. Prerequisite: CSCI5555 Data Structures. *Fall, Spring*

CSCI6623

3 Credits

Database Systems

A survey of the current technology available in database systems. Relational, hierarchical and network models. Role of the data administrator. Levels of abstraction. Schema and subschema. Prerequisite: CSCI5505 Introduction to Computer Programming. *Fall, Spring*

CSCI6638

3 Credits

Operating Systems

An introduction to the fundamental principles of operating systems in terms of resource

management and machine virtualization. Topics include system services, process management, synchronization, threads, CPU scheduling, memory, device, file management and security. Integrated lab. Prerequisite: CSCI5565 Assembly Language or CSCI6603 Computer Architecture. *Fall, Spring*

CSCI6689

3 Credits

Human-Computer Interaction

Human-computer interaction integrates the fields of computer science, cognitive psychology, arts and design. This course covers the principles of human-computer interaction, user interface design and usability analysis of systems. Students will learn about the user-experience process lifecycle, contextual inquiry, contextual analysis, design thinking, ideation, sketching, design production, low and high fidelity prototyping, empirical evaluation and feedback and affordances. They will apply these principles in weekly activities, assignments and a final project. Students will also read research papers and write a term paper.

CSCI6702

3 Credits

Programming Languages

Theory and implementation of high-level programming languages. Information hiding, storage management, sequence control, data abstraction, generics, exception handling, concurrency, imperative and functional languages. Implementation in various languages. Prerequisite: CSCI5555 Data Structures.

CSCI6720

3 Credits

Management Information Systems

Role and structure of information systems in an organization. Components of MIS: human resources, software, hardware, files and databases, telecommunications. Levels of MIS. Decision-making process. Cognitive and behavioral aspects of MIS. Concepts of information and systems. Organizational planning and control with information systems. Prerequisite: CSCI5525 Introduction to Computer Science. *Fall, Spring*

CSCI6723

3 Credits

Database Project with Visual Basic

This course will study the methodology of database design within a total project framework. Students will learn how to develop a database design and how to plan for a total program development and then implement the plan. The database will be implemented in Access while the program's user interactions will be programmed in Visual Basic.

CSCI6729

3 Credits

Statistical Programming

This course gives a thorough introduction to using statistical analysis software (SAS) for statistical analysis. Topics include importing and exporting files; output formatting; predictive data modeling and exploration (mixed-models analysis, multivariate statistical analysis, longitudinal analysis and survival analysis); and a programming approach to report writing. Prerequisite: elementary knowledge of a programming language. (Equivalent to MATH6729 Statistical Programming.)

CSCI6730

3 Credits

Advanced Network: TCP/IP and Routing

This course is on internet work design and architecture. It covers addressing, binding, routing, internet and application protocols, principles and architecture of the global internet. The focus is on the TCP/IP internet protocol suite.

CSCI6731

3 Credits

Computer Networks

Introduction to the theory and practice of computer networking. Protocol design and analysis. Topics include layered protocol architectures, packet and circuit switching, multiplexing, routing, congestion and flow control, error control, sequencing, addressing and performance analysis. Examples from current data networks. Prerequisites: CSCI5505 Introduction to Computer Programming and CSCI5525 Introduction to Computer Science. *Fall*

CSCI6732

3 Credits

Local Area Networks

This course will cover the topics of local area networks (LANs). The major topic areas include the evolution of local area networks; an overview of LAN applications; LAN models; five taxonomic variables that can be used to classify LAN technology; the IEEE 802 LAN Standard; repeaters, bridges, routers and gateways; and an overview of major LAN products. Prerequisites: CSCI5525 Introduction to Computer Science and CSCI5551 Mathematics for Computer Science and MIS.

CSCI6733

3 Credits

Decision Support Systems

Characteristics of decision support systems (DSS) within the management information systems (MIS) framework; requirements for effective DSS; normative and behavioral

Computer Science

theories of decision making; dialog, database and model management; classes of models; DSS development; tools and methodologies. Prerequisite: CSCI6720 Management Information Systems.

CSCI6734

3 Credits

Expert Systems

The evolution of knowledge-based expert systems, system structure, knowledge representation schemes, quantifying uncertainty, exact and inexact inference, survey of current systems, languages and tools for building expert systems, problem-selection criteria, the expert system's life cycle, knowledge-acquisition techniques, incremental development, testing and evaluation methods and applications of expert systems. Prerequisite: CSCI5555 Data Structures.

CSCI6735

3 Credits

Client-server Computing

An introduction to the theory and technology of client-server computing. Course material includes general software architecture and component-based software system development, n-tier architecture, sockets, PRC, Java remote method invocation (RMI), CORBA, MS COM/DCOM and their applications. Prerequisite: CSCI5555 Data Structures.

CSCI6736

3 Credits

Wireless LANs

Introduction to wireless local area networks (LANs) and their technology and use. Topics include design, installation and troubleshooting, security, 802.11 frames. Prerequisite: CSCI6731 Computer Networks.

CSCI6737

3 Credits

Advanced Switching Internet Routing

This course focuses on advanced switching and internet routing protocols. Topics include switch design and operation, VLANs, port security 802.1x, trunking, port aggregation, high availability and redundant switched network design, advanced IP addressing architectures, routing algorithm concepts and routing protocols: RIP, OSPF, BGP, multicasting, protocol tunneling and routing security. Prerequisite: CSCI6730 Advanced Network: TCP/IP and Routing or CSCI6731 Computer Networks.

CSCI6738

3 Credits

Cybersecurity

This course deals with the application and management of mechanisms for cybersecurity and information assurance in computing, communication and organizational systems. Projects are structured to assist in the use of

analytical skills in developing policies and assessing threats and vulnerabilities. Topics include malware and social engineering, vulnerability assessments, network security, authentication, intrusion detection, basic cryptography, data obfuscation and network forensics. A detailed analysis will be conducted on specific vulnerabilities that are exploited in various types of attacks, such as buffer overflow and virus infection. Prerequisite: CSCI6731 Computer Networks.

CSCI6739

3 Credits

Computer Performance and Evaluation

Methods used for evaluation of computer-system design strategies, such as number of servers, communication architecture and database operations. Analysis of models to assess performance of alternate implementation strategies. Evaluation of existing systems. Prerequisites: CSCI5551 Mathematics for Computer Science and MIS and a reading knowledge of a high-level programming language.

CSCI6740

3 Credits

Applied Cryptography

This course introduces cryptographic algorithms, protocols and their uses in the protection of information in various states. Topics include block ciphers, data encryption standard (DES), advanced encryption standard (AES), secret and public key encryption (RSA), cryptographic hash functions (e.g., MD5, SHA-3), digital signatures and the key distribution (PKI) problem. Types of attacks and application of cryptography in secure sockets layer (SSL), virtual private networks, secure storage and other security issues are also discussed.

CSCI6741

3 Credits

Modeling and Simulation of Continuous Systems

Classification and construction of continuous-systems models. Simulation of systems arising in management practice using the system-dynamics modeling strategy. Design and validation of simulation experiments. Interpretation of experimental results. Laboratory. Prerequisite: knowledge of a high-level programming language.

CSCI6743

3 Credits

IBM System i Enterprise Computing

Students will study the architecture and software of the IBM i computers. This includes the hardware, middleware, system software, application software, interfaces to other systems and software products. Students will also study the security and network communications capabilities of the System i computers. Special

emphasis is placed on the control language, unique file system, application programming languages and data-management services. Prerequisites: CSCI5505 Introduction to Computer Programming and CSCI5525 Introduction to Computer Science.

CSCI6744

3 Credits

Enterprise Computing for the IBM zSeries

Students will study the architecture and software of the IBM zSeries computers (mainframe). This includes the hardware, middleware, system software, application software, interfaces to other systems and software products. Students will also study the security and network communications capabilities of the zSeries computers. Special emphasis is placed on the control language, unique file system, application programming languages and data-management services. Prerequisites: CSCI5505 Introduction to Computer Programming and CSCI5525 Introduction to Computer Science.

CSCI6745

3 Credits

Computer Graphics

Computer analysis of two- and three-dimensional line drawings and halftone images. Capabilities of modern hardware, picture-processing algorithms, image enhancement, pattern recognition, scene analysis, interactive graphics. Prerequisites: linear algebra and knowledge of a high-level programming language.

CSCI6750

3 Credits

Advanced Quantitative Analysis

Mathematical programming techniques and optimization methods. Goal, integer, nonlinear and dynamic programming. Regression analysis for planning and forecasting. Construction of models with the use of a modeling language. Laboratory. Prerequisite: CSCI5551 Mathematics for Computer Science and MIS.

CSCI6751

3 Credits

Artificial Intelligence

A general introduction to the ideas and methods that will enable computers to be intelligent. Topics include natural language parsing, search, predicate calculus, representation of common sense knowledge, expert systems, managing plans of action, language comprehension. Programming projects. Prerequisite: CSCI5555 Data Structures.

CSCI6753

3 Credits

Machine Learning

This course covers the key concepts of machine learning. The topics covered are data and data mining, supervised learning, Bayesian decision theory, decision trees, clustering, reinforcement

learning and nonsupervised learning. Students will learn machine learning algorithms and apply them to some big data problems in industry. This is a project-oriented course. Each student is required to complete a project. Prerequisite: prior knowledge of statistics and probability.

CSCI6758

3 Credits

Electronic Commerce

Scope and structure of electronic commerce. Business-to-consumer, business-to-business and intraorganizational e-commerce. Technological infrastructure, intranets and extranets. Market structures, business relationships, enabling services and transaction support. Web entrepreneurship, business models and innovation. Supply-chain management and auction methods. Collaboration and co-production. Security and protection of digital property. Launching an e-business. Two projects: analytical and entrepreneurial.

CSCI6761

3 Credits

Automata Theory

Formal languages. Finite automata, push-down automata and Turing machines. Relationship between formal languages and automata. Undecidability. The halting problem, the Post correspondence problem and their relation to other undecidable problems. Prerequisite: CSCI5551 Mathematics for Computer Science and MIS.

CSCI6767

3 Credits

Object-oriented Programming

Object-orientated programming in C++. Elements of the C++ language: classes, inheritance, operator overloading, templates, exception handling and real-time type information. An introduction to object-oriented design.

CSCI6803, CSCI6804

2–5 Credits Each Semester

Research and Thesis

A program of selected research, tailored to the interest and capabilities of the individual student, under the guidance of a school graduate adviser.

CSCI6805

3 Credits

Graduate Research (Nonthesis)

Graduate-level, nonthesis research with a faculty member in computer science.

CSCI6806

3 Credits

Computer Science Graduate Capstone Project

Students each develop an independent computer science capstone project under the

guidance of a faculty adviser. They utilize their past course work, modern tools, techniques and the proper methodology; follow professional practice; and exercise sound judgment in researching, analyzing, designing, developing, testing, documenting and managing a real-world computer science project. Prerequisite: Completion of at least 18 credits.

CSCI6807

3 Credits

Cybersecurity and Information Assurance Graduate Capstone Project

Students each develop an independent cybersecurity and information assurance capstone project under the guidance of a faculty adviser. They utilize their past course work, modern tools, techniques and the proper methodology; follow professional practice; and exercise sound judgment in researching, analyzing, designing, developing, testing, documenting and managing a real-world cybersecurity and information assurance project. Prerequisite: Completion of at least 18 credits.

CSCI6810

3 Credits

Java and the Internet

This course is designed for students who have object-oriented programming experience. It focuses on advanced Java programming features. The main topics are Java event model, event-driven programming, graphical user interface design, Java Swing components, graphics and media processing, exception handling, multithreading, Java applet and servlet, web-based applications, I/O streams and data files, Java database connectivity (JDBC), Java networking programming, remote method invocation (RMI) and Java beans. Prerequisite: CSCI5555 Data Structures or CSCI6844 Programming for the Internet.

CSCI6811

1–3 Credits Each Semester

Advanced Special Projects

Advanced computer projects of special interest to individual students.

Fall, Spring

CSCI6820

3 Credits

J2EE Programming

This course is designed for students who are interested in learning how to build or maintain enterprise applications based on the J2EE architecture. Students are expected to have a good understanding of web technology and server-side programming for dynamic web content. The main topics are Servlet and JSP programming, EJB programming and the debugging of J2EE applications. Prerequisite: CSCI6810 Java and the Internet.

CSCI6830

1–3 Credits

Special Topics in Computer Science

A detailed study of some special area in computer science. The area is chosen by the instructor and will be different each time. For this reason, the course may be taken for credit more than once.

CSCI6836

3 Credits

Computer Algorithms

An introduction to algorithm development. Topics include complexity analysis, practical algorithm development and common algorithm methods, including recursion, greedy algorithms, dynamic programming, backtracking and branch-and-bound. The course will include programming assignments implementing the algorithms discussed in class. Prerequisite: CSCI5555 Data Structures or permission of instructor.

CSCI6837

3 Credits

Mind-controlled Devices with Robotics

This course teaches people to model the programming needs, create prototypes in the C++ programming language and build an application. The application uses a cyberlink mental interface as an input device. The resulting efforts control a robotic arm.

CSCI6841

3 Credits

Cybersecurity Systems Engineering

This course covers advanced systems engineering concepts related to embedded Linux programming and cybersecurity. Students will gain experience in setting up the embedded Linux operating system and support software, programming in assembly language, writing device drivers and adding functions to the Linux Kernel. Other activities include creating a network stack, providing a presentation layer for application programs and developing a sophisticated and complex application program written in C for use in encryption and decryption of network traffic. Prerequisites: CSCI6638 Operating Systems and CSCI7645 Systems Programming.

CSCI6844

3 Credits

Programming for the Internet

This course introduces students to the fundamentals of Microsoft.NET framework, the ASP.NET web development environment and C# programming. It also covers XML web services, SQL Server database and Microsoft web server IIS (Internet Information Services). Students study how to develop powerful websites and web applications that access databases using dynamic, server-side programming in C#. They also will learn how to

Computer Science

deploy such applications over various servers.
Prerequisite: CSCI6623 Database Systems.

CSCI6846

3 Credits

Advanced Programming for the Internet

This second-semester course will build on the technologies and programming techniques taught in CSCI6844 Programming for the Internet. The course will cover the Extensible Hypertext Markup Language (XHTML) Version 1.0, which superseded HTML in January 2000 as the standard for marking up web pages. XHTML is the joining of the HTML and Extensible Markup Language (XML) standards. Additional topics on XML will be presented to increase student knowledge and programming expertise. Practical Extraction and Report Language (PERL) and its use in Common Gateway Interface (CGI) scripts to process HTML forms will be discussed. Two additional scripting languages will be covered: Visual Basic Script (VBScript) and PerlScript. The use of Dynamic HTML and DHTML scriptlets in web pages will be covered. Unified Modeling Language (UML) will be discussed and used in the design, development and implementation of a team project. Prerequisite: CSCI6844 Programming for the Internet.

CSCI6851

3 Credits

Parallel and Fault-tolerant Systems

This course will include the evolution of computer systems, parallel processing systems, principles of pipelining and vector processing, array processors, multiprocessor architectures, data flow computers, very-large-scale integration (VLSI) systems, fault-tolerant systems and programming in the parallel processor environment. Prerequisites: CSCI5551 Mathematics for Computer Science and MIS, CSCI5555 Data Structures and CSCI6603 Computer Architecture.

CSCI6860

3 Credits

Secure Software Development and Analysis

The course introduces the characteristics of secure programs and methods of implementing programs that are free from vulnerabilities. Topics include robust and defensive programming, input validation, buffer overflows, data obfuscation and protection, secure software development life cycle, security assessment, threat modeling and architecture security, design and testing methodologies, fuzz testing, static and dynamic analysis, source and binary code analysis tools and methods. The course will include assignments on analyzing software, either in source code or binary form, to find any vulnerability. Prerequisites: CSCI5505 Introduction to Computer Programming and CSCI6738 Cybersecurity.

CSCI6863

3 Credits

Supply Chain Security and Systems Certification

The course deals with the security issues associated with building complex (software and/or hardware) systems out of third-party components of unknown (and potentially unknowable) origin. Topics covered include elements that impact the supply chain, provider security review, storage and distribution, supply chain security program compliance, security auditing and assessments, resources and technology (GPS, RFID). The course additionally introduces the DoD processes and regulations associated with the certification and accreditation of operational systems and the authorities and processes for the approval of their operation.

CSCI6869

3 Credits

Network Security

Coverage of potential threats to a stand-alone or networked computer. The course includes strategies to analyze system vulnerabilities and to harden the system against threats. Integrated lab. Prerequisite: CSCI6731 Computer Networks or CSCI6732 Local Area Networks.

CSCI6870

3 Credits

Penetration Testing and Vulnerability Analysis

The course provides an overview of system vulnerabilities and methods of discovering ways of exploiting vulnerabilities to gain access to a system. Topics include identifying flaws and vulnerabilities, vulnerability-assessment tools, vulnerability scanning, exploiting scanner findings, web application penetration testing, network privilege escalation, social engineering attacks, patch management, configuration management. Projects on planning, organizing and performing penetration testing on a simple network will be pursued. Prerequisites: CSCI6638 Operating Systems, CSCI6731 Computer Networks and CSCI6738 Cybersecurity.

CSCI6873

3 Credits

Firewalls and Intrusion-detection Systems

This course covers the theoretical and practical aspects of firewalls and intrusion-detection systems. Some aspects of virtual private networks (VPNs) and routers will also be covered. Prerequisites: CSCI6638 Operating Systems and CSCI6731 Computer Networks.

CSCI6880

3 Credits

Data Mining

This course introduces the fundamental concepts of data mining. Students will gain an in-depth

understanding of algorithms in the field, and will learn how to prepare data for learning and classification. Topics covered include data preprocessing, classification, cluster and outlier analysis and text mining. Students will work on projects applying the theory learned. Prerequisites: CSCI6836 Computer Algorithms, MATH3300 Statistics I or permission of department chair.

CSCI6881

3 Credits

Machine Learning

This course introduces the fundamental concepts of machine learning. Topics covered include vector machines, kernel methods, boosting, online learning, multiclass learning, ranking, repression and reinforcement learning. Students will work on projects implementing algorithms discussed in class. Prerequisite: CSCI6880 Data Mining.

CSCI6882

3 Credits

Data Warehouse and Data Mining

Study of the concepts, design and architecture of the data warehouse. Study of decision-making process using the data warehouse and techniques like online analytical processes and data mining. Topics also include the relationship between data mining and data warehouse, supporting more complex queries than regular structured query language (SQL) and historical and summary transformations and tools to make crucial business decisions. Prerequisite: CSCI6623 Database Systems.

CSCI6885

3 Credits

Big Data Analytics with Hadoop and R

The growth of Big Data presents a great challenge for academia and various industries. New technologies are emerging for storing data, information retrieval and knowledge discovery in large unstructured data sets. This course presents core paradigms of Big Data analytics along with cutting-edge tools and techniques. Hands-on training will be provided with NoSQL databases, the Hadoop family of Big Data analytics, scalable cloud computing and the R tool. Prerequisite: CSCI6623 Database Systems.

CSCI7645

3 Credits

Systems Programming

Introduction to operating systems software. Topics chosen from process management interprocess communication, interrupt handling and file systems. Students will develop software that will implement and use operating systems primitives. Prerequisites: CSCI5555 Data Structures and CSCI6638 Operating Systems.
Fall, Spring

CSCI7740**3 Credits****Introduction to Real-time Systems**

Real-time languages and concurrent programming. Design of real-time kernels, context switching and memory allocation. Reliability, fault-tolerance and exceptions. Verification and validation of real-time software. These topics will be illustrated through examples and projects. Prerequisites: CSCI5555 Data Structures and CSCI6638 Operating Systems.

CSCI7741**3 Credits****Disaster Recovery**

Students will learn how to prepare and implement a disaster-recovery plan, which includes assessing risks, prioritizing system functions, developing procedures and establishing organizational relationships. Students will also test and then evaluate the disaster-recovery plan. Prerequisite: CSCI6623 Database Systems.

CSCI7771**3 Credits****Compilers and Translators**

Introduction to language translators. Compilers vs. interpreters. Structure of a compiler. Compiler-writing tools. Lexical analysis: language tokens, state tables, regular expressing scanner generators. Syntax analysis: grammars, Backus-Naur Form (BNF), parsing methodologies, parser generators. Symbol table maintenance. Students will develop scanner and parser for a high-level language. Prerequisites: CSCI5551 Mathematics for Computer Science and MIS and CSCI5555 Data Structures.

CSCI7773**3 Credits****Digital Image Processing**

A treatment of the techniques used in image enhancement and restoration. Topics will include image modeling and geometry, image transforms, fast Fourier transform (FFT), histogram modification, spatial and frequency domain filtering, image encoding. Some discussion of pattern recognition will be included.

CSCI7775**3 Credits****Pattern Recognition**

Introduction to pattern recognition, feature detection and extraction, Bayes Classification theory, Fisher discriminant theory, template-based recognition, eigenvector analysis, linear discriminant/perception learning, k-nearest-neighbor classification, K-means clustering, non-parametric classification, density estimation, applications such as fingerprint identification, handwriting signature verification, face recognition will be discussed.

CSCI7781**3 Credits****Advanced Database Systems**

Database performance, database reorganization, integrity and concurrency, transaction analysis, recovery database aspects, logical database design and physical database design. Prerequisites: CSCI6623 Database Systems and SQL programming ability.

CSCI7783**3 Credits****Information Security**

This course will study the important area of information security. It will cover both security management and the technical components of security. Topics will include many of these areas: security analysis, logical security design, physical security design, implementation of security systems and security maintenance. Prerequisite: CSCI6623 Database Systems.

CSCI7785**3 Credits****Distributed Database Systems**

Theory of distributed databases and comparison to centralized databases. Topics include location transparency, locking, deadlock, data sharing and time-stamping. A project to implement a small distributed database system is of prime importance to the course. Prerequisite: CSCI6623 Database Systems.

CSCI7788**3 Credits****Advanced Oracle SQL Performance and Tuning**

Performance measurement and tuning of Oracle SQL applications. Analysis of Oracle database architecture with regard to optimizer modes. Interaction of SQL language and database engine. Prerequisites: CSCI6623 Database Systems and SQL programming ability.

CSCI7795**3 Credits****Building Electronic Commerce Systems**

This course covers constructing complete client-server systems for e-commerce. Object-oriented programming, website design, scripting, advanced markup language features, internet database programming, multimedia programming and other techniques will be deployed as necessary to create and document a realistic e-commerce offering. Semester-long team projects will be completed. Prerequisites: CSCI6623 Database Systems, CSCI6758 Electronic Commerce, CSCI6810 Java and the Internet and CSCI6844 Programming for the Internet.

*Fall***CSCI7838****3 Credits****Introduction to Computer Telephony**

Telephone Application Interface (TAPI); active and telephony components; application of Visual C++ to make online telephone calls via mouse or headset (electrode placed on forehead). Prerequisites: CSCI5555 Data Structures and CSCI6638 Operating Systems.

CSCI7839**3 Credits****Voice-over IP Technologies**

This course gives an introduction of voice-over IP technologies. Topics include the Public Switched Telephone Network (PSTN), signaling specifications, modulation and compression of voice, Quality of Service (QoS), H.323 architecture and protocol suite, Session Initiation Protocol (SIP), gateway protocols and voice and data network convergence. Prerequisite: CSCI6731 Computer Networks or CSCI6732 Local Area Networks.

CSCI7870**3 Credits****Linux System Administration**

This course introduces the concepts of system administration as they apply to the Linux operating system. Topics include servers and data centers; virtualization; directories and file systems; access control; Linux and Windows; regular expressions and scripting; processes and services; network, network software and the internet; security policy and ethics; change management, backup and restore; database security and installation. Secure configuration of Linux systems will be pursued.

CSCI7871**3 Credits****Unix Shell Programming**

To enable students to derive maximum benefits from using shell, the course will cover shell for the novice, shell programming for results and shell programming for mastery. It describes the basic skills to create whole applications, together with the steps into the world of software developers and system administrators. Prerequisite: CSCI5525 Introduction to Computer Science or permission of instructor.

CSCI7874**3 Credits****Unix System Administration**

A detailed introduction to Unix system administration starting with the basics and advancing to scriptwriting concepts, commands and packages that are needed to manage a Unix system. Prerequisite: CSCI7871 Unix Shell Programming.

Computer Science

CSCI7877

3 Credits

Development of E-business Applications

Introduction to e-business; e-business methodology; process modeling and documentation; selected SML technologies; Simple Object Access Protocol (SOAP); Web Service Definition Language; Universal Description Discovery and Integration. Prerequisites: CSCI5505 Introduction to Computer Programming and CSCI5555 Data Structures, CSCI6623 Database Systems and CSCI6844 Programming for the Internet.

CSCI7881

3 Credits

Operating Systems Audit and Hardening

The course is an introduction to Unix and Windows operating systems security audits (with major emphasis on Unix/Linux and minor on Windows). It is based on students' understanding of operating systems and shell programming skills. Major topics include: compliance audits, authentication security and defense against privilege escalation, role-based digest functions and defense against Rootkits and internal break-in forensics, log analysis, system hardening, patching compliance, virus and worm protection. Prerequisites: CSCI5505 Introduction to Computer Programming, CSCI6638 Operating Systems and CSCI7871 Unix Shell Programming.

CSCI8891

1-3 Credits

Internship/Work Experience

The course provides on-the-job education and training in the concepts presented in the graduate computer science, electronic commerce, management information systems and cybersecurity and information assurance curricula. Students must submit, for the school's approval, a proposal from the employer detailing the nature of the intended work. Weekly contact must be maintained with the school's adviser to confirm the quality of the work experience. A report at the conclusion of the work experience is required, detailing both the educational and training aspects of the job. Prerequisite: students must have been enrolled in the computer science, electronic commerce, management information systems and cybersecurity and information assurance programs for at least nine months.

Mathematics

The following graduate courses in mathematics are offered under the auspices of the Lee Gildart and Oswald Haase School of Computer Sciences and Engineering, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

MATH6630

0-3 Credits

Special Topics in Mathematics Education

A study of topics of current interest in mathematics education.

MATH6729

3 Credits

Statistical Programming

This course gives a thorough introduction to using statistical analysis software (SAS) for statistical analysis. Topics include importing and exporting files, output formatting, predictive data modeling and exploration (mixed-models analysis, multivariate statistical analysis, longitudinal analysis and survival analysis) and a programming approach to report writing. Prerequisites: CSCI1201 Computer Programming I and CSCI1202 Computer Programming II. Corequisite: MATH6737 Applied Statistics I. (Equivalent to CSCI6729 Statistical Programming.)

MATH6737

3 Credits

Applied Statistics I

This course is an introduction to statistical methods of data analysis emphasizing examples drawn from the biological and life sciences. Topics include probability, descriptive statistics, point and interval estimation, hypothesis testing, statistical design and sampling, linear regression and Chi-square testing.

MATH6738

3 Credits

Applied Statistics II

As a continuation of MATH6737 Applied Statistics I, this course covers more advanced statistical methods including analysis of variance (ANOVA), analysis of covariance (ANCOVA), factor and cluster variance, multiple linear regression, nonparametric tests, categorical data analysis, logistics and survival analysis. Time permitting, additional topics include Monte Carlo methods, mixed models and classification and regression trees. Prerequisite: MATH6737 Applied Statistics I.

MATH6775

3 Credits

Mathematics of Operations Research

This course is an introduction to mathematical programming using the simplex method and transportation algorithms. Additional topics will be selected from decision analysis, nonlinear programming, Markov process, queuing models and forecasting.

MATH6830

3 Credits

Special Topics in Mathematics

A detailed study of some special area in mathematics. The area is chosen by the instructor and will be different each time. For this reason, the course may be taken for credit more than once. Prerequisite: MATH2203 Calculus III.

MATH6837

3 Credits

Probability and Statistics I

This calculus-based course is the first part of a two-semester sequence which serves as a comprehensive introduction to the concepts, definitions, theory and practice of probability and statistics. The topics covered include the fundamentals of probability, discrete and continuous random variables (including binomial, poisson, normal, Chi-square, etc.), functions of random variables, moment-generating functions, sampling distributions and applications. Prerequisite: MATH2202 Calculus II.

MATH6838

3 Credits

Probability and Statistics II

As a continuation of MATH6837 Probability and Statistics I, this course covers hypothesis testing, regression and correlation in one and several variables, analysis of variance, nonparametric tests, multivariate statistics as well as other advanced topics selected from the design of experiments, Markov processes, Bayesian models selection, neural network and/or time-series analysis. Prerequisite: MATH6837 Probability and Statistics I.

MATH6841

3 Credits

Higher Geometry

Axiomatics, groups of transformations and invariants. Erlanger Program, Euclidean and Lobachevskain geometry, special topics.

Cosmetic Science (M.S.)

To serve the needs of the large population of cosmetic science professionals in the New York metropolitan area, Fairleigh Dickinson University's School of Natural Sciences offers a Master of Science in cosmetic science.

This program, the first of its kind in New Jersey, was introduced in 1982 as an M.A. in science with a concentration in cosmetic science. The current name, M.S. in cosmetic science, more accurately reflects its scientific content. This program continues to fulfill the needs of those responsible for creating commercial products in the cosmetics, toiletries and fragrance industries. It enables practitioners to learn the latest advances in their field and helps students to develop the skills necessary for senior assignments in the cosmetics industry. It is also geared to technologists aspiring to supervisory roles in the laboratory or plant. For those without industrial experience, the program can launch a career in the cosmetic industry.

This program is offered under the auspices of the School of Natural Sciences, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

1. Graduation from an accredited college or university with a baccalaureate degree in an allied science (biology, chemistry, biochemistry or pharmacy). This baccalaureate degree must include a two-semester sequence of organic chemistry.
2. Submission of scores on the Graduate Record Examinations (GRE) General Test.
3. Three letters of recommendation.
4. A minimum score of 550 (paper-based) or 213 (computer-based) or 79 (internet-based) on the Test of English as a Foreign Language (TOEFL) or its equivalent is required for applicants whose native language is not English.

Note: Financial assistance in the form of teaching assistantships and research scholarships is not available.

Requirements for the Master of Science Degree

Required Courses (20 credits)

	Credits
BIOL6756 Dermal Pharmacology and Immunology.....	3
CHEM6526 Product Development.....	3
CHEM6529 Microtoxicology and Biochemistry.....	3
COSC6543 Hair-care Raw Materials and Formulations.....	3
COSC6547 Skin-care Raw Materials and Formulations.....	3
COSC6548 Cosmetic Science Laboratory.....	2
PHYS6753 Applied Colloid and Surface Science.....	3

Cosmetic Science Electives (6 credits minimum)

BIOL6728 Bioethics.....	3
CHEM6546 Perfumery.....	3
CHEM6773 Polymer Chemistry.....	3
CHEM6781 Biochemistry.....	3
COSC6542 Claims Substantiation.....	3
COSC6549 Color Cosmetics.....	3

Free Electives (6 credits maximum)

MGMT5012 Foundations of Management.....	2
MKTG5012 Marketing Principles.....	2
MKTG6602 Marketing Research.....	2
MKTG6603 Consumer Behavior.....	2
Biology Elective (BIOL5000 or higher).....	1-3
Chemistry Elective (CHEM5000 or higher).....	3
Communication Elective (COMM5000 or higher).....	3

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate school director.

Cosmetic Science

School of Natural Sciences

COSC6542

3 Credits

Claims Substantiation

Discussion of claim types including efficacy, safety and consumer with construction of solid claims support packages through the knowledge of basic skin physiology, noninvasive bioinstrumentation, proper claims support study design and SOPs for claims substantiation (EEMCO guidelines).

COSC6543

3 Credits

Hair-care Raw Materials and Formulations

Surfactants, proteins, polymers, preservatives, toxicology, performance, theoretical concepts, preparation methods and analytical procedures for shampoos and conditioners, including fixatives, test methods, safety and stability.

COSC6547

3 Credits

Skin-care Raw Materials and Formulations

Structure, function, use chemistry and application of emulsifiers, emollients, silicones, thickeners, colorants, chelators, preservatives and other ingredients in skin care products.

COSC6548

2 Credits

Cosmetic Science Laboratory

Hands-on experience creating and evaluating hair and skin products. Emulsions including creams and lotions and surfactant systems including shampoos and gels. Prerequisite: COSC6543 Hair-care Raw Materials and Formulations or COSC6547 Skin-care Raw Materials and Formulations.

COSC6549

3 Credits

Color Cosmetics

Worldwide cosmetic color regulations, formulations including fillers, conventional colorants and specialty pigments, as well as the manufacture of all types of makeup products. Prerequisite: COSC6547 Skin-care Raw Materials and Formulations.

COSC6551

3 Credits

Sensory Evaluation of Cosmetic Products

Techniques, methods and statistics used for the sensory evaluation of cosmetic products; the interaction between product functionality and raw materials selection. Prerequisite: COSC6543 Hair-care Raw Materials and Formulations or COSC6547 Skin-care Raw Materials and Formulations.

PHYS6753

3 Credits

Applied Colloid and Surface Science

The technical aspects of emulsions, solubilized systems, foams and dispersions. Structure and dynamics of complex systems. Polyphase equilibrium, phase transitions and kinetic distributions. The physics of interfaces and effects of surface structure. Principles of colloid science along with practical procedures as applied in cosmetic formulations, including examples.

Fall

Creative Writing (M.F.A.)

The Master of Fine Arts (M.F.A.) in creative writing is a low-residency program in which students work closely with published authors who serve as their mentors and teachers. During the 10-day residencies held twice each year, students participate in workshops; they meet with their mentors and fellow students; and they attend readings and interviews with visiting writers as well as a variety of literary events. During the rest of the academic year, each student works one-on-one with members of the faculty and participates in workshops online. This program gives students access to an international community of acclaimed and award-winning writers.

The M.F.A. degree is offered in five disciplines — **poetry, fiction, creative nonfiction, writing for young adults and children's literature and literary translation.**

The program offers a **60-credit single-concentration M.F.A. degree** as well as an **88-credit dual-concentration M.F.A. degree.** The specific details about each program are explained separately on this page and on page 113.

The program is arranged into modules (8-week courses) and residencies (10 days of study on one of FDU's campuses). Two residencies are offered each year, one in late July at the Florham Campus in Madison, New Jersey, and another in early January at the Wroxtton, England campus. The residencies offer individual conferences with mentors, group workshops, readings and instruction by distinguished visiting writers, presentations by publishing professionals, faculty lectures, student readings and other literary-related activities. Students must attend all scheduled events, as the residency is part of the course work.

There are no letter grades. All courses operate on a Pass/Fail system. Academic work is completed during the online writing modules and the residencies, rather than in traditional courses. Each academic year, four online writing modules, each eight weeks long, taken consecutively (rather than simultaneously) are offered, two in the spring and two in the fall. A faculty mentor directs each module. In addition to producing their own original creative and critical work, students are

expected to actively participate in peer-oriented online writing workshops throughout each module.

This program is offered under the auspices of the School of the Arts, Maxwell Becton College of Arts and Sciences, Florham Campus, Madison, New Jersey.

Admission Requirements

1. Students must have a bachelor's degree from an accredited college or university with a satisfactory academic record.
2. Students must submit a writing sample. In admissions decisions, the greatest weight will be given to the writing sample.
3. All incoming students must begin their first semester of the program by attending a residency and registering for two modules.

Requirements for Single-concentration M.F.A. Degree

Sixty credits (eight modules and three residencies) are required to complete the **single-concentration M.F.A. degree** as follows:

- 5 modules in the chosen genre,
- 1 module in an elective genre other than the student's own,
- 1 module in craft essay (taken in the 5th module),
- 1 thesis module in chosen genre (last module) and
- 3 fully attended residencies (ideally completed before completion of the thesis module).

Each module is worth 6 credits (8 modules = 48 credits) and each residency is worth 4 credits (3 residencies = 12 credits) for a total of 60 credits.

The degree is conferred upon successful completion of eight writing modules, three residencies and a craft essay and thesis manuscript. The degree may be completed in as little as two years but must be completed within five years. Specific requirements are:

1. Five modules in the students' chosen discipline.
2. One module in craft in the student's chosen discipline. The craft module is the fifth module. During these eight weeks, students will work closely with their mentors to explore matters of craft, and by the end of the module, they should complete an essay on craft of 3,500–5,000 words. The topic and approach are the

student's choice, but must be approved by the mentor.

3. One module that is an elective (completed at any time during their studies) in a discipline other than their own.

4. During the eighth module, students complete and polish the thesis in their discipline, working closely with their mentor. The thesis should reflect a culmination of all the work the student has completed during the program, and as such, it should represent the student's best possible writing. The thesis may be comprised of poems, short stories, essays, a novella, the beginning portion of a novel or the beginning portion of a memoir. The length should be approximately 25,000 words for prose. For poetry, the thesis should include approximately 375 lines. The thesis must be in the student's declared genre. During the thesis module, the thesis is written and revised by working closely with a mentor. Each thesis will undergo a formal evaluation and critique by the thesis mentor and second reader.

5. Three residencies must be completed. These 10-day intensive residencies are part of the course work. Students must attend every scheduled event in order to receive credit for the residency.

Requirements for Dual-concentration M.F.A. Degree

Eighty-eight credits (12 modules and four residencies) are required to complete the **dual-concentration M.F.A. degree** as follows:

- 5 modules in the primary genre,
- 1 craft essay module in the primary genre (taken in the fifth module),
- 1 elective module in the secondary genre,
- 1 thesis module in the primary genre,
- 3 additional modules in the secondary genre,
- 1 thesis module in the secondary genre and
- 4 fully attended residencies.

Each module is worth 6 credits (12 modules = 72 credits) and each residency is worth 4 credits (4 residencies = 16 credits) for a total of 88 credits.

The degree is conferred upon successful completion of 12 writing modules, four residencies and two thesis manuscripts. The degree may be completed in as little as

three years but must be completed within five years. Specific requirements are:

1. Five modules in the students' primary discipline.

2. One module in craft in the student's primary discipline. The craft module is the fifth module. During this eight-week module, students will work closely with their mentors to explore matters of craft, and by the end of the module, they should complete an essay on craft of 3,500–5,000 words. The topic and approach are the student's choice, but must be approved by the mentor.

3. One module in the student's secondary genre before taking their eighth module (primary thesis module).

4. During the eighth module, students complete and polish the primary-genre thesis, working closely with their mentor. The thesis should reflect a culmination of all the work the student has completed during the program, and as such, it should represent the student's best possible writing. The thesis may be comprised of poems, short stories, essays, a novella, the beginning portion of a novel or the beginning portion of a memoir. The length should be approximately 25,000 words for prose. For poetry, the thesis should include approximately 375 lines. The thesis must be in the student's declared genre. During the thesis module, the thesis is written and revised by working closely with a mentor. Each thesis will undergo a formal evaluation and critique by the thesis mentor and second reader.

5. Three modules in the secondary genre and the final, 12th, thesis module in the secondary genre.

6. Students must attend four residencies. These 10-day intensive residencies are part of the course work. Students must attend every event, lecture, mentor meeting and workshop.

Modules

The first module starts at the beginning of the following semester after the residency and the second module follows the first. The modules require a measure of independence on the student's part and a disciplined writing schedule. In each module, the student will have completed the amount of work specified and assigned by the mentor. Generally, work in any module consists of: 1) creative work submitted at three points each module; 2) active, thoughtful, constructive contributions to the online workshop; and

3) two close readings/reviews of relevant texts. Mentors respond to creative work within a week of submission. Other work may be required according to the wishes of the mentor. At the end of the module, the mentor will prepare a final assessment, evaluating each student's work and progress.

Electives

The requirement of one module in a genre other than the student's chosen area may be fulfilled through completion of an out-of-genre module in poetry, fiction, creative nonfiction, literary translation or writing for young adults and children's literature.

Craft Module

Students must complete the module in craft for their genre of concentration during the fifth module of their work in the M.F.A. program.

Working closely with a mentor, the student will research and write an essay devoted to craft. The essay on craft must include: 1) a clear presentation of a central idea (or a sufficient articulation of a specific domain of exploration), fluent and correct syntax and a coherent organization; 2) logical thinking grounded in close readings of the texts; and 3) textual substantiation for the ideas put forth. The essay on craft should be (approximately) between 3,500 to 5,000 words. The mentor must approve the topic and approach, but the essay on craft may be an academic essay, a personal reflection on texts, a profile of an author that includes close readings or it may take another form, so long as it meets the above requirements and the mentor approves. Although the craft module does not contain the program's traditional peer-oriented workshops, there will be opportunities for students to share drafts and discuss ideas at the residency and online.

Thesis Module

During the eighth module of the single concentration and in the eighth and 12th module of the dual-concentration degree, students complete and polish the thesis, working closely with their mentor. The thesis should reflect a culmination of all the work the student has completed in the genre during the program, and as such, it should represent the student's best possible writing. The thesis may be comprised of poems, short stories, essays, a novella, the

Creative Writing

beginning portion of a novel or the beginning portion of a memoir. The length should be approximately 25,000 words for prose. For poetry, the thesis should include approximately 375 lines. The thesis must be in the student's declared genre. During the thesis module, the thesis is written and revised by working closely with a mentor. Each thesis will undergo a formal evaluation and critique by the thesis mentor and second reader.

Course Offerings

Courses are offered in the fall and spring. Students will be registered by the M.F.A. coordinator.

Creative Writing

School of the Arts

CRWR7500

6 Credits

Fiction Writing

In the fiction writing concentration, students will generate and revise works of fiction, receive constructive guidance from a faculty member and participate in online discussions with their fellow workshop partners. Students will also be required to write two short essays in which they closely explore an aspect of narrative craft in two works of fiction.

CRWR7501

6 Credits

Craft and Form in Fiction

Matters of craft and form and specific examples of work in the genre will be discussed. Under the guidance of the instructor, the student will write about specific aspects of their craft and genre. This module is taken in the fifth module in a student's sequence.

CRWR7502

6 Credits

Creative Nonfiction Writing

In the creative nonfiction writing concentration, students will generate and revise works of creative nonfiction, receive constructive guidance from a faculty member and participate in online discussions with their fellow workshop partners. Students will also be required to write two short essays in which they closely explore an aspect of narrative craft in two works of creative nonfiction.

CRWR7503

6 Credits

Craft and Form in Nonfiction

Matters of craft and form and specific examples of work in the genre will be discussed. Under the guidance of the instructor, the student will write about specific aspects of their craft and genre. This module is taken in the fifth module in a student's sequence.

CRWR7504

6 Credits

Poetry Writing

In the poetry writing concentration, students will generate and revise works of poetry, receive constructive guidance from a faculty member and participate in online discussions with their fellow workshop partners. Students will also be required to write two short essays in which they closely explore an aspect of craft in two collections of poetry.

CRWR7505

6 Credits

Craft and Form in Poetry

Matters of craft and form and specific examples of work in the genre will be discussed. Under the guidance of the instructor, the student will write about specific aspects of their craft and genre. This module is taken in the fifth module in a student's sequence.

CRWR7509

6 Credits

Writing for Young Adults and Children's Literature

In the writing for young adults concentration, students will study the particular craft consideration in writing for young adult readers — voice, pacing, structure and the idea of the “high concept” young adult story. Through workshops, discussions, close readings of young-adult novels and other works of fiction and one-on-one study with their mentors, students will produce stories or chapters of fiction for young adults.

CRWR7511

6 Credits

Literary Translation

In the literary translation concentration, students study the art of translating literary works from other languages into English. Through discussion, workshops and one-on-one study with their mentors, students will produce translations from the language or languages in which they specialize.

CRWR7512

6 Credits

Craft and Form in Young Adult and Children's Literature

Matters of craft and form and specific examples of work in the genre will be discussed. Under the instructor's guidance, the student will write about specific aspects of their craft and genre in preparation for a final lecture presentation. This module is taken in the fifth module in a student's sequence.

CRWR7513

6 Credits

Speculative Fiction

The concerns of science fiction and fantasy include those of mainstream fiction, with

additional questions about world building and suspension of disbelief. The discussions in this workshop will allow students working on speculative fiction to discuss in greater depth issues of craft specific to science fiction and fantasy. This course can substitute as a fiction module.

CRWR7524

3 Credits

Teaching Composition: Theory and Practice

This course will explore current and long-standing theoretical perspectives and pedagogical practices for teaching writing in a first-year composition program. Students will consider curricular, social, political, pedagogical and theoretical ideas and practices that shape the teaching of writing. The course is free to FDU creative writing students taking two modules. Pass/no credit. Note: Students must take CRWR7525 Practicum for Teaching Composition: Theory and Practice and two additional creative writing courses.

CRWR7525

1 Credit

Practicum for Teaching Composition: Theory and Practice

Required practicum for CRWR7524 Teaching Composition: Theory and Practice. Composition theory in a classroom setting. In order to observe, evaluate and apply composition theory studied in CRWR7524 Teaching Composition: Theory and Practice. Course is free to FDU creative writing students taking two modules. Pass/no credit. Prerequisite: CRWR7524 Teaching Composition: Theory and Practice.

CRWR7530

6 Credits

Craft and Form in Translation

Matters of craft and form and specific examples of work in the genre will be explored and discussed. Under the instructor's guidance, the student will write about specific aspects of their craft and form in preparation for a final lecture presentation. This module is taken in the fifth module in a student's sequence.

CRWR7540

6 Credits

Fiction Writing 1

M.F.A. fiction module 1 course for undergraduates in their senior year in the B.A./M.F.A. in creative writing program.

CRWR7541

6 Credits

Fiction Writing 2

M.F.A. fiction module 2 course for undergraduates in their senior year in the B.A./M.F.A. in creative writing program.

Creative Writing and Literature for Educators

CRWR7542

6 Credits

Nonfiction Writing 1

M.F.A. nonfiction module 1 course for undergraduates in their senior year in the B.A./M.F.A. in creative writing program.

CRWR7543

6 Credits

Nonfiction Writing 2

M.F.A. nonfiction module 2 course for undergraduates in their senior year in the B.A./M.F.A. in creative writing program.

CRWR7544

6 Credits

Poetry Writing 1

M.F.A. poetry module 1 course for undergraduates in their senior year in the B.A./M.F.A. in creative writing program.

CRWR7545

6 Credits

Poetry Writing 2

M.F.A. poetry module 2 course for undergraduates in their senior year in the B.A./M.F.A. in creative writing program.

CRWR7546

6 Credits

Writing for Young Adults 1

M.F.A. young adult writing module 1 course for undergraduates in their senior year in the B.A./M.F.A. in creative writing program.

CRWR7547

6 Credits

Writing for Young Adults 2

M.F.A. young adult writing module 2 course for undergraduates in their senior year in the B.A./M.F.A. in creative writing program.

CRWR7548

6 Credits

Literary Translation 1

M.F.A. literary translation module 1 course for undergraduates in their senior year in the B.A./M.F.A. in creative writing program.

CRWR7549

6 Credits

Literary Translation 2

M.F.A. literary translation module 2 course for undergraduates in their senior year in the B.A./M.F.A. in creative writing program.

CRWR7600

4 Credits

M.F.A. Residency

M.F.A. 10-day residency course for the fulfillment of the M.F.A. degree. These residencies are required to graduate.

Creative Writing and Literature for Educators (M.A.)

The M.A. in creative writing and literature for educators is the first graduate program in the nation to focus on the needs of middle- and high-school teachers who teach both creative writing and literature. Its primary goal is to enhance graduates' abilities to teach through a better understanding of the issues and practices facing writers and readers and the connections between both areas.

Teaching creative writing requires an understanding of the creative and analytical processes of both the writer and the reader. FDU's program examines how writers create and revise with a focus on how meaning is created (the "writerly" process) and combines it with exposure to critical analysis from the readers' point of view (the "readerly" process). By combining and connecting writerly and readerly approaches, the M.A. program enhances educators' abilities to teach both creative writing and literature. After a three-day weekend residency, students complete the remaining course work online, working with a renowned creative writing and literature faculty.

Students in the M.A. in creative writing and literature program learn from an accomplished faculty of literary experts and published poets and authors. Faculty members include a finalist for the National Book Award and a winner of the National Magazine Award.

The program is offered under the auspices of the department of literature, language, writing and philosophy, Maxwell Becton College of Arts and Sciences, Florham Campus, Madison, New Jersey.

The Curriculum

It is recommended that all students begin with the foundation course CWLT8001 Reading Like a Writer, which runs in early May and introduces the practice of writerly exegesis with a focus on how meaning is created. Subsequent writing courses are designed specifically to provide both a creative and writerly/analytical experience in the major genres educators are likely to see in student work. The literature courses offer greater breadth and enriched understanding and connection to the

advanced readerly aspects of the literature often taught in high school, including traditional literature (Irish literature, Chaucer, young adult literature); non-Western literature (African literature, world literature); and intercultural literature (ethnic American literature).

Requirements for the Master of Arts Degree

To earn the M.A. degree, students must attend the beginning residency and complete these seven courses:

Foundation Course

CWLT8001

Reading Like a Writer.....4

Writing and Critiquing Courses (one from each genre)

CWLT8101

Writing and Critiquing Fiction.....4

CWLT8102

Writing and Critiquing Poetry.....4

CWLT8103

Writing and Critiquing

(Creative) Nonfiction.....4

CWLT8104

Writing and Critiquing Dramatic
(and Cinematic) Writing.....4

Literature Courses (two required)

CWLT8121

Comedy, Satire and Parody.....4

CWLT8201

Ethnic-American Literature.....4

CWLT8203

Chaucer in Our Time.....4

CWLT8204

Reading Contemporary African
Writers.....4

CWLT8206

Contemporary World Literature.....4

CWLT8207

Young Adult Literature: Beyond
Harry Potter.....4

CWLT8209

International Short Story.....4

CWLT8211

Modern Poetry.....4

CWLT8216

Contemporary American Drama.....4

CWLT8217

Irish Literature.....4

CWLT8218

Graphic Novels.....4

CWLT8220

Contemporary American Poetry.....4

CWLT8221

Fantasy, Myth and the Medieval.....4

Creative Writing and Literature for Educators

Residency Requirement

The M.A. program includes a three-day weekend residency requirement in late June. Students live on FDU's Florham Campus in Madison, New Jersey, where they meet with instructors and participate in such activities as lectures, critical workshops, generative workshops, panel discussions, analysis seminars and readings. Subsequent course work is completed through online correspondence with instructions and instructor-led online workshops and discussions.

The program's low-residency requirement allows students to enroll whose work and family obligations would otherwise prevent them from attending a traditional, full-time graduate program. The online component provides additional flexibility and enables students to receive individual feedback from fellow students as well as readers and writers throughout the country.

For Information

For more information go to <http://gradwriting.fdu.edu> or contact the Office of the M.A. in creative writing and literature for educators, department of literature, language, writing and philosophy, Fairleigh Dickinson University, 285 Madison Avenue, M-MS3-01, Madison, New Jersey 07940, at (973) 443-8632.

Course Offerings

Courses offered fall, spring and/or summer sessions. Check Coursefinder at www.fdu.edu to see which courses will be offered each semester.

Creative Writing and Literature for Educators

Department of Literature, Language, Writing and Philosophy

CWL8000

2 Credits

Creative Writing and Literature for Educators Residency

Three-day residency for M.A. in creative writing and literature for educators.

Fee

CWL8001

4 Credits

Reading Like a Writer

This course focuses on reading in a writerly way — exploring how meaning is created from a writer's perspective. The emphasis is on close

reading and careful analysis of the bones of the text — structure (narrative, poetic, dramatic); point of view; style; tone; diction; sound, etc.

CWL8101

4 Credits

Writing and Critiquing Fiction

In this course, students will create and revise a short work of fiction. The emphasis is not on the completed product but rather on the strategies of critiquing and revision that are developed through common readings and discussions. To that end, students and instructor will comment on both the writing and critiques in online workshops. Critiques of the writing use close readings to focus on writerly issues of structure, point of view, style, tone, diction, etc. Commentary on the critique will focus on usefulness to the writer and to work.

CWL8102

4 Credits

Writing and Critiquing Poetry

In this course, students will create and revise two poems. The emphasis is not on the completed product but rather on the strategies of critiquing and revision that are developed through common readings and discussions. To that end, students and instructor will comment on both the writing and critiques in online workshops. Critiques of the writing use close readings to focus on writerly issues of structure, prosody, line, style, tone, diction, etc. Commentary on the critiques will focus on usefulness to the writer and to work.

CWL8103

4 Credits

Writing and Critiquing (Creative) Nonfiction

Students create and revise a short work of nonfiction. The emphasis is not on the completed product but rather on the strategies of critiquing and revision that are developed through common readings, discussions and critiques in online workshops. Critiques of the writing use close readings to focus on writerly issues of structure, point of view, style, tone, diction, etc.

CWL8104

4 Credits

Writing and Critiquing Dramatic (and Cinematic) Writing

Students create and revise a short screenplay or a stage play. The emphasis is not on the completed product but rather on the strategies of critiquing and revision that are developed through common readings, discussions and critiques in online workshops. Critiques of the writing use close readings to focus on writerly issues of dramatic structure, point of view, visual storytelling, dialog, style, etc.

Literature Electives (two required)

CWL8121

4 Credits

Comedy, Satire and Parody

An approach to a range of comic genres, from the perspective of the writer and performer: everything from American standup, comic skits and situation comedy to classic literary satire, parody and farce from around the world. The class will look at joke structure, creation of comic personae and the evolution of comic technique, with students trying their hand from time to time at writing within the various comic genres themselves.

CWL8201

4 Credits

Ethnic-American Literature

This course focuses on the latter half of the 20th century and examines different racial and ethnically hyphenated groups through fiction, autobiography, poetry and film. Discussion of texts by Jewish-Americans, African-Americans, Indian-Americans, Native Americans, Mexican-Americans and others will combine close textual analysis with attendant theories of identity and multiculturalism.

CWL8203

4 Credits

Chaucer in Our Time

The course examines Chaucer's oeuvre in the context of its critical and creative reception; considers Chaucer's contemporary relevance in and out of the classroom.

CWL8204

4 Credits

Reading Contemporary African Writers

This course focuses on how contemporary African writers challenge or redefine their societies; conventional values, usages and beliefs. Online discussions — through a close reading of poems, stories, plays, novels and memoirs — explore the ways language both carries and subverts cultural assumptions. Interpretations of primary texts focus on the aesthetic choices African writers make in response to very different social realities.

CWL8206

4 Credits

Contemporary World Literature

This course examines changing literary conceptions of the world from perspectives influenced by race, class, gender and sexuality, through contemporary post-colonial fiction from India, Indonesia, Jamaica and Zimbabwe. The course also analyzes how the narrative techniques employed in these novels fuse the political with the aesthetic in constructing national identities.

CWLT8207

4 Credits

Young Adult Literature: Beyond Harry Potter

Survey of young adult literature of the mid- to late-20th century. Examines how this relatively new genre reflects growing changes within culture and society. Students will read classics and novels that are standard in high-school curricula and consider issues including transition to adulthood, sexuality, conflicts between youth and parents, fantasy, responsibility and authority.

CWLT8209

4 Credits

International Short Story

Focusing on short stories written in the last few decades, the course will emphasize unique features of the form along with elements of craft that it shares with other narrative genres. Students will study works from a variety of national traditions, in English and translation, asking how cultural identity affects setting, character, conflict and theme.

CWLT8211

4 Credits

Modern Poetry

The course will focus on recent work by living American poets, mostly written within the last 15 or 20 years, with one exception, the poems of Anne Sexton (which the class will look at to establish a base for comparison). Students will primarily read complete volumes by individual poets, rather than scattered single poems in anthologies, focusing on how poets create identifiable voices, a unique poetic language and poetic landscape that is undeniably their own. The class also will focus particularly on the craft and form of the featured poets. Poets studied will include, among others (in addition to Sexton), C.K. Williams, Kim Addonizio, Paul Muldoon, Rita Dove and Billy Collins.

CWLT8216

4 Credits

Contemporary American Drama

This course focuses on American drama from the 1960s through the first decade of the new millennium, both as literary texts and in performance. Students read plays by a variety of playwrights, focusing on what makes them uniquely American, uniquely contemporary and uniquely dramatic in their structure, stagecraft and means of conveying character, conflict and theme.

CWLT8217

4 Credits

Irish Literature

This graduate course surveys the literature of Ireland: a millennium-and-a-half of multilingual production often characterized by eccentricity and genius. Special topics include the use of

traditional materials for contemporary creative writing.

CWLT8218

4 Credits

Graphic Novels

The course will focus on recent work by comic book writers and graphic book novelists, mostly written within the last 30 years, with two exceptions, the early work of Rodolphe Töpffer (the 19th-century parent of this medium) and the first work by Siegel and Schuster (1938). These two works will be used as a basis for understanding the evolution of this medium and its genres. Students will primarily read complete comic compendia and graphic novels, rather than scattered, single issues or anthologies, focusing on how graphic novelists and comic writers craft both plot and dialogue while operating within a framework which assumes that the text will be indivisibly complemented with images. The writers studied will include, among others, Alan Moore, Brian Michael Bendis, Alison Bechdel, Marjane Satrapi, Marguerite Abouet, Gene Luen Yang and Art Spiegelman.

CWLT8220

4 Credits

Contemporary American Poetry

Study of work written within the last 20 years by seven living American poets, focusing on how they create an identifiable voice, a unique poetic language and a poetic universe undeniably their own. Students will read a volume of poetry by each of the featured poets, concentrating particularly on how craft and form generate meaning.

CWLT8221

4 Credits

Fantasy, Myth and the Medieval

This course looks at modern and contemporary fantasy along with older stories: myth, folklore and medieval literature. Sometimes this old material is an immediate source — as in Tolkien or C.S. Lewis, who were both professional medievalists — and sometimes the relationship is more diffused, but still instructive. The class will trace the emergence of the fantasy genre, and look at major fantasy phenomena (*Lord of the Rings*, *Harry Potter*, *Game of Thrones*, *“Dungeons & Dragons”* and its derivatives — some familiarity with these will be expected) as well as lesser-known works that present a particular interest. The class will also discuss relevant issues in theory. The goal is to develop practices for teaching the new through the lens of the old, and vice versa, and to equip students more richly to craft their own works of fantasy.

Criminal Justice (M.A.)

Fairleigh Dickinson University's School of Criminal Justice, Political Science and International Studies offers a Master of Arts in criminal justice. The program is designed to skillfully integrate theory and practice into a holistic, engaging and challenging course of study that provides students with advanced knowledge and understanding of the United States criminal justice system. Designed to position graduates for success, the program focuses on developing appreciable knowledge and understanding of crime and the criminal justice system, as well as developing discernable skill sets and competencies necessary for pursuing and/or advancing one's professional career, emphasizing the importance of critical thinking, problem solving, decision making, effective communications, social research and professional development.

The program's core curriculum provides a foundation in the concepts of social order and control, the legal and philosophical principles of the United States Constitution, the legislation of criminal laws, the theoretical causality of criminal behavior, crime prevention, the treatment and remediation of criminality, the analysis of society's changing response to crime, the development and influence of public policy on the administration of justice and the scientific methods for conducting social research and statistical analysis.

Recognizing student's needs and interests for professional development and acquiring specialized knowledge and understanding, the curriculum provides students the option to select from a wide array of courses in fulfilling 18 of the 36-credit program. Such courses examine the role and influence of politics within the criminal justice system, ethics, public policy, policy analysis, social justice and victimization, risk reduction, comparative criminal justice systems, transnational crime, leadership and emerging issues in crime and justice. Students can also select courses that focus on a host of specializations that include leadership, social service advocacy, learning theory and practice, college instruction and professional development. The final course in the curriculum, CRIM8000 Critical Analysis of Criminal Justice, affords students the opportunity to conduct independent research in areas of particular

Criminal Justice

interest and application or take a comprehensive exam.

Two areas of particular interest to students is the opportunity to study abroad at Wroxton College, the University's campus in Oxfordshire, England, where students work closely with renowned British criminal justice professionals and academicians. Another feature of the curriculum is its Advanced Internship Program, which gives students the opportunity to gain credit and valuable experience working in the field. The program features approximately 200 different venues within local, state and federal criminal justice agencies, as well as many private and nonprofit organizations that serve and support the criminal justice system.

The 36-credit program can be completed in less than 18 months for full-time students, and between 18–24 months for part-time students. The program is available through traditional, campus-based courses offered in late afternoon and evening hours during the fall, spring and summer semesters. Many courses are also available online.

The program is offered under the auspices of the School of Criminal Justice, Political Science and International Studies, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

For Information

For information, contact Dr. James Kenny, professor of criminal justice and graduate program coordinator, at kenny@fdu.edu or (201) 692-2461.

Admission Requirements

Admission to the program is based on an applicant's demonstrated interest, aptitude and motivation to successfully undertake and complete master's-level studies. This will be determined by the following minimal requirements and indicators:

1. A bachelor's degree from an accredited college or university.
2. Official transcripts from all institutions of higher learning attended.
3. A cumulative undergraduate grade point ratio of at least 3.00 on a 4.00 scale.*

4. Performance on the Graduate Record Examinations (GRE), which may be waived.*

5. A 250- to 500-word personal essay expressing one's interest for applying to the program.

6. Two letters of recommendation attesting to the applicant's interest and ability to undertake graduate-level studies.

7. Personalized interviews may be considered by the school's Admissions Committee.

8. Applicants under consideration may be required to complete an abbreviated research paper that demonstrates their ability for effective writing.

Requirements for the Master of Arts Degree

Required Courses (15 credits)

	Credits
CRIM6000	
Professional Seminar in Criminal Justice.....	3
CRIM6005	
Advanced Criminological Theory.....	3
CRIM6010	
U.S. Constitution, Public Policy and Criminal Justice.....	3
CRIM6025	
Social Science Research Methods.....	3
CRIM8000	
Critical Analysis of Criminal Justice.....	3
Total.....	15

Elective Courses (18 credits)

Choose six courses from below:

CRIM6015	
Research Methods in Criminal Justice and Criminology.....	3
CRIM6020	
Statistics and Data Analysis.....	3
CRIM7020	
Ethics, Politics and Justice.....	3
CRIM7025	
Comparative Criminal Justice Systems...	3
CRIM7030	
Principles of Leadership.....	3
CRIM7060	
Social Justice Advocacy.....	3
CRIM7065	
Crime, Victimology and Risk Reduction.....	3

	Credits
CRIM7070	
Contemporary Issues in Crime and Justice.....	3
CRIM7080	
Politics and Policies of Criminal Justice.....	3
CRIM7081	
Civil Rights and the Administration of Justice.....	3
CRIM7082	
Crime and Punishment.....	3
CRIM7084	
Transnational Crime and Global Issue.....	3
CRIM7086	
Religion and Terrorism.....	3
CRIM7090	
Professional Development Seminar.....	3
CRIM8050	
Master's Research Project.....	3
Total.....	18

Online Application

To apply online, go to <http://view2.fdu.edu/admissions/graduate-admissions/apply-for-graduate-admission-at-fdu/>.

Tuition and Financial Aid

Information on tuition costs and any applicable financial support is available by going to <http://www.fdu.edu>.

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate department chair.

Criminal Justice

School of Criminal Justice, Political Science and International Studies

CRIM6000

3 Credits

Professional Seminar in Criminal Justice

This course provides a comprehensive review, critique and analysis of the United States criminal justice system in context to examining the concepts of social order and control, the philosophical underpinnings of the United States Constitution and the influence of public policy. Emphasis will be placed on examining the independent and causal relationships of police and law enforcement, courts and adjudications and the correctional system.

*Waivers for applicants who do not meet the grade point ratio or standardized test scores will be considered on an individual basis.

*Waivers for applicants who do not meet the grade point ratio or standardized test scores will be considered on an individual basis.

CRIM6005

3 Credits

Advanced Criminological Theory

This course will take a vertically integrative perspective on criminological theory, to include examining crime and crime theory and various forms of criminal behavior. Taking an implicitly systems-theoretical look at crime and delinquency, it will provide tools for determining which theories provide the most explanatory power in specific criminal contexts. The course will also examine criminological thought in areas such as cyber crime, terrorism, human trafficking, environmental crime, hate crimes and other current and thematic emerging issues.

CRIM6010

3 Credits

U.S. Constitution, Public Policy and Criminal Justice

This course examines emerging issues as they influence the United States Constitution, public policy and the criminal justice system. Topics such as criminal procedure, individual rights, gun control, decriminalization of drugs, social justice, crime prevention, juvenile justice, sentencing policies, incarceration and capital punishment will be addressed.

CRIM6015

3 Credits

Research Methods in Criminal Justice and Criminology

This advanced course in social research exposes students to the methods and techniques associated with conducting theoretically based research. It addresses processes associated with identifying and defining problems and developing hypotheses, experimental design, surveys, testing instruments, gathering and analyzing data and preparation of reports.

CRIM6020

3 Credits

Statistics and Data Analysis

This course addresses the basic concepts and methods of statistics applied within criminal justice and social science research. Topics covered include basic statistical methodology; exploratory data techniques; experimental design; sample distributions; interval estimation; inference; comparative analysis by parametric, nonparametric and robust procedures; analysis of variance (one-way); linear and nonlinear regression; analysis of covariance; correlation and regression; and an introduction to statistical analysis using Statistical Package for the Social Sciences (SPSS).

CRIM6025

3 Credits

Social Science Research Methods

This course will emphasize the conceptual foundations and methodological approaches used in social science research. This course

introduces tools of quantitative reasoning and statistics that can be used to address problems in basic research and policy within social sciences, particularly in the criminal justice field. The primary objectives of the course are to build familiarity with the fundamentals of probability and statistical analysis, central concepts of research design and norms of ethical behavior in research.

CRIM7020

3 Credits

Ethics, Politics and Justice

This course examines classical and contemporary theories and philosophies relevant to ethical thought and behavior in relationship to the administration of justice and navigating politics within the workplace. Ethical issues confronting criminal-justice practitioners, to include the role and influence of politics, are explored through the use of case studies and critical incidents, and examining appropriate and applicable strategies.

CRIM7025

3 Credits

Comparative Criminal Justice Systems

This course will conduct a comparative analysis between the criminal justice system of the United States with those of other major countries throughout the world. The similarities and differences between the policing, adjudication and penal systems will be discussed. Issues such as alternatives to incarceration, technologies utilized and legal mandates will be examined.

CRIM7030

3 Credits

Principles of Leadership

The objective of this course is to examine the principles, practices and complexities of effective leadership. The course will also examine the skills and competencies needed to be an effective leader. The benefits of effective leadership and the consequences of ineffective leadership in an organization will be studied.

CRIM7060

3 Credits

Social Justice Advocacy

Practitioners in the criminal justice system are often placed in the position of ensuring that their clients have access to services and proper treatment as they move through the system. Working and aspiring probation and parole officers, social workers, victim advocates and others will receive practical guidance in creating access to justice and services for their clients in criminal, social and service-oriented contexts.

CRIM7065

3 Credits

Crime, Victimology and Risk Reduction

This course will focus on crime victims in terms of factors leading up to and consequences of criminal events. It will examine victimization patterns, typologies, resources, consequences, the criminal justice response, restorative justice and legal rights. It also will analyze the dynamics of various violent crimes for warning signs, criminal purpose/selection and strategies to reduce the risk of victimization.

CRIM7070

3 Credits

Contemporary Issues in Crime and Justice

This course provides a critical examination and analysis of contemporary issues related to crime, criminal justice and public policy. Examples of topics include juvenile justice, police operations, sentencing, community corrections, capital punishment, decriminalization of drugs, transnational crime, terrorism, cyber crime and the implications of emerging technologies in the administration of justice.

CRIM7080

3 Credits

Politics and Policies of Criminal Justice

Topics will include the Constitution of the United States and how the safeguards in the Bill of Rights have evolved over time. The course will also focus on how laws and criminal justice policies are formulated, as well as why certain acts are considered serious crimes and others are not. Issues of how money and power affect policies in criminal justice will be examined. Topics of victims' rights, police brutality, court process, sentencing, prisoner treatment and other policy matters in the criminal justice system will be reviewed. Prerequisite: CRIM6000 Professional Seminar in Criminal Justice.

CRIM7081

3 Credits

Civil Rights and the Administration of Justice

This course aims to help students develop a firm understanding of the approaches used by the U.S. Supreme Court to define the boundaries of civil rights and liberties through its interpretation of the United States Constitution. It will examine the nature, application and extent of a special group of protections under the U.S. Constitution, including the freedom of expression, privacy, freedom of religion, equal protection under the laws, due process and the rights of the accused. Prerequisite: CRIM6000 Professional Seminar in Criminal Justice.

Cyber and Homeland Security Administration

CRIM7082

3 Credits

Crime and Punishment

The U.S. has the highest incarceration rate in the world. This course confronts mass imprisonment and examines the key social forces shaping penal practice in the U.S. such as morality, economics and politics. Topics include prison violence, penal state, overcrowding and the efficacy of penal institutions. In addition, the course encompasses an analysis of the emergence of alternative systems of punishment and control. Prerequisite: CRIM6000 Professional Seminar in Criminal Justice.

CRIM7084

3 Credits

Transnational Crime and Global Issues

This course will examine the systemic problem of crime that transcends international borders that capitalize on the use of violence and corruption in a technologically advancing global society. Transnational crime includes, but is not limited to, gambling; money laundering; human smuggling; prostitution; cybercrime; terrorism; and the trafficking of humans, drugs, weapons, endangered species, body parts and nuclear materials. The course will examine the legal, economic, tactical, technological and geopolitical dynamics to combat transnational crime with a specific focus on coordinating domestic and international public policy.

CRIM7085

3 Credits

Advanced Internship in Criminal Justice

The course provides individually designed internships within federal, state and local police/law enforcement agencies, courts and adjudication, corrections and probation, private security, juvenile justice, crime victims' advocacy and child protection. Students develop hands-on experience in all facets of the respective agency that they select. The internship provides the students with insight, experience and an available network of professional colleagues.

CRIM7086

3 Credits

Religion and Terrorism

This course is designed to have the student understand working definitions of the terms terrorism and religion and how these are applied by groups using said terms for personal and group agendas often through violent means. The course further seeks to examine the various interpretations of religion within major faiths and delve into perceived justifications for the use of terror. It will provide students with examples of organizations and terror groups that have and continue to employ religion as the basis of terrorist action through case study and determine the means for countering religious ideology as a pretext for violence.

CRIM7090

3 Credits

Professional Development Seminar

This course addresses key thematic areas critical to recognizing and developing one's professional effectiveness. Topics covered include effective communications, emotional and social intelligence, negotiations and conflict management, problem solving, decision making and strategic planning.

CRIM7800

3 Credits

Independent Studies

Students are afforded the opportunity to conduct independent studies in collaboration with and under the direction of a faculty member after consultation with the school's director.

CRIM8000

3 Credits

Critical Analysis of Criminal Justice

This course represents a synthetic and critical analysis of key concepts and principles addressed within the criminal justice graduate program. Topics covered include, but are not limited to: social order and control, social contract theory, social justice and crime, statistics and social research, the U.S. Constitution and government, politics and public policy, crime prevention and analysis, criminological theory, victimization, criminal law, police and law enforcement, the courts and adjudication system and correctional system. The course culminates with successful completion of a master's research project or comprehensive examination. Details and requirements for both are addressed at the beginning of the course. Prerequisites: CRIM6000 Professional Seminar in Criminal Justice, CRIM6005 Advanced Criminological Theory, CRIM6010 U.S. Constitution, Public Policy and Criminal Justice, CRIM6015 Research Methods in Criminal Justice and Criminology and CRIM6020 Statistics and Data Analysis.

CRIM8050

3 Credits

Master's Research Project

This course is designed to provide research of a contemporary issue within the study of criminal justice. Students are expected to design and complete an original research project under the supervision of a faculty member of the School of Criminal Justice, Political Science and International Studies.

Cyber and Homeland Security Administration (M.S.)

The Master of Science (M.S.) in cyber and homeland security administration degree was offered beginning in January 2008. It is the first graduate degree in homeland security offered in the state of New Jersey.

The M.S. in cyber and homeland security program is a 36-credit off-campus and online graduate program which focuses on practical and theoretical aspects of enforcing and ensuring homeland security. The curriculum provides three areas of study that provide master's-level studies for nontraditional students already involved in homeland security. In addition, the program encourages the development of high-quality, applied research for practitioners in the field of homeland security. The degree is particularly suited for working adults who are interested in enhancing their credentials.

The M.S. in cyber and homeland security degree offers concentrations in: **homeland security — terrorism and security studies; homeland security — emergency management; and homeland security leadership.** Students who complete six courses in a particular area of concentration will be awarded a certificate that signifies completion of that course of study.

Courses in the M.S. program are offered in person and online. The online program is designed to meet the needs of police, firefighters, first responders, military personnel and others who are unable to attend classes in person because of their work demands. Students have the ability to take courses in a specialization that focuses on their specific areas of responsibility. The online program is offered in an asynchronous mode, which fits the work schedules of many in government and the emergency services community.

The M.S. in cyber and homeland security program is designed for individuals who are working in the field of homeland security. Events throughout the world have increased those employed in the discipline, and new demands in the

Cyber and Homeland Security Administration

jobs have required students to increase their level of education.

This program is offered under the auspices of the School of Administrative Science, Anthony J. Petrocelli College of Continuing Studies, at the Florham Campus, Madison, New Jersey; at the Metropolitan Campus, Teaneck, New Jersey; and locations throughout New Jersey.

Admission Requirements

Candidates for admission to the Master of Science in cyber and homeland security degree must be highly motivated individuals who have work experience in the area of homeland security as well as a bachelor's degree from an accredited institution with at least a cumulative grade point ratio of 3.00. Care will be taken to ensure a diversity of philosophies and academic backgrounds in the classes.

Students seeking admission to the program will have to submit:

- 1) A completed application;
- 2) Transcripts from all previous undergraduate, graduate and post-graduate studies;
- 3) A written statement of 1,000 words on current job responsibilities, duties and management philosophy; and

There is no Graduate Record Examinations (GRE) or Graduate Management Admission Test (GMAT) requirement although there is a requirement for Test of English as a Foreign Language (TOEFL) scores for international students.

Requirements for the Master of Science Degree

1. Completion of a minimum of 36 graduate credits.
2. Cumulative grade point ratio of 3.00 for the degree program of study.
3. Cumulative grade point ratio of 3.00 in the core curriculum.
4. Minimum of 30 credits completed at Fairleigh Dickinson University.
5. Maximum of six years to complete the master's degree requirements.

Up to six credits of graduate course work may be transferred from another college or university if completed within the six-year period. Courses submitted for transfer credit will be reviewed and evaluated by the director of the Master of Science in cyber and homeland security program. In assessing requests for transfer

credits, the M.S. in cyber and homeland security faculty may require students to complete additional course work to update knowledge and skills to meet master's degree requirements.

The following are the specific program requirements for the master's degree. These curriculum areas and credit-distribution requirements are designed to provide students with flexibility in planning a program of study within a focused framework of professional development.

It is important to note that since homeland security is such a broad area with many different components, a number of areas of specialization are being proposed. The four required courses (CHSA7601 Homeland Security and Constitutional Issues; CHSA7602 Research and Policy Analysis; CHSA7603 Weapons of Mass Destruction/Terrorism Awareness; and CHSA7604 Strategic Planning, Implementation and Evaluation, the capstone course) are M.S. in cyber and homeland security courses and account for 12 credits of the 36-credit program. To satisfactorily complete an area of specialization, the students must complete an additional 18 credits of the program in the area of specialization. The remaining six credits for the degree requirements can be chosen electives taken from other M.S. in cyber and homeland security courses. No more than six credits will be waived for previous experience that is equivalent to any course offering.

Each course will have a standardized syllabus with specific learning outcomes. Textbooks will be selected for each class based on content relative to the topics by the faculty in concert with the administrators of the program. Each course will have at least one required textbook. The nature of the courses also mandates the use of case studies that will link the practical application with theory.

A. Required Courses

All students enrolled in the M.S. in cyber and homeland security program must complete the following:

- | | |
|----------|---|
| CHSA7601 | Homeland Security and Constitutional Issues |
| CHSA7602 | Research and Policy Analysis |
| CHSA7603 | Weapons of Mass Destruction/Terrorism Awareness |
| CHSA7604 | Strategic Planning, Implementation and Evaluation (capstone and thesis) |

B. Areas of Specialization

The diversity of homeland security responsibilities requires various areas of specialization. The initial program includes the areas of specializations with their respective courses as follows:

Homeland Security — Terrorism and Security Studies (any six courses)

- | | |
|----------|---|
| CHSA6601 | Terrorism Issues and Implications |
| CHSA6602 | Computer and Network Security |
| CHSA6603 | Cyber Forensics Issues and Impacts |
| CHSA6604 | Assessing Internal and External Threats |
| CHSA6605 | Preparing for Catastrophic Emergencies |
| CHSA6606 | Historical Perspectives of Terrorism |
| CHSA6607 | Border Security: Policies, Actions and Implications |
| CHSA6608 | Terrorism and Disaster Management |
| CHSA6609 | The Face of Terror |
| CHSA6610 | Bio-terrorism Preparedness and Response |

Homeland Security — Emergency Management (any six courses)

- | | |
|----------|--|
| CHSA6611 | Emergency Management |
| CHSA6612 | GIS in Emergency Management |
| CHSA6613 | Organizational Planning for Emergency Situations |
| CHSA6614 | Effective Risk Analysis |
| CHSA6615 | Managing Responses to Environmental Emergencies |
| CHSA6616 | Stress Awareness and Management |
| CHSA6617 | Sociological Effects of Disasters |
| CHSA6618 | Emergency Management Policies, Analysis and Implications |

Homeland Security Leadership (any six courses)

- | | |
|----------|---|
| CHSA6619 | Collaborative Leadership |
| CHSA6620 | Organizational Leadership |
| CHSA6621 | Human Resource Management |
| CHSA6622 | Effective Team Building |
| CHSA6623 | Implementing Organizational Change |
| CHSA6624 | Effective Decision Making for Organizations |
| CHSA6625 | Organizational Communication |

Cyber and Homeland Security Administration

CHSA6626 Resolving Conflict in Organizations

CHSA6627 Values and Ethics for Decision Making

Additional courses will be developed in concert with appropriate faculty at the University.

Note: Students who successfully complete an area of specialization will also receive a graduate certificate in the appropriate program.

Graduate Certificate Programs

Students who successfully complete an area of specialization will also receive a graduate certificate in the appropriate program.

Homeland Security — Emergency Management

This 18-credit, six-course certificate focuses on the area of emergency management. Homeland security requires that the first-responder community and citizens develop the capability to prepare for, protect against, respond to, recover from and mitigate all hazards that may impact anytime and anywhere. The field of emergency management is a broad area of study, which includes natural disasters, accidents or acts of terrorism.

Homeland Security Leadership

This 18-credit, six-course certificate focuses on the critical area of leadership in homeland security. Leadership is essential for successfully carrying out programs or tasks. This certificate is designed to meet the personal and professional development goals of those individuals in the broad field of homeland security, such as first responders, law enforcement, emergency management, various security personnel, health and hospital workers and the military.

Homeland Security — Terrorism and Security Studies

This 18-credit, six-course certificate focuses on terrorism and security studies. The Post-9/11 world has made many sectors of the public, private and not-for-profit sectors involved in preventing and combating terrorism as they try to ensure a safe and secure nation. The knowledge provides both historical and current information to add to the knowledge of various threats posed by terrorist organizations, whether domestic or international, and to provide organizations to prepare for the risks associated with such activities.

Course Offerings

Cyber and Homeland Security Administration School of Administrative Science

Required Courses

CHSA7601

3 Credits

Homeland Security and Constitutional Issues

This required course provides an overview of constitutional issues, statutes and case law that govern homeland security professionals at the local, state and federal levels. Social, ethical and political implications of actions intended to preserve the safety and security of the citizens are studied in relationship to the legal constraints placed on the systems. This course will utilize case studies.

CHSA7602

3 Credits

Research and Policy Analysis

This required course is designed to develop critical-thinking skills that students need for completion of their academic work as well as in their professional lives. The course will assist students in understanding the research process, develop a research question, assess relevant literature to support the research, select and use an appropriate research methodology, conduct the research and evaluate the results. The end result will be a well-written research report.

CHSA7603

3 Credits

Weapons of Mass Destruction/ Terrorism Awareness

This required course will explore the use of weapons of mass destruction (WMD) and the link to terrorist activities. Included in the course are: definitions of effects of nuclear, chemical, biological and radiological weapons; types and characteristics of biological- and chemical-warfare agents; potential modes of nuclear and radiological terrorism; use of improvised nuclear devices (INDs) and radiological dispersal devices (RDDs); Large Vehicle Borne Improvised Explosive Devices (VBIEDs); the motivations, capabilities, techniques and practices of terrorist groups to acquire and use WMD; and the use and attempted use of WMD against countries by internal and external groups.

CHSA7604

3 Credits

Strategic Planning, Implementation and Evaluation

This required course will link strategic planning with strategic management. This is the capstone course of the program and requires the completion of a thesis. Strategic planning links the vision, mission and guiding principles with the internal and external environment in which the organization exists. The course will explore security formulation, the drivers of homeland security issues for the historical and emergency issues and the results of such policies. Organizations need to understand how strategic plans are implemented and then reviewed and evaluated as part of a continuous improvement process.

Areas of Specialization

CHSA6601

3 Credits

Terrorism Issues and Implications

This course will investigate the concepts, ideologies, goals, strategies, tactics and methods used by terrorist groups in the current and historical perspectives. The terrorists' motives and their actions will be studied in relation to historic and current national and international policies. Terrorist organizations will be studied based on their specific criteria to better understand their influence on other nations. Also included will be the concepts of the media and terrorism, law and terrorism, the military response to terrorism, counterterrorism and antiterrorism approaches and governmental responses to terrorism as well as how the intelligence community categorizes and prioritizes resources to target groups and issues.

CHSA6602

3 Credits

Computer and Network Security

This course will investigate advanced topics in computer security and forensics. Included are topics such as cryptography, automatic-intrusion detection, firewalls, vulnerability scanning and advanced pattern matching as well as statistical techniques.

CHSA6603

3 Credits

Cyber Forensics Issues and Impacts

This course will investigate cyber terrorism and cyber crime, and how these differ from computer security. Technological advancements that are on the cutting edge present opportunities for terrorists, and it is necessary to explore the current domestic and international policies relative to critical infrastructure protection and methods for addressing issues.

Cyber and Homeland Security Administration

CHSA6604

3 Credits

Assessing Internal and External Threats

This course will investigate the usefulness of threat assessment in various contexts, such as the workplace, infrastructure protection and public safety. Included in the course will be basic methods for examining vulnerabilities to attack, evaluating capacities of the potential attackers as well as their motivations and the role of the intelligence community in these actions. The course will link strategic analysis with priority setting and accountability.

CHSA6605

3 Credits

Preparing for Catastrophic Emergencies

This course will investigate a wide range of natural and manmade disasters, and develop appropriate plans for mitigating the problems. Natural disasters include a wide range of issues from outbreak of diseases, floods, earthquakes, fires and tornados. Manmade disasters include emergencies such as chemical spills, nuclear incidents, terrorist threats, transportation accidents and power outages.

CHSA6606

3 Credits

Historical Perspectives of Terrorism

This course will examine the social basis of fear and terrorism and the related consequences on society. Factors such as race/ethnicity, class, religion, politics, local and international policies and gender will be studied in the historical context of terrorism. Case studies will include terrorist techniques that have been used in the past.

CHSA6607

3 Credits

Border Security: Policies, Actions and Implications

Immigration policies and terrorism threats have increased the focus on national borders. This course will investigate issues relative to border security — from economic security to social and cultural integration or separation. The costs of attempting to maintain a secure border are discussed as are the implications of border security on free-trade agreements.

CHSA6608

3 Credits

Terrorism and Disaster Management

This course will focus on planning and preparing for terrorist acts as well as the area of disasters. It also focuses on the legal and ethical issues that surround planning for acts of terrorism or disasters and a study of the National Response Plan and its implications. The need for and how to develop interagency collaborative agreements from civilian, military and governmental entities will be explored.

CHSA6609

3 Credits

The Face of Terror

This course will examine various characteristics of terrorism — from left-wing terrorism to nationalist terrorism to religious terrorism to group dynamics to secret societies and cults and charismatic leadership. Also included are identification of underground terrorist cells, both domestic and foreign, state-supported and nonstate-supported, as well as methods for dealing with the separate groups.

CHSA6610

3 Credits

Bio-terrorism Preparedness and Response

This course will investigate options to address the threat of a biological attack. Options for identifying a bio-attack and potential responses for addressing these issues will be included in the course. Case studies of actual incidents will be included in the course.

CHSA6611

3 Credits

Emergency Management

This course will explore the nature and rationale for emergency-management policies and processes. Included will be preparedness for natural and manmade hazards, optional strategies for dealing with such issues, appropriate planning modalities, public awareness techniques to assist in the process and stakeholder communication. Legal and ethical issues that impact emergency management also will be studied.

CHSA6612

3 Credits

GIS in Emergency Management

This course will provide an introduction to the basic concepts of geographic information systems (GIS) as well as their application to specific issues.

CHSA6613

3 Credits

Organizational Planning for Emergency Situations

This course will provide an overview of planning and management principles that can be utilized to address operational issues when an emergency situation arises as well as how to resume operations once the emergency is over. The course will also focus on how to minimize the impact of disasters on business operations.

CHSA6614

3 Credits

Effective Risk Analysis

This course will examine the natural and manmade disasters from a risk-assessment perspective. Development of plans to prepare for each type of disaster as well as control processes will be part of the course work.

CHSA6615

3 Credits

Managing Responses to Environmental Emergencies

This course will examine the theory and practices in terms of incident-command systems and emergency operating centers.

CHSA6616

3 Credits

Stress Awareness and Management

Stress is part of everyone's life, but in emergency situations, stressors may adversely impact the individual as well as those being served. Leaders need to be aware of the impact of stress on the individual's ability to perform at peak levels as well as the ability to make the best decisions. This course will investigate stressors and how these factors can be mitigated.

CHSA6617

3 Credits

Sociological Effects of Disasters

This course will explore how various populations respond to the various phases of disasters. Included in the course are: response to warnings, reaction to evacuation orders and civilian disobedience to orders as well as the development of strategies for the organization, individuals and groups.

CHSA6618

3 Credits

Emergency Management Policies, Analysis and Implications

This course will investigate management of complex emergency-management operations using incident-management systems. The role of the emergency-management operation centers as well as current policies in reacting to disasters will be explored. Case studies of emergency-management policies and their implications will be analyzed to determine areas in need of improvement.

CHSA6619

3 Credits

Collaborative Leadership

This course will investigate the concept of leadership exhibited by a group that is acting collaboratively to resolve issues that all feel must be addressed. Since the collaborative process ensures that all people that are affected by the decision are part of the process, the course will explore how power is shared in the process and how leadership is developed.

CHSA6620

3 Credits

Organizational Leadership

This course will investigate examples of past and present leadership models. The moral framework for leadership and decision making in organizations will provide the basis for exploring current organizational leadership models as well as assisting the students in assessing their own leadership roles.

Cybersecurity and Information Assurance

CHSA6621

3 Credits

Human Resource Management

This course addresses the challenges of managing human capital in organizations focusing on homeland security. Current issues in recruiting, selecting and moving individuals through the organization will be studied. In addition, team building, problem solving, decision making and human resource-planning skills will be explored as will the leadership skills of mentoring, advising, counseling and disciplining individuals in the organization.

CHSA6622

3 Credits

Effective Team Building

As organizations move to empower employees to work in a team setting with a high degree of autonomy, it is necessary to develop high-performance teams. This course investigates what makes teams effective. Various methodologies that have resulted in exceptional teams and team results will be studied.

CHSA6623

3 Credits

Implementing Organizational Change

This course will explore the issues of resistance to change and obstacles to change in relationship to organizations. Theories relative to change will be studied in terms of the restructuring process, leadership roles and the settings in which the work is done.

CHSA6624

3 Credits

Effective Decision Making for Organizations

This course explores the process for effective decision making using decision analysis theory, appropriate mathematical processes, evaluating inputs for applicability and applicable quantitative and qualitative methods. The course will utilize “what if” challenges and will consider individual and organizational preferences as well as environmental certainty and uncertainty.

CHSA6625

3 Credits

Organizational Communication

An introduction to communication in organizations includes relevant theories, leadership, diversity, teamwork and ethics. Included in the course are definitions of organizational culture, leadership, teamwork, diversity, ethics and informal and formal communication as well as how they influence and impact organizational communication. The course will also investigate organizational communication systems and their relevant theories as well as comparing and contrasting the major theories.

CHSA6626

3 Credits

Resolving Conflict in Organizations

This course will investigate the sources of conflict in organizations, the sources of such conflict and various modalities for resolving these conflicts. Conflict in organizations can be manifested in various ways, such as interpersonal conflict, intragroup conflict, intergroup conflict and interorganizational conflict. Resolving conflict includes compromise, collaboration, negotiation and addressing individual sources of conflict.

CHSA6627

3 Credits

Values and Ethics for Decision Making

Personal and organizational ethics and values guide decision making. There are times when two or more ethical principles are in conflict. This course will explore how to maximize the basic elements that form the context for ethical decision making.

Cybersecurity and Information Assurance (M.S.)

Hardly a day goes by without some news on cyberattacks. As the number of cyberattacks keeps increasing every day, clearly more cybersecurity professionals will be needed to plan, implement, upgrade, maintain and monitor security measures to protect the information infrastructure, computer networks and systems and digital data of business organizations and local, state and federal agencies. Consequently, the cybersecurity profession offers excellent career opportunities, outstanding average starting salary, excellent median long-term salary, good job-growth projection and great career fulfillment including protecting the nation's information infrastructure.

Fairleigh Dickinson University is officially designated as a National Center of Academic Excellence in Cyber Defense Education (CAE-CDE) institution by the National Security Agency (NSA) and the Department of Homeland Security (DHS). FDU's Master of Science in cybersecurity and information assurance (CSIA) degree program is created in response to meet the challenges in the field of CSIA. The program prepares its graduates for employment or further advanced study, including doctorates, in this field and other related areas. The program is facilitated and supported by the creation of a state-of-the-art Cyber Defense and Digital Forensics Lab and the recent enhancement of several computer and networking labs.

Students in the program will learn the fundamentals of operating systems, computer networks, cybersecurity, applied cryptography, penetration testing and vulnerability analysis. With the foundational courses as stepping blocks, students move on to take advanced courses in one of the two focus areas: **network security administration** and **secure software development**, satisfying the requirements of CAE-CDE knowledge units of those focus areas as specified by NSA and DHS. In particular, students will learn to establish information security protocols, build firewalls and defend against security intrusions, use encryption and protect information, regulate access to

Cybersecurity and Information Assurance

data, establish virus-protection systems, implement business continuity and disaster-recovery plans, conduct penetration tests and analyze system vulnerabilities, develop secure software and help resolve information technology (IT) issues related to security. As a culmination of their studies, students are encouraged to work on a project under the supervision of a faculty adviser or to undertake internship to obtain practical work experience.

The program is offered under the auspices of the Lee Gildart and Oswald Haase School of Computer Sciences and Engineering, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

1. Graduation from an accredited college or university with a satisfactory academic record.

2. Submission of an official score report for the Graduate Record Examinations (GRE) General Test taken within the last five years. The GRE may be waived if the applicant enrolls initially as a nonmatriculating student and completes 9 graduate credits in CSIA with a minimum cumulative grade point ratio (CGPR) of 3.00 and no grade below C or is a graduate of FDU's computer science, electrical engineering, information technology or closely related programs with an undergraduate CGPR of 3.00 or is a graduate of such programs from other institutions with an undergraduate CGPR of 3.50. This GRE waiver policy is only applicable to applicants who graduated from a regionally accredited college or university in the United States. (The GRE requirement also is waived for applicants who have completed a master's degree from a regionally accredited college or university in the United States.)

3. Three letters of recommendation.

Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a nonmatriculated or nondegree basis.

Requirements for the Master of Science Degree

1. Students admitted to the program may be required to fulfill a set of prerequisite courses, which can be waived based on their academic credentials. They must earn a CGPR of at least 2.75 for the prerequisite courses if required or be subject to dismissal from the program. They may take no more than 6 credits of regular graduate (core or elective) courses before completing all of the prerequisites.

2. Students must successfully complete 30 credits, including 15 credits of core requirements, 3 credits of a Master's project and 12 credits of electives, beyond any required prerequisites. In consultation with an academic adviser, students can choose four courses (12 credits) from a list of approved electives based on their interests and career goals. Alternatively, they are encouraged to concentrate on one of two focus areas, **network security administration** and **secure software development**, each with three courses (9 credits), and to choose one more course (3 credits) from the list of approved electives. Students must earn a CGPR of at least 2.75 for the 30 credits beyond the prerequisite courses.

Prerequisite Courses (12 credits)

The prerequisite courses for the M.S. in cybersecurity and information assurance program are:

	Credits
CSCI5505	
Introduction to Computer Programming.....	3
CSCI5525	
Introduction to Computer Science.....	3
CSCI5555	
Data Structures.....	3
CSCI5565	
Assembly Language.....	3

Additional prerequisite courses may be required if the students did not graduate from a Science, Technology, Engineering Mathematics (STEM)-related baccalaureate degree programs. STEM refers to science, technology, engineering and mathematics. Prerequisite courses will be determined through faculty review of students' undergraduate transcripts of records.

Core Requirements (15 credits)

The required core courses for the M.S. in cybersecurity and information assurance program are:

	Credits
CSCI6638	
Operating Systems.....	3
CSCI6731	
Computer Networks.....	3
CSCI6738	
Cybersecurity.....	3
CSCI6740	
Applied Cryptography.....	3
CSCI6870	
Penetration Testing and Vulnerability Analysis.....	3

Project (3 credits)

Students are required to work on a capstone project through

CSCI6807	
Cybersecurity and Information Assurance Graduate Capstone Project.....	3

Electives (12 credits)

Students are encouraged to take three courses (9 credits) from one of the following two focus areas and one more course (3 credits) from the list of approved electives as provided below. Alternatively, students can also take any four courses (12 credits) from the approved electives based on their interests and needs.

Electives for Network Security Administration Focus

CSCI6863	
Supply Chain Security and Systems Certification.....	3
CSCI6869	
Network Security.....	3
CSCI6873	
Firewalls and Intrusion-detection Systems.....	3

Electives for Secure Software Development Focus

CSCI6620	
Software Engineering.....	3
CSCI6836	
Computer Algorithms.....	3
CSCI6860	
Secure Software Development and Analysis.....	3

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Approved Electives

	Credits
CSCI6620	
Software Engineering.....	3
CSCI6623	
Database Systems.....	3
CSCI6811	
Advanced Special Projects.....	3
CSCI6836	
Computer Algorithms.....	3
CSCI6860	
Secure Software Development	
and Analysis.....	3
CSCI6863	
Supply Chain Security and	
Systems Certification.....	3
CSCI6869	
Network Security.....	3
CSCI6873	
Firewalls and Intrusion-detection	
Systems.....	3
CSCI7783	
Information Security.....	3
CSCI7870	
Linux System Administration.....	3
CSCI8891	
Internship/Work Experience.....	3

Course Descriptions

See “Course Offerings,” Computer Science pages 104–110 and Management Information Systems pages 177–178.

Education

Education for Certified Teachers (M.A.)

See this page.

Educational Leadership (M.A.)

See page 132.

Learning Disabilities (M.A.)

See page 133.

Mathematical Foundations (M.A.)

See page 136.

Teaching (M.A.T.)

See page 137.

Teaching English as a Second/Foreign Language

TESL/TEFL (M.A.)

See page 140.

These programs are offered under the auspices of the Peter Sammartino School of Education, University College: Arts • Sciences • Professional Studies, Metropolitan Campus. Programs are available at the Florham Campus, Madison, New Jersey; the Metropolitan Campus, Teaneck, New Jersey; and off-site locations, see individual programs for specific locations.

At times, the New Jersey State Department of Education regulations change. Students are advised to check the New Jersey State Department of Education website <http://www.state.nj.us/education/> for current requirements.

Peter Sammartino School of Education

The Peter Sammartino School of Education offers master's degrees in various specialties within education, allowing working teachers to further their careers. Persons with a bachelor's degree but no teaching certification are given the opportunity to earn certification and enter the teaching profession through the M.A.T. program (see page 137). Already certified teachers may continue their professional development through one of several master's degree programs. The School is part of University College: Arts • Sciences • Professional Studies.

Education for Certified Teachers (M.A.)

The Master of Arts in education for certified teachers (MACT) is a 36-credit program that allows certified teachers to pursue specializations while attaining their master's degrees. Each program is unique in that teachers can graduate with an 18- or 21-credit specialization certificate or state certification including the 12 credits leading to a New Jersey Supervisor License. Certified teachers with a New Jersey Standard Teaching License who complete the master's degree and have the designated approved 12 credits with three years of successful teaching experience will be eligible to apply for the New Jersey Supervisor License. The areas of specialization that a certified teacher can choose from are:

- **Bilingual/Bicultural Education Specialist Certificate** — 12-credit approved New Jersey State Teacher Certification in bilingual/bicultural education as a second certificate, plus 12-credit Supervisor License and 12 credits to complete a master's degree.

- **English as a Second Language (ESL) FDU Certificate and New Jersey Certification (ESL)** — 18-credit FDU Certificate or 18-credit approved New Jersey State Certification in ESL as a *second* certification, plus 12-credit Supervisor License and 6 credits to complete a master's degree.

- **Instructional Technology Specialist Certificate (ITC)** — 18-credit FDU Certificate plus 12-credit Supervisor License and 6 credits to complete a master's degree.

- **Literacy/Reading Specialist (LRS) and New Jersey Reading Specialist Certification** — 18-credit FDU Certificate, an additional 12 credits to complete the 30-credit approved New Jersey Reading Specialist Certification/Endorsement plus 6 credits to complete the master's degree embedded with the 12-credit Supervisor License.

- **Dual Program in Literacy/Reading and Multisensory Reading** — 18-credit FDU Certificate and additional 18 credits to

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complete the 36-credit master's degree. This program includes the 12-credit Orton-Gillingham Dyslexia Specialist Certificate.

- **Professional Studies Concentration (PROST)** — 36-credit selection from generalist options in all MACT programs with required 3-credit Master's Seminar and may include 12-credit Supervisor License.

- **Teacher of Students with Disabilities (TSD)** — 21-credit approved New Jersey Certification as a *second* certification with 12-credit Supervisor License and 3-credit Master's Seminar to complete the master's degree.

The M.A. in education for certified teachers is offered under the auspices of the Peter Sammartino School of Education, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey, and is available at the Metropolitan Campus and selected off-site locations and selected community colleges. Cohort groups may be established in school districts with sufficient enrollment and are open to teachers in local districts.

The School had an aggregate pass rate of 100 percent on the HEOA-Title II Reporting for the 2017–2018 academic year. The corresponding statewide pass rate for the same period was 97 percent.

Program Information

- All programs incorporate standards-based teaching methods that address the Interstate Teacher Assessment and Support Consortium (InTASC), New Jersey Core Curriculum Content Standards (NJCCCS) and the Common Core State Standards.

- An approved 12-credit sequence of courses within the 36-credit M.A. degree will prepare the candidate to apply for a New Jersey Supervisor's License with a complete master's degree and three years of successful teaching experience.

- Instructional technology is integrated into all teaching strategies. Web-based courses and other distance-learning modalities are utilized, as appropriate, to diversify course delivery and model the use of various technologies for instruction.

- The FDU Certificates and the New Jersey Certifications and Endorsements may be taken without completion of the M.A.

- Each of the 18-credit certificate programs are offered in a two-year sequence of courses. Students take an average of 9 credits per year and can expect to complete the 18-credit certificate portion of the program within a two-year cycle.

- Candidates are accepted for fall, spring and summer semesters. Applicants must specify specialization program or select the professional studies program, a generalist degree.

- There is a one-time application fee of \$40.00 required. This fee may be waived if the candidate meets with an admissions adviser or department faculty member.

- Tuition rate is reduced with no hidden fees.

- Admission to the M.A. in education for certified teachers (MACT) is subject to approval by the School of Education pursuant to the admissions policy for the University that may apply.

- Admission packages are available online or from the Graduate Admissions Office, (201) 692-2553.

- For specific program information, contact the School of Education at (201) 692-2862 or email milton3@fdu.edu.

Admission and Matriculation

Admission Process

All candidates who meet the following general criteria will be accepted as prematriculated students in the M.A. in education for certified teachers (MACT) program:

1. Application and interview.
2. Transcripts, official or unofficial, from all undergraduate and graduate institutions showing an undergraduate grade point ratio (GPR) of 3.00; if lower, provisional acceptance until a 3.25 GPR is achieved and maintained in the first 9 credits taken at FDU.

3. Standard Teacher License or Certificate of Eligibility with Advanced Standing (CEAS).

4. Two letters of recommendation from individuals familiar with the candidate's recent performance; one should be from an immediate supervisor.

5. Official transcripts from all undergraduate and graduate institutions.

6. A cumulative GPR of at least 3.25 in the first 9 credits of the M.A. program, which must be maintained at the same level to complete the program.

Requirements for the Master of Arts Degree

Core Courses (18 credits) Credits

EDUC6584	Computers as a Teacher's Aid: Curriculum and Instruction (except in TSD and ESL programs).....	3
EDUC6702	Curriculum and Instruction: Theory and Practice*.....	3
EDUC6703	Supervision of Instruction: Personnel and Evaluation*.....	3
EDUC6704	Change: Curriculum Development and Program Improvement*.....	3
EDUC6718	Curriculum/Program Evaluation and Student Assessment*.....	3
EDUC6764	Master's Seminar: Research in Specialization.....	3

Specialization Programs (18 credits)

Candidates select from one of the following programs described in detail on the following pages:

- Bilingual/Bicultural Education (BBE) — requires 12 credits
- English as a Second Language (ESL)
- Instructional Technology Specialist (ITS)
- Literacy/Reading Specialist (LRS)
- Professional Studies Concentration (PROST)
- Teacher of Students with Disabilities (TSD) — requires 21 credits

Bilingual/Bicultural Education (BBE) Specialist Certificate Program

The bilingual/bicultural education programs require teachers who can provide content-specific instruction in an environment that promotes student bilingual/bicultural development. Course work that leads to the bilingual/bicultural education New Jersey teacher endorsement provides certified teachers with the knowledge and skills they need to meet this dual responsibility.

*These four courses lead to a New Jersey Supervisor License.

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Fairleigh Dickinson University's Bilingual/Bicultural Education Certification Program was developed as a 12-credit concentration covering the essential topics of applied linguistics, language acquisition, biliteracy development, pedagogical theory and teaching methods of content areas in bilingual/bicultural settings. The Bilingual/Bicultural Education teacher certification is not a stand-alone endorsement but must be paired with a standard co-certificate in the subject or grade level to be taught.

Bilingual/Bicultural Education Specialist Certificate Program Required Courses (12 credits)

	Credits
EDUC6550	
Methodology in Bilingual/ Bicultural Education.....	3
EDUC6551	
Language Acquisition in Bilingual/ Bicultural Contexts.....	3
EDUC6574	
Applied Linguistics for Language Teachers.....	3
EDUC6654	
Literacy Development for Second-language Learners.....	3
The 12-credit certification program may be applied toward a 36-credit M.A. in education for certified teachers degree.	

English as a Second Language (ESL) Specialist Certification Program

The field of teaching English to speakers of other languages requires highly specialized training. The primary focus of Fairleigh Dickinson University's English as a Second Language Specialist Certification Program is on the language and culture of the United States and effective second-language methodology.

Fairleigh Dickinson's ESL Specialist Certification Program for certified teachers provides an 18-credit concentration that may be applied toward a 36-credit M.A. in education for certified teachers and includes the 18 credits required for a second New Jersey certification as Teacher of ESL.

At the end of the English as a Second Language Specialist Program, teachers will have completed courses having:

- a focus on second-language acquisition, research and methodology, addressing the diverse needs of students, first- and second-language acquisition and

development of literacy skills for second-language learners; and

- a concentration on curriculum development and authentic assessment practices aligned with WIDA and TESOL Standards for ESL instruction in New Jersey and Common Core State Standards (CCSS); and

- a strong emphasis on field experiences in school settings with second-language learners.

The New Jersey Department of Education requires a demonstration of oral and written language proficiency in English and the desired second language for bilingual certification. Candidates may meet this requirement by taking the Oral Proficiency Interview (OPI) and Writing Proficiency Test (WPT) in both English and their second language of choice.

Required Courses for a Second New Jersey Certification in ESL (18 credits)

	Credits
EDUC6565	
Second Language Acquisition: Methods and Curriculum.....	3
EDUC6574	
Applied Linguistics for Language Teachers.....	3
EDUC6584	
Computers as a Teacher's Aid: Curriculum and Instruction.....	3
EDUC6631	
Assessment in the Second-language Classroom.....	3
EDUC6654	
Literacy Development for Second-language Learners.....	3
EDUC6661	
The Multicultural Classroom.....	3

Instructional Technology Specialist Certificate (ITSC) Program

The School of Education offers the K–12 Instructional Technology Specialist Certificate (ITSC) Program for educators interested in specializing in the integration of technology throughout the curriculum. Candidates may elect to take only the 18 credits leading to the FDU Certificate or may apply these credits to the 36-credit M.A. in education for certified teachers program.

ITSC candidates learn to:

- create cutting-edge curricula featuring seamless technology integration;

- strategically plan for the continuous growth of technology integration in the school and classroom; and

- take a leadership role in the initiation and assessment of new learning strategies which support state and national technology standards.

The ITSC curriculum is designed to accommodate both K–12 teachers as well as educators who have technology leadership roles in their schools or districts.

An option is available for offering the ITSC off-campus program in school districts with appropriate technology facilities. Special provisions are made to support and enhance K–12 technology initiatives in those districts choosing this option.

Instructional Technology Specialist Certificate Program Required Courses (18 credits)

	Credits
EDUC6584	
Computers as a Teacher's Aid: Curriculum and Instruction.....	3
EDUC6673	
Integrating Literacy and Technology Across the Curriculum.....	3
EDUC7784	
Multimedia Production.....	3
EDUC7785	
Internet for Educators.....	3
EDUC7790	
Seminar in Instructional Technology.....	3
EDUC7796	
Projects Based on the Web.....	3
EDUC7798	
Special Topics in Instructional Technology.....	3

Note: Other instructional technology courses that are offered may be substituted for a required instructional technology course, with the adviser's approval.

Literacy/Reading Specialist (LRS) Certification Program

This program is designed to develop teachers to become leaders in the field of literacy and reading. This 30-credit Literacy/Reading Specialist program is approved by the New Jersey Department of Education for a second Endorsement/Certification license as a reading specialist with a master's degree and two years of successful teaching. Candidates can take the 6 additional credits to complete the 36-credit M.A. in education for certified

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teachers including the 12 credits leading to a New Jersey Supervisor License.

A reading specialist is one who conducts in-service training of teachers and administrators, coordinates instruction for individuals or groups of pupils having difficulty learning to read, diagnoses the nature and causes of individuals' difficulties in learning to read, plans developmental programs in reading for pupils, recommends methods and materials to be used in district reading programs and contributes to the evaluation of the reading achievement of pupils.

In addition, the candidate with three years of successful teaching may select the four courses leading to a New Jersey Supervisor License.

Finally, for individuals who do not need state endorsement but want to learn more about current literacy research, balanced reading approaches and specific reading strategies, there is an alternative 18-credit FDU Certificate that will provide K–12 classroom teachers with a concentration of courses that will extend their knowledge and skills in language arts, literacy and reading.

New Jersey State Literacy/Reading Specialist Certification/Endorsement and Supervisor Certification (36 credits)

	Credits
EDUC6582	
Distance Learning: Children's Literature.....	3
EDUC6605	
Foundations in Reading I.....	3
EDUC6606	
Foundations in Reading II.....	3
EDUC6607	
Diagnosis of Reading Problems.....	3
EDUC6609	
Supervised Practicum in Reading.....	3
EDUC6666	
Supervised Practicum in Correction of Reading Problems.....	3
EDUC6673	
Integrating Literacy and Technology Across the Curriculum.....	3
EDUC6702	
Curriculum and Instruction: Theory and Practice*.....	3

*Candidates who already hold a master's degree have the option not to take this course to obtain a Supervisor's Certification and, in turn, complete the program in 30 credits.

	Credits
EDUC6703	
Supervision of Instruction: Personnel and Evaluation.....	3
EDUC6704	
Change: Curriculum Development and Program Improvement*.....	3
EDUC6718	
Curriculum/Program Evaluation and Student Assessment.....	3
EDUC7674	
Master's Seminar: Research in Specialization (Literacy/Reading).....	3

Dual Program in Literacy/Reading and Multisensory Reading

This 36-credit program is designed for those who have completed, or wish to complete, the 12-credit Orton-Gillingham Dyslexia Specialist Certificate. In this program, candidates will hone their own literacy/reading knowledge by learning what research says about a balanced reading approach, including: 1) phonological, phonemic awareness and the importance of automaticity; 2) selection of appropriate, real literature and leveled texts to motivate, instruct and create lifelong readers; 3) development of specific reading comprehension skills, vocabulary and fluency development; and 4) exploration and use of informal alternative assessment instruments and multiple measures to inform instruction. In addition, students will learn how to assess learners' progress and differentiate instruction based upon each learner's developmental needs by participating in supervised practicum in reading.

This program does not lead to the New Jersey Department of Education endorsement/certification as a reading specialist. For individuals who wish to obtain this endorsement, they must take an additional 6 credits. For New Jersey Literacy/Reading Specialist Certification, candidates must have a current standard teacher license, two years of successful teaching experience and a master's degree. For those individuals who wish to obtain a Fairleigh Dickinson University certificate, there is an option to take just the 18 credits required for the certificate.

*Course leads to a New Jersey Supervisor License — 12 credits with a master's degree and three years of teaching.

Courses for FDU Literacy/Reading Certificate (18 credits)

	Credits
EDUC6582	
Distance Learning: Children's Literature.....	3
EDUC6605	
Foundations in Reading I.....	3
EDUC6606	
Foundations in Reading II.....	3
EDUC6607	
Diagnosis of Reading Problems.....	3
EDUC6666	
Supervised Practicum in Correction of Reading Problems.....	3
EDUC6673	
Integrating Literacy and Technology Across the Curriculum.....	3

Courses for Orton-Gillingham Dyslexia Specialist Certificate (12 credits)

EDUC6601	
Multisensory Reading I.....	3
EDUC6602	
Multisensory Reading II.....	3
EDUC7603	
Multisensory Reading III.....	3
EDUC7604	
Multisensory Reading IV.....	3

Courses for Master of Arts in Education (6 credits)

EDUC6609	
Supervised Practicum in Reading.....	3
EDUC7674	
Master's Seminar: Research in Specialization (Literacy/Reading).....	3

For New Jersey State Certification in Reading/Literacy, students must take EDUC6703 Supervision of Instruction: Personnel and Evaluation and EDUC6718 Curriculum/Program Evaluation and Student Assessment for a total of 42 credits.

Requirements: *For New Jersey Literacy/Reading Specialist Certification, candidates must have a current standard teacher license, two years of successful teaching experience and a master's degree.*

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Professional Studies Concentration (PROST)

The professional studies concentration is designed for New Jersey Provisional Teacher candidates and certified teachers who want a generalist master's degree. The New Jersey Provisional Teacher candidates who are in the process of completing the state-required 200 hours of instruction may select from the three identified courses, 9 credits, which parallel the course content. During this time, provisional candidates will be nonmatriculated students and, upon completion of these courses and receipt of a standard teaching certification from the New Jersey Department of Education, the candidates may proceed to elect a sequence of courses from the remaining 21 credits leading to the M.A. in education for certified teachers.

Certified teachers may select from the 18 core courses and 18 credits from the specialization courses listed. This program will allow candidates to match their professional goals with the programs offered in the M.A. in education for certified teachers. The candidates can select from several specializations to fulfill their program requirements.

Embedded within the 36-credit master's degree are the 12 credits leading to a New Jersey Supervisor License with a master's degree and three years of successful teaching.

An adviser will work closely to monitor all candidates' program selections.

The professional studies concentration will allow teachers to develop their educational knowledge and skills to become more effective teachers.

Professional Studies Concentration Course Requirements (15 credits)

	Credits
EDUC6584	
Computers as a Teacher's Aid:	
Curriculum and Instruction.....	3
EDUC6669	
Advanced Field Placement*.....	3
EDUC6835	
Effective Teaching and	
Effective Schools*.....	3
EDUC6893	
Evaluation and Measurement in	
Education*.....	3
EDUC7674	
Master's Seminar: Research in	
Specialization (required course).....	3

*Courses provided off-site by the New Jersey State Provisional Training Program.

Supervisor License Option (Some or all of 12 credits below)*

	Credits
EDUC6702	
Curriculum and Instruction:	
Theory and Practice**.....	3
EDUC6703	
Supervision of Instruction:	
Personnel and Evaluation**.....	3
EDUC6704	
Change: Curriculum Development	
and Program Improvement**.....	3
EDUC6718	
Curriculum/Program Evaluation	
and Student Assessment**.....	3

Alternative Options to 12 credits for Supervisor License**

EDUC6661	
The Multicultural Classroom.....	3
EDUC6740	
Introduction to Students with	
Disabilities and Autistic	
Spectrum Disorders.....	3
EDUC7763	
Human Relations and Conflict	
Resolution for Educators.....	3
EDUC7785	
Internet for Educators.....	3

Course Options for Generalist Educational Program (18 credits)

Select 18 credits either from one section below or from several sections.

Literacy/Reading Specialist Options without Certificate or State Endorsement

EDUC6582	
Distance Learning: Children's	
Literature.....	3
EDUC6605	
Foundations in Reading I.....	3
EDUC6606	
Foundations in Reading II.....	3
EDUC6673	
Integrating Literacy and Technology	
Across the Curriculum.....	3

*Courses for Supervisor License — 12 credits, master's degree plus three years of teaching.

**Other courses may be substituted after approval of adviser.

Teacher of Students with Disabilities Options without Certificate or State Endorsement

	Credits
EDUC6740	
Introduction to Students with	
Disabilities and Autistic	
Spectrum Disorders.....	3
EDUC6744	
Foundations: Historical,	
Philosophical and Legal Issues	
Related to Disabilities.....	3
EDUC6745	
Principles and Practices of	
Collaboration and Inclusion.....	3
EDUC6746	
Learning Environment and	
Effective Management of	
Teaching and Learning.....	3

English as a Second Language Options without Certificate or State Endorsement

EDUC6565	
Second Language Acquisition:	
Methods and Curriculum.....	3
EDUC6574	
Applied Linguistics for	
Language Teachers.....	3
EDUC6631	
Assessment in the Second-language	
Classroom.....	3

Instructional Technology Options without FDU Certificate

EDUC6673	
Integrating Literacy and Technology	
Across the Curriculum.....	3
EDUC7784	
Multimedia Production.....	3
EDUC7785	
Internet for Educators.....	3
EDUC7796	
Projects Based on the Web.....	3

Mathematics Specialist Options without FDU Certificate

MATH6507	
World of Mathematics: Number.....	3
MATH6508	
World of Mathematics: Algebra.....	3
MATH6509	
World of Mathematics: Geometry.....	3
MATH6513	
World of Mathematics: Mathematics	
in Science.....	3

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Courses for Second New Jersey Certification

Select one entire program listed below leading to state certification. These courses may ONLY be taken after first state certification has been granted to the candidate.

Literacy/Reading Specialist — 30 Credits, Plus Two Years Teaching and Master's Degree

	Credits
EDUC6582	
Distance Learning: Children's Literature.....	3
EDUC6605	
Foundations in Reading I.....	3
EDUC6606	
Foundations in Reading II.....	3
EDUC6607	
Diagnosis of Reading Problems.....	3
EDUC6609	
Supervised Practicum in Reading.....	3
EDUC6666	
Supervised Practicum in Correction of Reading Problems.....	3
EDUC6673	
Integrating Literacy and Technology Across the Curriculum.....	3
EDUC6703	
Supervision of Instruction: Personnel and Evaluation*.....	3
EDUC6718	
Curriculum/Program Evaluation and Student Assessment*.....	3
EDUC7674	
Master's Seminar: Research in Specialization (Literacy/Reading).....	3
<i>English as a Second Language — 18 credits</i>	
EDUC6565	
Second Language Acquisition: Methods and Curriculum.....	3
EDUC6574	
Applied Linguistics for Language Teachers.....	3
EDUC6584	
Computers as a Teacher's Aid: Curriculum and Instruction.....	3
EDUC6631	
Assessment in the Second-language Classroom.....	3

*EDUC6740 Introduction to Students with Disabilities and Autistic Spectrum Disorders is a prerequisite or corequisite for all courses.

	Credits
EDUC6654	
Literacy Development for Second-language Learners.....	3
EDUC6661	
The Multicultural Classroom.....	3
<i>Teacher of Students with Disabilities — 21 credits</i>	
EDUC6740	
Introduction to Students with Disabilities and Autistic Spectrum Disorders.....	3
EDUC6744	
Foundations: Historical, Philosophical and Legal Issues Related to Disabilities.....	3
EDUC6745	
Principles and Practices of Collaboration and Inclusion*.....	3
EDUC6746	
Learning Environment and Effective Management of Teaching and Learning*.....	3
EDUC6747	
Multisensory Reading Instruction for Students with Reading Disabilities.....	3
EDUC7623	
Diagnosis of Learning Disabilities.....	3
EDUC7624	
Correction of Learning Disabilities.....	3

Teacher of Students with Disabilities (TSD) Certification (Nondegree Program)

This is a nondegree program for certified, general-education classroom teachers who seek to develop expertise in working with students with exceptionalities in grades K–12. Candidates who successfully complete this program will be eligible for New Jersey Department of Education certification as Teacher of Students with Disabilities. This license is required for teaching students with disabilities in settings such as inclusive classrooms, resource centers and self-contained classrooms.

*EDUC6745 Principles and Practices of Collaboration and Inclusion or EDUC6746 Learning Environment and Effective Management of Teaching and Learning are prerequisites for EDUC7623 Diagnosis of Learning Disabilities and EDUC7624 Correction of Learning Disabilities
**EDUC6740 Introduction to Students with Disabilities and Autistic Spectrum Disorders is a prerequisite or corequisite for all courses.

M.A. Core Courses (15 credits)

	Credits
EDUC6702	
Curriculum and Instruction: Theory and Practice.....	3
EDUC6703	
Supervision of Instruction: Personnel and Evaluation.....	3
EDUC6704	
Change: Curriculum Development and Program Improvement.....	3
EDUC6718	
Curriculum/Program Evaluation and Student Assessment.....	3
EDUC7674	
Master's Seminar: Research in Specialization.....	3

Teacher of Students with Disabilities Courses (21 credits)

EDUC6740	
Introduction to Students with Disabilities and Autistic Spectrum Disorders.....	3
EDUC6744	
Foundations: Historical, Philosophical and Legal Issues Related to Disabilities.....	3
EDUC6745	
Principles and Practices of Collaboration and Inclusion.....	3
EDUC6746	
Learning Environment and Effective Management of Teaching and Learning.....	3
EDUC6747	
Multisensory Reading Instruction for Students with Reading Disabilities.....	3
EDUC7623	
Diagnosis of Learning Disabilities*.....	3
EDUC7624	
Corrections of Learning Disabilities*.....	3
Total.....	36

Course Descriptions

See "Course Offerings," pages 141–154.

*EDUC6745 Principles and Practices of Collaboration and Inclusion or EDUC6746 Learning Environment and Effective Management of Teaching and Learning are prerequisites for EDUC7623 Diagnosis of Learning Disabilities and EDUC7624 Correction of Learning Disabilities.

Educational Leadership (M.A.)

The Master of Arts (M.A.) in educational leadership requires a total of 36 credits of specific course work in the field of educational leadership and management. Students in the program will participate in cohort and mixed-study groups as they engage in a multiyear sequence of courses and field experiences that will emphasize the following areas:

- 1) The development of human relations skills to optimize the educational leadership graduate student's ability to interact with teachers, colleagues, parents, students and other members of the school community;
- 2) Knowledge of effective strategies that promote higher student achievement;
- 3) Development of the skills and knowledge for creating a vision for effective schools and engaging the learning-community stakeholders in the process of creating and implementing an educational vision;
- 4) Assumption of the role of a leader in promoting systemic growth and utilizing available resources;
- 5) Development of the management skills required to effectively utilize available resources; and
- 6) Engaging the community and profession in the advocacy of public policy that promotes the success for all students in the learning community.

The program's design and curriculum are based on the demands facing today's schools, with a focus on developing a vision of a school as a community of learners. Graduates of the program develop competencies in the administrative strategies and skills that engage all stakeholders in the decision-making process and promote the true sense of a community of learners. To accomplish these goals, student learning will rely heavily on small-group interaction, simulations and problem-based learning activities. During the second year of the program, students will be able to apply the educational theory learned in formal course work through an intensive field experience in schools of outstanding practitioners.

Completion of the 36-credit M.A. program will qualify students to sit for the PRAXIS Examination in School Leaders

Licensure Assessment (SLLA) and to apply for a **certificate of eligibility** required for appointment as a **principal** in the state of New Jersey. Individuals who have three years of teaching experience, an M.A. and the four-course sequence in supervision and curriculum offered in the program will be eligible to apply for a **supervisor's certificate** under New Jersey Administrative Code requirements.

At times, the New Jersey State Department of Education regulations change. Students are advised to check the New Jersey State Department of Education website <http://www.state.nj.us/education/> for current requirements.

A **post-master's principal certification program** is offered, see this page.

These programs are offered under the auspices of the Peter Sammartino School of Education, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey. The program is available at the Florham Campus, Madison, New Jersey; the Metropolitan Campus; and satellite campus locations.

Admission Requirements

Admissions Process

All candidates who want to be considered for admission must meet the following criteria:

- 1) Submit a professional portfolio, which includes evidence of:
 - a standard teaching certificate,
 - successful teaching and
 - a writing sample.
- 2) Submit an undergraduate transcript indicating that the student has maintained a cumulative grade point ratio (CGPR) of 3.00. Students who have not maintained a 3.00 CGPR in undergraduate work may be accepted provisionally. Those students will be matriculated if they maintain a 3.25 CGPR through the first 9 credits of the M.A. program.
- 3) Submit two letters of recommendation (one from a supervisor) that address the following:
 - quality of teaching and evidence of commitment to the field of education and
 - potential for leadership.
- 4) Provide evidence of successful completion of PRAXIS and have an appropriate number of years of successful teaching experience.
- 5) Students must maintain a 3.00 CGPR to graduate from the program.

Requirements for the Master of Arts Degree

Credits

EDUC6701	Leadership in Learning Community and School.....	3
EDUC6702	Curriculum and Instruction: Theory and Practice*.....	3
EDUC6703	Supervision of Instruction: Personnel and Evaluation*.....	3
EDUC6704	Change: Curriculum Development and Program Improvement*.....	3
EDUC6706	Advanced Leadership Seminar.....	3
EDUC6716	School Finance, Facilities and Scheduling.....	3
EDUC6717	School Law.....	3
EDUC6718	Curriculum/Program Evaluation and Student Assessment*.....	3
EDUC6720	Educational Leadership Field-based Internship Seminar I.....	3-6
EDUC6721	Educational Leadership Field-based Internship Seminar II.....	3
EDUC6722	Educational Leadership Field-based Internship Seminar III.....	3
EDUC6723	Final Project: School-based Research.....	3

Post-master's Principal Certification Program

This 30-credit, 10-course sequence is designed for teachers who hold a master's degree, have at least five years of successful educational experience under a valid New Jersey certificate and wish to take courses solely for the purpose of obtaining a principal's certificate. Students who have a New Jersey supervisor's certificate would need only 18 credits (six courses) and a passing score on the School Leaders Licensure Assessment (SLLA). Evaluation of previous graduate school transcripts must be completed by an adviser, and a special program is planned that will achieve the sequence of courses of instruction required for certification as a principal.

**Required for Supervisor's Certificate.*

Requirements (30 credits)

	Credits
EDUC6701	
Leadership in Learning Community and School*.....	3
EDUC6702	
Curriculum and Instruction: Theory and Practice.....	3
EDUC6703	
Supervision of Instruction: Personnel and Evaluation.....	3
EDUC6704	
Change: Curriculum Development and Program Improvement.....	3
EDUC6706	
Advanced Leadership Seminar*.....	3
EDUC6716	
School Finance, Facilities and Scheduling.....	3
EDUC6717	
School Law.....	3
EDUC6718	
Curriculum/Program Evaluation and Student Assessment.....	3
EDUC6720	
Educational Leadership Field-based Internship Seminar I.....	3
EDUC6721	
Educational Leadership Field-based Internship Seminar II.....	3
EDUC6722	
Educational Leadership Field-based Internship Seminar III.....	3

Course Offerings

See "Course Offerings," pages 141–154.

Learning Disabilities (M.A.)

The following degree and certificate programs in learning disabilities are available at FDU. Each takes into consideration the student's educational background and career goals.

- Master of Arts in Learning Disabilities/Teacher of Students with Disabilities Certification, see this page.
- Teacher of Students with Disabilities Certification, see page 134.
- Master of Arts in Learning Disabilities/Learning Disabilities Teacher Consultant Certification, see page 134.
- Learning Disabilities Teacher Consultant Certification, see page 135.
- Dyslexia Specialist Certificate and other Orton-Gillingham certificate programs, see pages 135–136.

These programs are offered under the auspices of the Peter Sammartino School of Education, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

1. A bachelor's or a master's degree from an accredited college or university with a minimum grade point ratio of 3.00 (out of a possible 4.00) in undergraduate or graduate work. Retention in the program is contingent upon maintaining a 3.25 academic average.
2. For students without a master's degree, submission of the scores of the Graduate Record Examinations (GRE), the Miller Analogy Test or the PRAXIS Examination.
3. Two letters of recommendation.
4. A New Jersey Instructional Certificate is required for students seeking second certification as Teacher of Students with Disabilities or Learning Disabilities Teacher Consultant (LDTC).*
5. Candidates for LDTC certification also are required to have three years of successful, full-time teaching experience by the end of the program and to have experience teaching special populations.

Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a nonmatriculated or nondegree basis.

Master of Arts in Learning Disabilities/Teacher of Students with Disabilities Certification

A 38-credit Master of Arts in learning disabilities is offered for licensed teachers seeking to develop expertise in working with pupils with learning disabilities or other exceptionalities. Teachers who successfully complete this program will be eligible for certification as Teacher of Students with Disabilities, the license required by the state of New Jersey for teaching pupils with learning disabilities or other disabilities in inclusive classrooms, resource centers or self-contained classrooms (see Teacher of Students with Disabilities Certification [nondegree] page 134).

Requirements

Basic Core (12 credits)

	Credits
EDUC6627	
Orientation to School Testing.....	3
EDUC6740	
Introduction to Students with Disabilities and Autistic Spectrum Disorders.....	3
EDUC6746	
Learning Environment and Effective Management of Teaching and Learning.....	3
EDUC6792	
Assistive Technology for the Inclusive Classroom.....	3
Total Core.....	12

Specialization (15 credits)

EDUC6744	
Foundations: Historical, Philosophical and Legal Issues Related to Disabilities...	3
EDUC6745	
Principles and Practices of Collaboration and Inclusion.....	3
EDUC6747	
Multisensory Reading Instruction for Students with Reading Disabilities.....	3
EDUC6763	
Diagnosis of Learning Disabilities*.....	3
EDUC6764	
Correction of Learning Disabilities*.....	3

*EDUC6745 Principles and Practices of Collaboration and Inclusion or EDUC6746 Learning Environment and Effective Management of Teaching and Learning are prerequisites.

*Students may substitute EDUC6706 Advanced Leadership Seminar for EDUC6701 Leadership in Learning Community and School.

*Master's degree programs, as well as special programs of a short-range nature, are available to candidates holding undergraduate or graduate degrees in a related field.

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Electives (9 credits)

	Credits
EDUC6694	
Introduction to Autism Spectrum Disorders.....	3
EDUC6793	
Education of Students with Moderate to Severe Disabilities.....	3
EDUC6797	
Multisensory Mathematics Instruction for Students with Disabilities.....	3

One-credit Electives (2 credits)

EDUC6612	Reading Comprehension
EDUC6614	Multisensory Mathematics Skills
EDUC6617	Study Skills
EDUC6660	Diagnosing Mathematics Disabilities and Strategies for Remediation
EDUC6668	Understanding Asperger Syndrome
EDUC6715	Updating LDTC Diagnostic Skills
EDUC6737	Phonemic Awareness
EDUC6845	Understanding IQ Testing

Teacher of Students with Disabilities Certification (Nondegree Program)

This is a nondegree program for licensed, regular classroom teachers who seek to develop expertise in working with students with exceptionalities in grades K–12. Teachers who successfully complete this program will be eligible for certification as Teacher of Students with Disabilities, the license required by the state of New Jersey's Department of Education for teaching children with disabilities in settings such as inclusive classrooms, resource centers or self-contained classrooms.

Requirements

Students must complete the following 21 credits.

EDUC6740	
Introduction to Students with Disabilities and Autistic Spectrum Disorders.....	3
EDUC6744	
Foundations: Historical, Philosophical and Legal Issues Related to Disabilities.....	3
EDUC6745	
Principles and Practices of Collaboration and Inclusion.....	3

Credits

EDUC6746	
Learning Environment and Effective Management of Teaching and Learning.....	3
EDUC6747	
Multisensory Reading Instruction for Students with Reading Disabilities....	3
EDUC7623	
Diagnosis of Learning Disabilities*.....	3
EDUC7624	
Correction of Learning Disabilities*.....	3

Master of Arts in Learning Disabilities/Learning Disabilities Teacher Consultant (LDTC) Certification (Suspended)

This 38-credit master's degree in learning disabilities is for licensed teachers with experience in special-education settings who wish to develop skills for diagnosing learning difficulties and planning instructional programs for pupils from preschool through grade 12. Teachers with three years of full-time teaching experience with special populations who successfully complete this program will be eligible for certification as Learning Disabilities Teacher Consultant (LDTC). This license is required by the state of New Jersey for serving in the LDTC capacity on a Child Study Team.

Requirements

Basic Core (15 credits)

EDUC6626	Neurophysiological Basis of Learning Problems.....	3
EDUC6627	Orientation to School Testing.....	3
EDUC6740	Introduction to Students with Disabilities and Autistic Spectrum Disorders.....	3
EDUC6746	Learning Environment and Effective Management of Teaching and Learning*	3
EDUC6747	Multisensory Reading Instruction for Students with Reading Disabilities.....	3
	Total.....	15

*EDUC6745 Principles and Practices of Collaboration and Inclusion or EDUC6746 Learning Environment and Effective Management of Teaching and Learning are prerequisites.

Specialization (9 credits)

EDUC6745	
Principles and Practices of Collaboration and Inclusion*.....	3
EDUC7623	
Diagnosis of Learning Disabilities.....	3
EDUC7624	
Correction of Learning Disabilities.....	3
EDUC8623	
Practicum in Diagnostic and Remedial Techniques I**.....	3
EDUC8628	
Practicum in Diagnostic and Remedial Techniques II**.....	3
Clinical Practicum.....	2
	Total.....17

Electives (6 credits)

Electives to be chosen from the courses below:

EDUC6660	
Diagnostic Mathematics	
Disabilities and Strategies	
for Remediation.....	1
EDUC6668	
Understanding Asperger Syndrome.....	1
EDUC6694	
Introduction to Autism Spectrum	
Disorders.....	3
EDUC6792	
Assistive Technology for the	
Inclusive Classroom.....	3
EDUC6793	
Education of Students with	
Moderate to Severe Disabilities.....	3
EDUC6797	
Multisensory Mathematics	
Instruction for Students with	
Disabilities.....	3
EDUC6845	
Understanding IQ Testing.....	1
	Total.....6
	Total.....38

Note: It is preferable to complete EDUC6740 Introduction to Students with Disabilities and Autistic Spectrum Disorders in the first or second semester of course work.

*EDUC6745 Principles and Practices of Collaboration and Inclusion or EDUC6746 Learning Environment and Effective Management of Teaching and Learning are prerequisites.

**A minimum of B+ in both EDUC7623 Diagnosis of Learning Disabilities and EDUC7624 Correction of Learning Disabilities is required for admission to EDUC8623 Practicum in Diagnostic and Remedial Techniques I. A minimum of a B+ in EDUC8623 Practicum in Diagnostic and Remedial Techniques I is required for admission to EDUC8628 Practicum in Diagnostic and Remedial Techniques II.

Learning Disabilities Teacher Consultant Certification (Nondegree Program)

This is a nondegree program leading to certification as Learning Disabilities Teacher Consultant (LDTTC). It is designed for certified teachers (who hold a Teacher of Students with Disabilities certificate or its equivalent master's degree and have three years of teaching experience with special populations) who wish to develop skills for diagnosing learning difficulties and planning instructional programs for students with disabilities. Students who successfully complete this program will be eligible for certification as Learning Disabilities Teacher Consultant, the certification required by the state of New Jersey's Department of Education for serving in the LDTTC capacity on a Child Study Team.

Requirements

Students who have a Master of Arts in education degree or a degree in a related field are required to complete graduate course work specified under the basic core and specialization area. Students who have earned the Master of Arts in learning disabilities/Teacher of Students with Disabilities Certification at Fairleigh Dickinson University are required only to take EDUC6626 Neurophysiological Basis of Learning Problems, EDUC8623 Practicum in Diagnostic and Remedial Techniques I and EDUC8628 Practicum in Diagnostic and Remedial Techniques II and to meet the certification requirements for LDTTC.

Dyslexia Specialist Program

The Dyslexia Specialist Program is tailored for general-education classroom teachers and teachers of special education who wish to develop expertise in Orton-Gillingham — a structured, phonic, rule-based multisensory approach to teaching reading, spelling and handwriting. This program provides teachers with a basic framework within which they can make decisions about adapting instructional sequences to the specific needs of individual students.

Dyslexia Specialist Certificate Requirements

Foundation (13 credits) Credits

Required (7 credits)

EDUC6610	History of Multisensory Instructional Methods for Students with Learning Disabilities/Dyslexia.....	1
EDUC6616	Language Acquisition and Language Disorders.....	3
EDUC6723	Diagnosis of Learning Disabilities.....	3
<i>The remaining 6 credits should be chosen from:</i>		
EDUC6626	Neurophysiological Basis of Learning Problems.....	3
EDUC6740	Introduction to Students with Disabilities and Autistic Spectrum Disorders.....	3
EDUC6746	Learning Environment and Effective Management of Teaching and Learning.....	3
Total.....		13

Specialization (12 credits)

EDUC6601	Multisensory Reading I.....	3
EDUC6602	Multisensory Reading II.....	3
EDUC7603	Multisensory Reading III.....	3
EDUC7604	Multisensory Reading IV.....	3
Total.....		12

A student must achieve a grade of B+ or better in the clinical component of each multisensory reading course to proceed to the next course.

Workshops (3 credits)

Three 1-credit workshops offered through the Center for Dyslexia Studies must be taken.....			3
Total.....		3	

Electives in Reading (2 credits)

Electives.....	2
Total.....	2
Total.....	30

Orton-Gillingham Dyslexia Specialist Training Course

The Orton-Gillingham Dyslexia Specialist Training course consists of programs tailored for regular classroom teachers and teachers of special education who wish to develop expertise in the Orton-Gillingham approach to reading instruction. Accredited by the International Multisensory Structured Language Education Council (IMSLEC) and the International Dyslexia Association (IDA), these programs provide teachers with a basic framework within which they can make decisions about adapting instructional sequences in reading to the specific needs of individual students.

The following certificates are offered:

Orton-Gillingham Teacher (Program Accredited at the IMSLEC Teaching Level)*

Requirements	Credits
EDUC6601	
Multisensory Reading I.....	3
EDUC6602	
Multisensory Reading II.....	3
EDUC7603	
Multisensory Reading III.....	3
EDUC7604	
Multisensory Reading IV.....	3
Total.....	12

Orton-Gillingham Teacher Trainer (Program Accredited at the IMSLEC Trainer of Teaching Level)

<i>Requirements</i>	
All courses required for Dyslexia Specialist Certificate.....30	
EDUC8609	
Multisensory Reading V.....	3
EDUC8610	
Multisensory Reading VI.....	3
	Total.....36

*A student must achieve grades of B+ or better in the clinical component of each course to proceed to the next course.

Education • Mathematical Foundations

Orton-Gillingham Therapist (Program Accredited at the IMSLEC Therapy Level)

Requirements	Credits
All courses required for Dyslexia Specialist.....	30
EDUC8612	
Advanced Orton-Gillingham Practicum I.....	3
EDUC8613	
Advanced Orton-Gillingham Practicum II.....	3
Total.....	36

Orton-Gillingham Therapist Trainer (Program Accredited at the IMSLEC Trainer of Therapy Level)

Requirements	Credits
All courses required for Orton-Gillingham Teacher Trainer program.....	36
EDUC8612	
Advanced Orton-Gillingham Practicum I.....	3
EDUC8613	
Advanced Orton-Gillingham Practicum II.....	3
Total.....	42

Center for Clinical Teaching

FDU's Center for Clinical Teaching, located on the Metropolitan Campus, provides an on-site setting where students in the Orton-Gillingham Teacher Program can learn and practice the skills of clinical teaching under faculty supervision. Students are trained to provide reading instruction that is individualized to accommodate learners' needs, styles and interests.

At the center, students are taught to monitor learners' progress continuously and adjust instructional plans accordingly. They work to establish supportive relationships with learners to boost self-confidence and improve attitudes toward learning. An inventory of current diagnostic and instructional materials is maintained at the center.

Course Descriptions

See "Course Offerings," pages 141–154.

Mathematical Foundations (M.A.)

The M.A. in mathematical foundations is designed for teachers who wish to gain a deeper insight into the nature, fundamentals and history of mathematics. The program is specifically designed for elementary, middle-school and special-education teachers seeking to meet the New Jersey state requirements to teach mathematics at the middle-school level and to upgrade their mathematical skills. The courses focus on upper-primary and middle-school mathematics and may not be an appropriate option for those with an undergraduate degree in mathematics.

Online Course Delivery: FDU offers New Jersey's only 100 percent online graduate mathematics degree for educators. The online course format lets students pursue their studies at their convenience, offering convenient access for adult learners. There is no residency requirement for the online program.

The program's competitive tuition and fee rate is comparable to that of a public university. No additional tests are required for admission but may be required for New Jersey State certification.

Admission Requirements

1. A baccalaureate degree in any subject area from an accredited college or university.
2. All official transcripts of undergraduate degrees and graduate courses/degrees. Students must have earned a 3.00 GPR or higher.
3. Two letters of recommendation.
4. Copies of PRAXIS scores, GRE scores or a copy of the New Jersey Teaching Certificate.

Requirements for the Master of Arts Degree

Credits

MATH6507	
World of Mathematics: Number.....	3
MATH6508	
World of Mathematics: Algebra.....	3
MATH6509	
World of Mathematics: Geometry.....	3
MATH6512	
World of Mathematics: Seminar.....	3
MATH6513	
World of Mathematics: Mathematics in Science.....	3
MATH6516	
World of Mathematics: Data Analysis and Probability.....	3
MATH6517	
World of Mathematics: Applications in the Real World.....	3

Elective Courses (9 credits)

Remaining credits for the M.A. in mathematical foundations may be taken from either courses in Supervision (towards the New Jersey Supervisor's Certificate) or other courses with permission of mathematical foundations adviser if not seeking New Jersey Department of Education Supervisor Certificate.

Course Descriptions

See "Course Offerings," pages 141–154.

Teaching — Master of Arts in Teaching (M.A.T.)*

The Master of Arts in Teaching (M.A.T.) program is a graduate program in teacher preparation for the individual who has a baccalaureate degree in the liberal arts or sciences and a desire to enter the teaching profession. This program was designed to build upon a sound undergraduate academic foundation, as well as the student's other educational and work-related experiences to provide an efficient path to state teacher licensure. The program is rigorous in its curriculum and expectations, yet flexible in its scheduling to ensure optimum benefit to the graduate student who typically must balance formal course work with other demands.

This program is offered under the auspices of the Peter Sammartino School of Education, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey. This program is offered at the Metropolitan Campus, Teaneck, New Jersey, and the Florham Campus, Madison, New Jersey. In addition, this program is offered at the following community colleges: Rowan College at Gloucester County (previously Gloucester County College), Sewell, New Jersey; and Cumberland County College, Vineland, New Jersey.

The Master of Arts in Teaching (M.A.T.) program offers New Jersey state-approved teaching certification programs in:

- Preschool to grade 3, see page 138;
- Elementary education (grades K–6), see page 138;
- Secondary education content area (grades K–12) in English, social studies, mathematics, art, biological sciences, chemistry, physics, earth science, physical science, see page 138.

All graduate credits earned in teacher certification programs can be applied to a Master of Arts in Teaching (M.A.T.) degree.

Students may choose between two M.A.T. program models (the Apprenticeship Teaching Model, this page,

and the Practicum Model, see page 139), each of which is designed to enable a student to meet state eligibility requirements for teacher certification in elementary or K–12 content areas after completing the required graduate courses. Students may complete eligibility requirements for state certification with either program option without completing the M.A.T. degree, which requires a total of 36 credits. Upon completion of teacher certification eligibility requirements (see this page), students are eligible for full-time paid employment as elementary or secondary teachers and must successfully complete two full years of successful teaching to obtain permanent certification.

Persons out of college for some time, who seek a teaching career, as well as recent graduates, may apply. Students who cannot attend full time may study part time and complete the program not later than five years from the initial registration.

For Information

For further information, contact the Fairleigh Dickinson University Peter Sammartino School of Education at the location nearest you:

Metropolitan Campus
1000 River Road
Teaneck, New Jersey 07666
(201) 692-2862

Florham Campus
285 Madison Avenue
Madison, New Jersey 07940
(973) 443-8385

Community College Partnership Program
1000 River Road
Teaneck, New Jersey 07666
(201) 692-7310

New Jersey Teacher Certification

There are two avenues of earning state certification: the Certificate of Eligibility with Advanced Standing (CEAS) and the Certificate of Eligibility (CE). Both require two provisional years of teaching. Upon successful completion of the provisional years, the state issues the Standard (lifelong) certification.

In New Jersey, the State Department of Education grants certificates of eligibility for teacher certification. Please check the NJDOE website for minimum requirements to obtain a Certificate of Eligibility.

Certificate of Eligibility with Advanced Standing

The Certificate of Eligibility with Advanced Standing (CEAS) will be issued to students who successfully complete their programs, pass the edTPA and are recommended by Fairleigh Dickinson University for certification. The CEAS is valid for the lifetime of its holder. It authorizes the holder to seek and accept offers of employment in New Jersey public schools. New Jersey has reciprocity with other states to accept the CEAS as evidence of completion of an approved college education program. Students must undergo two induction years before receiving a standard certificate.

Provisional Certificate

The Provisional Certificate will be issued to students who receive and accept documented offers of employment from districts that comply with induction requirements.

Standard Certificate

The Standard Certificate will be issued to those students who serve for two years under the Provisional Certificate and who are recommended as “approved” by their school principal based on evaluations of the provisionally certified teacher’s classroom performance, conducted by the principal and other certified evaluators.

Apprenticeship Teaching Model

The M.A.T. Apprenticeship Teaching Model requires 22–23 credits for a Certificate of Eligibility with Advanced Standing. In fall 2018, additional credits will be required.

To obtain a Certificate of Eligibility with Advanced Standing in preschool–grade 3, elementary education or secondary education, the following requirements must be met:

- Successful completion of the required credits in the M.A.T. program (additional credits in fall 2018);
- A passing score on the state-required Praxis I Core Academic Skills Exam;
- A passing score on the state-required appropriate Praxis II exam; and
- Submission of an edTPA portfolio (starting fall 2018 a passing score on the edTPA is required).

New Jersey Teacher Certification becomes permanent after two full years of

*Fairleigh Dickinson University’s Peter Sammartino School of Education had an Aggregate Pass Rate of 100 percent on the HEOA-Title II reporting for the 2017–2018 academic year. The corresponding statewide pass rate for the same period was 97 percent.

Education • Teaching — Master of Arts in Teaching

successful teaching with a support team. Students may go on to earn the M.A.T. degree (total of 36 credits) by completing additional credits.

The Apprenticeship Model:

The required program of study for each certification area consists of the following courses.

Preschool Through Grade 3

Required Courses for Certification*

	Credits
EDUC6575	
Apprenticeship Teaching.....	6
EDUC6818	
Language Development and Literacy I.....	3
EDUC6824	
Teaching Laboratory and Field Experience I.....	1
EDUC6825	
Apprenticeship Teaching Seminar.....	2
EDUC6828	
Teaching Laboratory and Field Experience II.....	1
EDUC6851	
Child Development from Birth to Age 8**.....	3
EDUC6852	
P-3 Curriculum and Assessment.....	3
EDUC6853	
Family and Community in Education.....	3
Total.....	22

Additional Required Courses for Completion of M.A.T.

EDUC6584	
Computers as a Teacher's Aid: Curriculum and Instruction.....	3
EDUC6820	
Problem-based Strategies for Elementary Mathematics.....	3
EDUC7812	
Final Project.....	2-3
Total....	8-9

Electives (3-4 credits)

Total Credits Required for Graduation.....36

*Starting in fall 2018, the minimum required credits for initial certification will increase with the addition of EDUC6583 Advanced Clinical Practice (2 credits) and EDUC6740 Introduction to Students with Disabilities and Autistic Spectrum Disorders (3 credits). All candidates will be required to pass the edTPA to obtain certification.

**EDUC6854 Child and Adolescent Development may be substituted for EDUC6851 Child Development from Birth to Age 8.

Elementary Education

Required Courses for Certification*

	Credits
EDUC6575	
Apprenticeship Teaching.....	6
EDUC6818	
Language Development and Literacy I.....	3
EDUC6820	
Problem-based Strategies for Elementary Mathematics.....	3
EDUC6824	
Teaching Laboratory and Field Experience I.....	1
EDUC6825	
Apprenticeship Teaching Seminar.....	2
EDUC6828	
Teaching Laboratory and Field Experience II.....	1
EDUC6835	
Effective Teaching and Effective Schools.....	3
EDUC6893	
Evaluation and Measurement in Education.....	3
Total.....	22

Additional Required Courses for Completion of M.A.T.

EDUC6584	
Computers as a Teacher's Aid: Curriculum and Instruction.....	3
EDUC6819	
Language Development and Literacy II.....	3
EDUC7812	
Final Project.....	2
Total.....	8

Education Electives/Courses in Discipline (6 credits)

Total Credits Required for Graduation.....36

Secondary Education (Art, Biological Science, Chemistry, Earth Science, English, Mathematics, Physical Science, Physics and Social Studies)

Required Courses for Certification*

EDUC6575	
Apprenticeship Teaching.....	6
EDUC6818	
Language Development and Literacy I.....	3

*Starting in fall 2018, the minimum required credits for initial certification will increase with the addition of EDUC6583 Advanced Clinical Practice (2 credits) and EDUC6740 Introduction to Students with Disabilities and Autistic Spectrum Disorders (3 credits). All candidates will be required to pass the edTPA to obtain certification.

	Credits
EDUC6820	
Problem-based Strategies for Elementary Mathematics.....	3
EDUC6824	
Teaching Laboratory and Field Experience I.....	1
EDUC6825	
Apprenticeship Teaching Seminar.....	2
EDUC6828	
Teaching Laboratory and Field Experience II.....	1
EDUC6835	
Effective Teaching and Effective Schools.....	3
EDUC6893	
Evaluation and Measurement in Education.....	3
Total.....	22

Additional Required Courses for Completion of M.A.T.

Appropriate methods course in discipline (EDUC) secondary only which includes:

EDUC6562	
Standards-based Curriculum and Methodology: Secondary English or	
EDUC6563	
Standards-based Curriculum and Methodology: World Languages or	
EDUC6566	
Standards-based Curriculum and Methodology: Secondary Science or	
EDUC6568	
Standards-based Curriculum and Methodology: Secondary Social Studies or	
EDUC6569	
Standards-based Curriculum and Methodology: Visual Arts or	
EDUC6570	
Standards-based Curriculum and Methodology: Secondary Mathematics.....	3
EDUC6584	
Computers as a Teacher's Aid: Curriculum and Instruction.....	3
EDUC7812	
Final Project.....	2
Total.....	8

or

Standards-based Curriculum and Methodology: Secondary Science or

EDUC6570	
Standards-based Curriculum and Methodology: Secondary Mathematics.....	3
EDUC6584	
Computers as a Teacher's Aid: Curriculum and Instruction.....	3
EDUC7812	
Final Project.....	2
Total.....	8

Education Electives/Courses in Discipline (6 credits)

Total Credits Required for Graduation.....36

Education • Teaching — Master of Arts in Teaching

English as a Second Language

Required Courses for Certification*

	Credits
EDUC6565	
Second Language Acquisition: Methods and Curriculum.....	3
EDUC6574	
Applied Linguistics for Language Teachers.....	3
EDUC6575	
Apprenticeship Teaching.....	6
EDUC6584	
Computers as a Teacher's Aid: Curriculum and Instruction.....	3
EDUC6631	
Assessment in the Second- language Classroom.....	3
EDUC6654	
Literacy Development for Second-language Learners.....	3
EDUC6661	
The Multicultural Classroom.....	3
EDUC6824	
Teaching Laboratory and Field Experience I.....	1
EDUC6825	
Apprenticeship Teaching Seminar.....	2
EDUC6828	
Teaching Laboratory and Field Experience II.....	1
EDUC6835	
Effective Teaching and Effective Schools.....	3
Total.....	31

Additional Required Courses for Completion of M.A.T.

EDUC7812	
Final Project.....	2
Total.....	2

Education Electives/Courses in Discipline (6 credits)

Total Credits Required for Graduation.....36

Practicum Model

The M.A.T. Practicum Model is a six- to eight-week accelerated and concentrated graduate student-teaching experience for those who have had previous teaching experience in a class but are not certified; it leads to a Certificate of Eligibility. Please see a School of Education adviser for more information about this model.

Admission and Matriculation Requirements

Admission to the M.A.T. program occurs after a formal application is submitted and program entrance requirements are fulfilled. All teaching candidates must maintain a cumulative grade point ratio (CGPR) of at least 3.00 in their course work to be certified.

1. Applicants must hold a bachelor's degree from an accredited college or university.
2. Applicants must have an undergraduate CGPR of at least 3.00 on a 4.00 scale.
3. Applicants for subject-specific certification (secondary education) must have obtained a 30-credit concentration in the area of certification.
4. Applicants of Preschool–Grade 3 and Elementary Education certifications must have obtained 60 credits in liberal arts or sciences.
5. Applicants must have passed the Praxis I Core Academic Skills Exam in reading, writing and mathematics. Students may be exempt from taking this test if they meet the minimum required scores on the SAT, ACT or GRE. Please see an adviser to obtain those scores. An applicant may be admitted conditionally and allowed to take 9 credits until they pass the Core Academic Skills Exam.
6. Applicants are required to take the Praxis II in the content area of their certification before admission to the program. Students are admitted conditionally and allowed to take 9 credits until they pass the appropriate Praxis II test.
7. Applicants must have a personal interview with an adviser or program director prior to registration for any courses.

8. Applicants for English as a Second Language (E.S.L.) must take the Oral Proficiency Interview (OPI) and the Writing Proficiency Test (WPT) in English. Applicants for world languages must pass

the OPI in the language for which they seek certification.

9. The New Jersey Department of Education requires a demonstration of oral and written language proficiency in English and the desired second language for bilingual certification. Candidates may meet this requirement by taking the Oral Proficiency Interview (OPI) and Writing Proficiency Test (WPT) in both English and their second language of choice.

Requirements for a Master of Arts in Teaching Degree First Certification Program in Teaching English as a Second Language

Degree candidates must successfully complete 36 credits, of which 33 are taken in courses required by the New Jersey Administrative Code for teacher certification.

Courses Required for Certification (33 credits)

	Credits
<i>Apprenticeship Model</i>	
EDUC6565	
Second Language Acquisition: Methods and Curriculum.....	3
EDUC6574	
Applied Linguistics for Language Teachers.....	3
EDUC6575	
Apprenticeship Teaching.....	6
EDUC6583	
Advanced Clinical Practice.....	2
EDUC6584	
Computers as a Teacher's Aid: Curriculum and Instruction.....	3
EDUC6631	
Assessment in the Second- language Classroom.....	3
EDUC6654	
Literacy Development for Second-language Learners.....	3
EDUC6661	
The Multicultural Classroom.....	3
EDUC6824	
Teaching Laboratory and Field Experience I.....	1
EDUC6825	
Apprenticeship Teaching Seminar.....	2
EDUC6828	
Teaching Laboratory and Field Experience II.....	1
EDUC6835	
Effective Teaching and Effective Schools.....	3

*Starting in fall 2018, the minimum required credits for initial certification will increase with the addition of EDUC6583 Advanced Clinical Practice (2 credits) and EDUC6740 Introduction to Students with Disabilities and Autistic Spectrum Disorders (3 credits). All candidates will be required to pass the edTPA to obtain certification.

Education • Teaching English as a Second/ Foreign Language

Course Required for Graduation (3 credits)

	Credits
EDUC7812	
Final Project.....	3

Requirements for Master of Arts in Teaching Degree Certification Program: Middle School Endorsment

Those individuals desiring to teach on the middle-school level (5, 6, 7 and 8) must qualify for elementary-school certification with subject-matter specialization. In order to do so, the following requirements must be met, according to N.J.A.C. 6A:9.2:

1. Hold an elementary school Certificate of Eligibility (CE), Certificate of Eligibility with Advanced Standing (CEAS) or standard certificate with an elementary-school endorsement;
2. Complete a course in adolescent development;
3. Pass the appropriate Middle School PRAXIS test in content-area specialization for middle school;
4. Complete 15 credits in the subject fields of mathematics, science, social studies and language arts/literacy; and
5. Secondary-education candidates may also secure a middle-school endorsement in a content area other than their initial certification by:
 - i. Passing the appropriate PRAXIS II in the content area for middle school,
 - ii. Taking a course in adolescent development and
 - iii. Completing a minimum of 15 credits in the content area (can be included in undergraduate courses).

Requirements for a Master of Arts in Teaching Degree Certification Program in Teacher of Students with Disabilities

The program requires all courses for initial certification in an area above and the following 21 credits:

EDUC6740	Introduction to Students with Learning Disabilities and Autistic Spectrum Disorders*
EDUC6744	Foundations: Historical, Philosophical and Legal Issues Related to Disabilities
EDUC6745	Principles and Practices of Collaboration and Inclusion
EDUC6746	Learning Environment and Effective Management of Teaching and Learning
EDUC6747	Multisensory Reading Instruction for Students with Reading Disabilities
EDUC7623	Diagnosis of Learning Disabilities**
EDUC7624	Correction of Learning Disabilities**
EDUC7812	Final Project***

Course Descriptions

See "Course Offerings," pages 141–154.

*EDUC6740 Introduction to Students with Learning Disabilities and Autistic Spectrum Disorders is a prerequisite for all courses.

**EDUC6745 Principles and Practices of Collaboration and Inclusion and EDUC6746 Learning Environment and Effective Management of Teaching and Learning are prerequisites.

***EDUC7812 Final Project is required to complete the 45-credit M.A.T./Teacher of Students with Disabilities certification program.

Teaching English as a Second/ Foreign Language (TESL/TEFL) (M.A.)

The master of arts degree in teaching English as a second/foreign language (TESL/TEFL) is designed for (a) international students who want to teach English in their own countries; and (b) domestic* students who want a master's degree to teach English as a second language or as a foreign language, but do not seek New Jersey certification.

This degree program gives students the opportunity to explore:

- dimensions of language instruction and curriculum development,
- the relation of language to culture,
- assessment and alternative assessment in second-language instruction,
- techniques for addressing ethnic diversity
- second-language instruction through content areas and
- technology in language instruction.

For further information, contact the Peter Sammartino School of Education, Fairleigh Dickinson University, Metropolitan Campus, 1000 River Road, Teaneck, New Jersey, 07666-1914 at (201) 692-2079.

This program is offered under the auspices of the Peter Sammartino School of Education, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

International Students

1. A bachelor's degree from an accredited college or university.
2. TOEFL score of 550 (paper-based), 213 (computer-based) or 79 (internet-based) or better.
3. Two letters of recommendation.

*U.S. citizens and legal residents.

Education • Course Offerings

Domestic Students

1. A bachelor's degree from an accredited college or university.
2. Two letters of recommendation.

Requirements for the Master of Arts Degree

This program requires 22 credits selected from foundation courses and 9 credits selected from approved electives. A 2-credit research project related to language instruction is required as the culminating exercise, for a total of 33 credits for the master of arts degree.

Required Courses (22 credits)

	Credits
EDUC6565	
Second Language Acquisition: Methods and Curriculum.....	3
EDUC6574	
Applied Linguistics for Language Teachers.....	3
EDUC6584	
Computers as a Teacher's Aid: Curriculum and Instruction.....	3
EDUC6635	
Clinical Practice in Language Instruction.....	4
EDUC6650	
Behavioral Science for Teachers: Language and Culture in the Classroom	
or	
EDUC6649	
Introduction to United States Culture...	3
EDUC6654	
Literacy Development for Second-language Learners.....	3
EDUC6661	
The Multicultural Classroom.....	3

Approved Electives (9 credits)

Final Requirement (2 credits)

EDUC7812	
Final Project.....	2
Total.....	33

TESL/TEFL Specialist Certification Program

The Peter Sammartino School of Education offers an 18-credit TESL/TEFL (Teaching English as a Second/Foreign Language) Specialist Certificate for those who wish to earn a certificate without completing a master of arts degree. The program offers a strong 18-credit specialization in linguistics, language teaching, language proficiency and U.S. culture. Note: The TESL/TEFL Specialist Certificate is not a New Jersey state teaching certificate.

Required Courses (18 credits)

	Credits
EDUC6565	
Second Language Acquisition: Methods and Curriculum.....	3
EDUC6574	
Applied Linguistics for Language Teachers.....	3
EDUC6584	
Computers as a Teacher's Aid: Curriculum and Instruction.....	3
EDUC6650	
Behavioral Science for Teachers: Language and Culture in the Classroom	
or	
EDUC6649	
Introduction to United States Culture...	3
EDUC6654	
Literacy Development for Second- language Learners.....	3
EDUC6661	
The Multicultural Classroom.....	3

Course Descriptions

See "Course Offerings," pages 141–154.

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate school director.

Education

Peter Sammartino School of Education

EDUC5001

0 Credits

Health and Hygiene Exam

This health and hygiene exam is given to graduate students prior to their first teacher certification to fulfill the health/hygiene/nutrition requirement for teacher certification. Required only of candidates who do not have a biology/health/nutrition class on their transcript. Must have adviser's approval. Pass/fail grading.

EDUC5720

0 Credits

Field-based Internship Seminar I

EDUC5720 is the first of a three-course sequence for the field-based internship and a companion course to EDUC6720 Field-based Internship Seminar I. The field-based internship provides individual candidates with the opportunity to apply, over the course of a complete year and under the guidance of a certified school administrator, the theoretical knowledge and skills acquired during graduate study to an educational/institutional setting. This approach relies on a strong conceptual base of knowledge and understanding of professional practices. The shared resources of the field settings will enable students to participate in a closely supervised experience involving the intern, cooperating administrator and course professor. Prerequisites: EDUC6701 Leadership in Learning Community and School, EDUC6702 Curriculum and Instruction: Theory and Practice, EDUC6703 Supervision of Instruction: Personnel and Evaluation, EDUC6704 Change: Curriculum Development and Program Improvement and EDUC6718 Curriculum/Program Evaluation and Student Assessment. Corequisite: EDUC6720 Field-based Internship Seminar I.

EDUC5721

0 Credits

Field-based Internship Seminar II

EDUC5721 is the second of a three-course sequence that attempts to integrate into a structured practicum or internship experience the various theories, concepts, dispositions, standards and understandings introduced and developed in the student's formal course work. As such, this course addresses all 10 of the PSEL Standards. EDUC5721 is the field-based internship and a companion course to EDUC6721 Educational Leadership Field-Based Internship Seminar II. The field-based internship provides individual candidates with the

Education • Course Offerings

opportunity to apply, over the course of a complete year and under the guidance of a certified school administrator, the theoretical knowledge and skills acquired during graduate study to an educational/institutional setting. Prerequisite: EDUC5720 Field-based Internship Seminar I. Corequisite: EDUC6721 Educational Leadership Field-based Internship Seminar II.

EDUC5722

0 Credits

Field-based Internship Seminar III

EDUC5722 is the third of a three-course sequence that attempts to integrate into a structured practicum or internship experience the various theories, concepts, dispositions, standards and understandings introduced and developed in the student's formal course work. As such, this course addresses all 10 of the PSEL Standards. EDUC5722 is the field-based internship and a companion course to EDUC6722 Educational Leadership Field-Based Internship Seminar III. The field-based internship provides individual candidates with the opportunity to apply, over the course of a complete year and under the guidance of a certified school administrator, the theoretical knowledge and skills acquired during graduate study to an educational/institutional setting. Prerequisite: EDUC5721 Field-based Internship Seminar II. Corequisite: EDUC6722 Educational Leadership Field-Based Internship Seminar III.

EDUC6500

3 Credits

Special Topics in Education

This course will focus on special topics especially designed to enhance graduate study in education. Topics may vary each time this course is offered.

EDUC6550

3 Credits

Methodology in Bilingual/Bicultural Education

This course introduces students to current principles and methods of K–12 bilingual/bicultural education against the backdrop of its historical, legal and societal foundations. Through course readings, classroom activities, projects and field experiences, students build their competence to design bilingual/bicultural education methodology that is student-centered and culturally responsive. Particular attention is given to the development of academic language in bilingual/bicultural environments.

EDUC6551

3 Credits

Language Acquisition in Bilingual/Bicultural Contexts

This course introduces students to current theories of language acquisition in bilingual/bicultural contexts. It explores current understandings of language development for emerging bilingual/bicultural individuals in K–12 educational settings.

EDUC6561

6 Credits

Instructional Theory and Practice

Practicum consists of six to seven weeks school-teaching experience preceded by orientation and classroom observations. The practicum experience prepares teaching candidates in state-prescribed studies under supervision of a master-teacher and professional support team members for provisional teaching certification. *Spring, Summer*

EDUC6562

3 Credits

Standards-based Curriculum and Methodology: Secondary English

This course integrates research into effective teaching of English language and literature. Students learn different instructional strategies to enhance the teaching of English/language arts. State and national standards such as the New Jersey Student Learning Standards will be addressed through curriculum development and assessment.

EDUC6563

3 Credits

Standards-based Curriculum and Methodology: World Languages

Standards-based instructional and assessment practices are introduced in this course utilizing the New Jersey Student Learning Standards and the Standards for Foreign Language Learning for the 21st Century (ACTFL Standards). The effective implementation of these standards will be demonstrated through the development of model lessons, unit plans and authentic assessment practices including use of rubrics and student portfolios.

EDUC6565

3 Credits

Second Language Acquisition: Methods and Curriculum

This course is designed to offer the student the opportunity to explore various methods, techniques and approaches to the teaching of a second language. Knowledge derived from the linguistic sciences about the nature of language and how it is learned will serve as the criteria of evaluation when examining various approaches. The information acquired from this endeavor will serve as a foundation for using a method that is eclectic in nature and considers both the cognitive and affective needs of second-language learners.

EDUC6566

3 Credits

Standards-based Curriculum and Methodology: Secondary Science

This course integrates research into effective teaching of science. Students learn different instructional strategies to enhance the teaching of science. State and national standards such as

the New Jersey Student Learning Standards and the Next Generation Science Standards will be addressed through curriculum development and assessment.

EDUC6568

3 Credits

Standards-based Curriculum and Methodology: Secondary Social Studies

This course integrates research into effective teaching of social studies. Students learn different instructional strategies to enhance the teaching of social studies. State and national standards such as the New Jersey Student Learning Standards will be addressed through curriculum development and assessment.

EDUC6569

3 Credits

Standards-based Curriculum and Methodology: Visual Arts

This course integrates recent research into effective teaching practices in the visual arts. Students learn different instructional strategies to enhance the teaching of art for grade levels K–12. National and state standards such as the New Jersey Student Learning Standards will be addressed through curriculum development and assessment. Students will develop visual-art learning units with relevant teaching-support materials organized around specific art concepts and modes of inquiry, produce assessment instruments for the evaluation of art programs and student art products and engage in the review and analysis of art-education literature for research.

EDUC6570

3 Credits

Standards-based Curriculum and Methodology: Secondary Mathematics

This course integrates research into effective teaching of mathematics. Students learn different instructional strategies to enhance the teaching of mathematics. State and national standards such as the New Jersey Student Learning Standards will be addressed through curriculum development and assessment.

EDUC6571

1–2 Credits

Clinical Teaching Internship and Seminar I

First-semester teaching interns undergo clinical supervision by a college faculty member with the support of a school-based professional support team. Observations are followed by critique sessions. Consequently, first-semester teachers attend three seminars where problems arising in professional practice are addressed.

EDUC6572

1–2 Credits

Clinical Teaching Internship and Seminar II

Second-semester teaching interns undergo clinical supervision by a college faculty member with the support of a school-based professional support team. Observations are followed by critique sessions. Concurrently, the second-semester teachers attend three seminars where problems arising in professional practice are addressed.

EDUC6573

3 Credits

Comparative Phonology for Language Teachers

This course focuses on the phonology of American English in comparison with European, Asian and other languages. Students will examine implications and methodologies for teaching pronunciation. Initial reading/writing instruction in a second/foreign language is addressed through the introduction of the transfer from phoneme to grapheme.

EDUC6574

3 Credits

Applied Linguistics for Language Teachers

This course examines knowledge derived from linguistic sciences about the nature of language, how it is acquired and the practical application of linguistic knowledge to the teaching of a second language. The lexicon and grammar of American English in comparison with other languages and resultant implications for teaching both in a second/foreign language are the foci of this course.

EDUC6575

6 Credits

Apprenticeship Teaching

This full-semester student teaching experience is offered in the spring or fall following completion of field experiences and prescribed courses. This experience exposes the preservice teacher to the functions of teaching under the mentorship of a cooperating teacher and clinical supervision of a School of Education faculty member. The responsibilities of the student teacher increase during the apprenticeship until she/he is conducting the class with full teaching responsibilities. Note: Students must submit passing score on PRAXIS exam prior to registration.

EDUC6576

2 Credits

Second Language Acquisition: Internship I

First-year teachers undergo clinical supervision by a college faculty member with the support of a school-based professional team. Each observation is followed by a post-observation critique session. Concurrently, the first-year

teachers attend three seminars each semester where problems arising in professional practice are addressed. Prerequisite: EDUC6561 Instructional Theory and Practice.

EDUC6577

1–2 Credits

Second Language Acquisition: Internship II

First-year teachers undergo clinical supervision by a college faculty member with the support of a school-based professional team. Each observation is followed by a post-observation critique session. Concurrently, the first-year teachers attend three seminars each semester where problems arising in professional practice are addressed. Prerequisite: EDUC6561 Instructional Theory and Practice.

EDUC6578

4 Credits

Assistantship

Assistant teachers are placed in the classroom under the supervision of a mentor teacher for six to eight weeks. They also undergo clinical supervision by a University faculty member. Each observation is followed by a post-observation critique session. Concurrently, teaching assistants attend three seminars each semester where problems arising in professional practice are addressed. Prerequisite: EDUC6561 Instructional Theory and Practice.

EDUC6580

3 Credits

Discourse Analysis for Language Teachers

This course surveys the applications of discourse analysis to the field of education. Students are apprenticed into the concepts and techniques of discourse analysis through a combination of assigned readings, in-class discussions and practical-application assignments. The course is designed primarily with current and future language educators in mind but is of value to all education-related fields.

EDUC6582

3 Credits

Distance Learning: Children's Literature

This online course emphasizes how to use children's literature in the classroom. Teachers learn how to integrate children's literature into the curriculum of all subjects and across all grade levels. Students learn how to use technology to enrich the study of children's literature.

EDUC6583

2 Credits

Advanced Clinical Practice

Guided observation and clinical experience of 125 hours in an educational setting. Program assessment and design. Supervised practical experiences in the classroom, increasing in

intensity and duration. Orientation to the certification-required portfolio to be submitted at the completion of student teaching and required videotaping of classroom experiences. Intense preparation and analysis of acceptable lesson planning, instruction and engagement of students and assessment of student learning.

EDUC6584

3 Credits

Computers as a Teacher's Aid: Curriculum and Instruction

The computer is treated as a foundational tool integrated into a teacher's daily professional work and classroom activities. Topics covered include the authoring and use of standard software packages and the initiation and development of a professional electronic portfolio site for use both in current graduate studies and professional school-based activities.

EDUC6586

1 Credit

Neurodevelopmental/Medical Conditions Associated with Learning Disabilities

The course will cover medical conditions such as low-birth weight, premature birth, Attention Deficit Hyperactivity Disorder (ADHD), lead poisoning, etc., that affect learning in the school-age child. Prerequisite: EDUC6740 Introduction to Students with Disabilities and Autistic Spectrum Disorders.

EDUC6587

1 Credit

Smartboards in the Classroom

This course will provide the basics on how to use the Smartboard in the classroom. It will cover how to access resources to increase interactivity in the classroom and utilize the tools available to enhance the curriculum.

EDUC6590

1 Credit

Teaching and Learning with iPad

The aim of this course is to help students understand and acquire the skills to use the iPad mobile device in an educational setting. An emphasis on hands-on activities and the sharing of relevant strategies will be the focus of this course. Students will be guided through the use of a range of applications considered essential for educators. Strategies focus on creativity, writing, image-processing, mind-mapping, virtual whiteboards, productivity and organization.

EDUC6591

1 Credit

Web 2.0 Tools and Educational Applications

The course will explore current Web 2.0 community, presentation, formative assessment and multimedia tools and their applications in the classroom.

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EDUC6592

1 Credit

Cloud Computing and Social Media

This course will cover what cloud computing is and explore free applications such as Google tools. It will explore how social media can be used in the classroom.

EDUC6600

3 Credits

Technology in the Science Classroom

Use of computers and technology as applied to the operation of an elementary science classroom. Includes interfacing for data sensing with probes, selected software and hardware accessories.

EDUC6601

3 Credits

Multisensory Reading I

An introduction to teaching beginning reading, spelling and handwriting (up to fourth-grade level), focusing on the Orton-Gillingham approach to teaching basic language skills. Teachers plan, present and evaluate instructional sequences for students with dyslexia. Consists of lectures followed by supervised practicum in which teachers provide individual Orton-Gillingham-based instruction to students with dyslexia. Also includes group seminars and individual conferences between teacher and practicum supervisor.
Fall, Spring, Summer

EDUC6602

3 Credits

Multisensory Reading II

Continuation of training in the Orton-Gillingham techniques taught in EDUC6601 Multisensory Reading I. Includes testing procedures and data collection to evaluate student growth and effectiveness of instructional approach. Consists of lectures, supervised practicum, group seminars and individual conferences as described for EDUC6601 Multisensory Reading I. Prerequisite: B+ or better grade in clinical component of EDUC6601 Multisensory Reading I.
Fall, Spring, Summer

EDUC6605

3 Credits

Foundations in Reading I

Recent research and findings in language development and literacy and their application in elementary education are the focus of this course. Literacy skills in reading and language arts across grade levels also are included.

EDUC6606

3 Credits

Foundations in Reading II

Research and findings in language development and literacy and applications in social studies and science in the elementary and secondary schools are the focus of this course. Literacy across the curriculum also is emphasized.

EDUC6607

3 Credits

Diagnosis of Reading Problems

This course includes a systematic study of the selection, administration and interpretation of formal and informal techniques and instruments used to assess phonological and phonemic awareness, word recognition, vocabulary development and reading comprehension. Students practice writing reports of reading evaluations and state-required Individual Student Improvement Plans (ISIPs). Prerequisites: EDUC6605 Foundations in Reading I and EDUC6606 Foundations in Reading II.

EDUC6608

3 Credits

Correction of Reading Problems

This course includes survey research of reading instructional approaches, programs and materials that have been proven to work with the struggling reader. Effective classroom practices as well as clinical settings, including reading recovery, will be reviewed. Emphasis is placed on interpretation of test data as bases for planning Individual Student Improvement Plans (ISIPs) including establishment of goals and objectives and selection of appropriate strategies and materials.

EDUC6609

3 Credits

Supervised Practicum in Reading

This course places teachers with a mentor/University clinical teaching supervisor in a classroom/school or University clinical reading program for 45 hours of supervised clinical experience in which the knowledge and skills from previous course work will be reinforced and extended. The reading program may be part of an after-school or summer-school program operated by a university or school. A University clinical teaching supervisor will observe the participants and provide support and mentoring. Prerequisites: EDUC6607 Diagnosis of Reading Problems and EDUC6606 Supervised Practicum in Correction of Reading Problems.

EDUC6610

1 Credit

History of Multisensory Instructional Methods for Students with Learning Disabilities/Dyslexia

A historical perspective of multisensory teaching techniques in the areas of reading, spelling and writing. Various curricula are compared and contrasted.

EDUC6611

1 Credit

Advanced Language Structure

Sessions review topics in advanced alphabetic orthography (including roots and suffixes) and methodology for teaching upper-level language skills (including error analysis). Presentation of

case histories, exercises in formulating advanced lesson plans and a survey of curriculum materials are included.

EDUC6612

1 Credit

Reading Comprehension

Presents a direct, systematic, multisensory approach for teaching reading comprehension to students. Training in concepts and skills necessary for students to gather and organize information from factual, fictional and procedural types of reading materials is provided. Prerequisite: EDUC6601 Multisensory Reading I.

EDUC6613

1 Credit

Written Expression

Techniques are explored for teaching written expression in a structured format to the student with learning disabilities/dyslexia. Includes an introduction to the writing process, as well as the production of expository writing pieces and proofreading/editing skills. Prerequisite: EDUC6601 Multisensory Reading I.

EDUC6614

1 Credit

Multisensory Mathematics Skills

Presents multisensory techniques for teaching basic mathematics concepts and computation to students with learning disabilities/dyscalculia. Topics include the acquisition of basic mathematics facts, word problems, fractions, decimals and percentages.

EDUC6616

3 Credits

Language Acquisition and Language Disorders

An introduction to language development. The relationship of oral language to written language. The identification of language disability and language-based approaches to the remediation of literacy deficits.

EDUC6617

1 Credit

Study Skills

Techniques are reviewed for teaching students with learning disabilities/dyslexia how to study effectively for content mastery. Topics include acquisition of critical-thinking skills, vocabulary development, organization of time and materials, test-taking, memory and note-taking strategies.

EDUC6618

1 Credit

Students with Learning Disabilities: Social and Emotional Needs

Students will survey contemporary research regarding the social and emotional issues in relation to students with learning disabilities, including dyslexia. Techniques, variables and research, as well as theories supporting the

development and maintenance of positive self-regard and other proactive aspects of working with students with learning disabilities are addressed.

EDUC6619

1 Credit

Multisensory Approach to Teaching in the Content Areas

Tailored to meet the needs of subject-area middle school and secondary teachers, this course emphasizes vocabulary development, comprehension and study skills as they relate to reading in English, social studies, history and science.

EDUC6620

3 Credits

Introductory Course in Dyslexia

Critical issues regarding individuals with dyslexia are explored in this course, including its definition, current research, legal rights, general classroom strategies and accommodations. Includes the study of diagnostic approaches for identifying dyslexia and related disorders. An overview and history of Orton-Gillingham as the preferred method for remediating students with dyslexia also are featured.

EDUC6624

1-6 Credits

Orton-Gillingham Topics

Study of one particular topic regarding dyslexia or one particular treatment of individuals with dyslexia using the Orton-Gillingham approach. Course may be repeated, but with different topics.

EDUC6626

3 Credits

Neurophysiological Basis of Learning Problems

Introduction to the anatomy and physiology of the human nervous system. Emphasis on sensorimotor and higher-order functions and dysfunctions basic to understanding school learning problems and the effects of exceptionalities on the atypical learner.

EDUC6627

3 Credits

Orientation to School Testing

Surveys tests used to evaluate students' performances. Includes study of test-construction criteria, methods for assessing students' progress and evaluation of teaching effectiveness.

EDUC6631

3 Credits

Assessment in the Second-language Classroom

This course provides the theoretical as well as the practical bases for the study, analysis and creation of appropriate strategies to evaluate language acquisition. Practical procedures and theoretical issues relevant to the measurement

and evaluation of language proficiency will allow teachers of English as a Second Language (E.S.L.), English as a Foreign Language (E.F.L.) and World Languages to understand and apply the techniques required for the assessment of language learning in the classroom.

EDUC6635

4 Credits

Clinical Practice in Language Instruction

Field participation in a variety of language-teaching settings. Opportunity for guided observation, demonstration and micro-teaching with clinical analysis.

EDUC6636

1 Credit

Phonology, Reading and Spelling

Participants will learn the sound system of English, how children's processing of the sound system governs early spelling and reading development and how phonological skills can be enhanced through direct, informed teaching.

EDUC6639

1 Credit

Incorporating Children's Literature into Orton-Gillingham Program

This course will focus on how to maximize the use of literature when using an Orton-Gillingham program in grades K-8. Emphasis will be placed on 1) how to find literature that correlates with a child's level of decoding and comprehension, 2) how to look at readability levels through Orton lenses and 3) how to infuse fluency practice into appropriate literature.

EDUC6641

1 Credit

Orton-Gillingham for Resource Center Teaching Workshop

Teachers will explore techniques for using the Orton-Gillingham approach in reading, spelling and handwriting instruction for individuals or small groups within the resource center or the inclusive classroom. Coordination with regular classroom curriculum also will be covered.

EDUC6643

1 Credit

Fluency: A Bridge to Comprehension

This course will focus on two essential components of effective reading instruction. The theoretical basis, related strategies and critical connections between fluency and comprehension will be addressed.

EDUC6648

1-6 Credits

Assistive Technology for Students with Dyslexia

Overview of strategies to provide assistive technology for students with dyslexia.

Presentation of major apps, electronic tools and software for students' use in compensating for reading, writing, spelling and organizational difficulties. Hands-on experience in implementing programs and selecting appropriate strategies for individual students. The course may be repeated but with different topics.

EDUC6649

3 Credits

Introduction to United States Culture

Analysis of major patterns of American culture in contrast with other cultures based on observations, readings and field research. This course is intended for international students in the Master of Arts in teaching English as a second/foreign language (TESL/TEFL) program only.

EDUC6650

3 Credits

Behavioral Science for Teachers: Language and Culture in the Classroom

This course examines human culture as a general phenomenon and the human capacity for culture as the major mechanism that renders the individual capable of internalizing various types of educational messages. Students will explore the relationship between language and culture with implications for materials selection and curriculum development.

EDUC6651

3 Credits

Effective Reading Instruction

An introduction to current theory, strategies and practices designed to meet the reading and language arts needs of students of varying abilities and cultural and linguistic backgrounds. Students will acquire a knowledge of techniques and materials used in the development of reading and language-arts skills.

EDUC6654

3 Credits

Literacy Development for Second-language Learners

This course explores the process of acquisition of literacy skills in a second language. Reading theories and second-language acquisition theories, as well as transferability of literacy skills from L1 to L2, will be reviewed. The impact of these theories on instructional practices will be emphasized.

EDUC6658

3 Credits

Science, Technology and Society

The impact of science as a way of knowing and a component of western culture and technological advancement on society. Historical and philosophical perspectives on the role of science in culture. New directions for scientific literacy, reasoning and problem-solving skills.

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EDUC6660

1 Credit

Diagnosing Mathematics Disabilities and Strategies for Remediation

Overview of diagnostic techniques used to diagnose mathematics disabilities in the areas of calculation, word problems and automatically of basic problems. Introduction of strategies to address weaknesses in identified areas.

EDUC6661

3 Credits

The Multicultural Classroom

This course focuses on understanding how biases at the institutional, individual and societal levels impact the educational context and academic achievement of all students, and covers different teaching strategies on topics related to cultural differences with respect to race, ethnic class, gender, sexual orientation, religion and English-language learners in schools. Current topics such as the achievement gap and bullying are addressed.

EDUC6662

2 Credits

Behavioral Science for Teachers: The Learning Process

Examination of the physiological bases and psychological theories of learning, including cultural, cognitive and behaviorist theories as applied to instructional and behavioral classroom management.

EDUC6666

3 Credits

Supervised Practicum in Correction of Reading Problems

This 45-hour course places candidates with a collaborating teacher and a University clinical teaching supervisor in a clinical reading setting for a minimum of 30 hours of supervised clinical practicum experiences, in which the knowledge and skills from previous course work will be reinforced and extended. A University clinical supervisor will observe the candidates, interview the collaborating teacher and provide support and mentoring. Prerequisite: EDUC6607 Diagnosis of Reading Problems.

EDUC6667

3 Credits

A Behavioral Science: An Introduction to Multicultural Studies

This course examines the historical and contemporary goals, assumptions and strategies of multicultural education. Through the use of critical pedagogy, students in the course will apply a multicultural analysis to historical events from the inception of the United States through the time of reconstruction to the Industrial Revolution through the Great Depression and World War II to contemporary America. Particular attention will be paid to state and federal legislation. The course is intended to

prepare teachers to effectively apply theories of equity to their classroom and teaching practice by familiarizing them with the dynamics of oppression at different points in American history as well as in the different levels of contemporary American society.

EDUC6668

1 Credit

Understanding Asperger Syndrome

Asperger Syndrome is a pervasive developmental disorder which is characterized by significant difficulty in social interactions as well as restricted and often unusual patterns of interest. This course will provide an examination of the incidence of Asperger Syndrome (AS) among school-age children, the characteristics of students with AS, the challenges they present to educators and ways with which to assist them in the school setting.

EDUC6669

3 Credits

Advanced Field Placement

Clinical supervision by a college faculty member with the support of a school-based professional support team. Observations are followed by critique sessions. For those students enrolled in M.A. in education for certified teachers or teachers only. This course runs for two semesters.

EDUC6671

3 Credits

Teachers as Researchers and Educational Leaders

This course focuses on developing and enhancing the skills of the in-service teacher as a professional, instructional expert and educational leader. Topics include human relations, organizational behavior, effective communication, leadership development, action research, school improvement planning, curriculum development and use of technology to enhance instruction and facilitate school effectiveness.

EDUC6672

3 Credits

Curriculum Development for Diverse Learners

Students learn the principles of curriculum development and evaluation for diverse populations. Students choose specific grade levels K–12 and learn how to select and develop curricular materials that address diverse learners' needs. Students learn how to incorporate content standards such as the New Jersey Core Curriculum Content Standards and national standards into curricular materials. This course is aligned with the New Jersey Professional Standards for Teachers, and students learn how instructional staff should be trained to comply with them.

EDUC6673

3 Credits

Integrating Literacy and Technology Across the Curriculum

Techniques are examined which promote the integration of literacy and technology across the curriculum. Teachers explore the definition of literacy based on state standards and develop examples of effective technology-integration literacy lessons. Emphasis is placed on using the internet to explore and share specific instructional strategies resulting in a curriculum project presented as part of the teacher's web folio site.

EDUC6675

3 Credits

Gender Issues in Education

This course examines heterosexism and homophobia in K–12 schools. It considers the historical, legal, social and political trends that have affected schools' ability to address these issues; examines connections among heterosexism, homophobia and sexism; and explores the specific concerns of lesbian, gay and bisexual students, parents and educators in the classroom and school society.

EDUC6676

3 Credits

Language, Culture and the Community

This course will focus on the strong connection between language and culture, including nonverbal communication, humor, formal and informal language. Cultural differences related to family structures, celebrations, food, religions and educational systems will be discussed. The contributions of various cultural groups with an emphasis on the most commonly taught languages in grades K–12 will be incorporated in the course. Further emphasis will be placed on the ways culture can be introduced in the world-language class and how members of the community representing these cultures can enrich the classroom experience.

EDUC6688

3 Credits

Integrating Technology in the Second-language Classroom

The incorporation of technology tools in the second-language classroom will be explored and modeled in this course. Activities will include the use of multimedia equipment and materials for developing listening, speaking and viewing skills. The importance of providing comprehensible input will be part of these demonstrations. The use of the internet to access world-languages resources and research other countries and cultures and the use of email for communication with other countries also will be emphasized. Software and various multimedia applications designed to enhance world-language instruction will be reviewed and explored.

EDUC6694

3 Credits

Introduction to Autism Spectrum Disorders

This course will present a comprehensive overview of the characteristics of children and adults on the autism spectrum, including autism disorders, Asperger Syndrome (disorder) and Pervasive Developmental Disorder, Not Otherwise Specified (PDD-NOS). Through study and project-based learning, students will compare/contrast the accepted methodologies used to support and instruct children and adults with autism.

EDUC6701

3 Credits

Leadership in Learning Community and School

Students will study the theoretical and conceptual basis of organizational leadership, with emphasis placed on contemporary theories and applications for successful leaders. Students will examine the roles of school leaders and what they must think about and be able to do to be effective under conditions of change. Emphasis will be placed on self-reflection and analysis of personal strengths and weaknesses as a future school leader.

EDUC6702

3 Credits

Curriculum and Instruction: Theory and Practice

Students will study and analyze the historic and philosophic roots of contemporary curriculum theory and development. New Jersey Core Curriculum Content Standards and alignment will be addressed in this course, and the implication on New Jersey Administrative Code requirements on program, assessment and graduation requirements.

EDUC6703

3 Credits

Supervision of Instruction: Personnel and Evaluation

Students will study and analyze the various models of supervision and evaluation with a special emphasis on the development of the skills necessary to promote effective instruction in the classroom. Formative and summative staff evaluation strategies, as well as effective coaching and mentoring techniques necessary for success in a diverse school community, will be investigated. The implication of the New Jersey Administrative Code requirements on professional behavior, student growth objectives, student growth percentiles, PARCC testing and schoolwide improvement of program and state assessment of pupil performance will be reviewed.

EDUC6704

3 Credits

Change: Curriculum Development and Program Improvement

Students will examine current research on educational change and collaborative strategies for increasing communication and engaging stakeholders in the change process. A primary focus of the course is to provide students with the skills needed in assessing the school culture; developing a vision and plan for school improvement. The course will focus on several change models and strategies, strategic planning and the communication of the change process within the learning community.

EDUC6706

3 Credits

Advanced Leadership Seminar

The seminar is designed as a problem-based course that focuses on current educational problems that incorporate the behaviors informed by the Interstate School Leaders Licensure Consortium (ISLLC) Standards and New Jersey Professional Standards for School Leaders (NJPSSL). Students will develop skills related to building leadership capacity in themselves and others by working in professional work groups focused on finding solutions to educational problems that have no defined solution set. Prerequisites: EDUC6701 Leadership in Learning Community and School, EDUC6702 Curriculum and Instruction: Theory and Practice, EDUC6703 Supervision of Instruction: Personnel and Evaluation and EDUC6704 Change: Curriculum Development and Program Improvement.

EDUC6715

1 Credit

Updating LDTC Diagnostic Skills

This course will focus on an introduction of recently updated standardized tests frequently used by learning disability teacher consultants (LDTCS). Emphasis will be placed on administration, interpretation and inclusion of results into report writing. Prerequisites: EDUC7623 Diagnosis of Learning Disabilities and EDUC7624 Correction of Learning Disabilities.

EDUC6716

3 Credits

School Finance, Facilities and Scheduling

This course will focus on the principal as an instructional leader and manager of the educational enterprise. The course curriculum is structured to assist future school leaders in acquiring the knowledge and skills necessary to ensure that the management of the school educational program, facility and its resources produces a safe, efficient and effective learning environment for the success of all students. The concepts learned during this course will be applied during the concurrent full-year, field-based internship.

EDUC6717

3 Credits

School Law

This course is structured to assist future school leaders in acquiring the knowledge and skills necessary to ensure that the school educational program, facility and its resources produce a safe, efficient and effective learning environment for the success of all students. The course focuses on law related to education, legislation and court decisions that may impact the rights and responsibilities of administrators, teachers, students and parents. Specific attention is given to New Jersey statutes, administrative code and administrative decisions affecting the school community.

EDUC6718

3 Credits

Curriculum/Program Evaluation and Student Assessment

This course focuses on basic measurement concepts, the role of measurement in education, construction of teacher-made tests and other classroom assessments, interpretation of standardized tests and fundamental descriptive statistics for evaluating student performance, school-improvement efforts and various designs for process and outcome evaluation of curricula. In addition, the course will provide a comprehensive understanding of the purposes and the logic of various testing programs, including classroom testing and state and national testing programs. Data analysis of New Jersey Statewide Tests that measure student performance will be used to assist in developing skills in data-based decision making that lead to the construction of school improvement plans and determining school goals for professional development and instructional emphasis.

EDUC6720

3 Credits

Educational Leadership Field-based Internship Seminar I

This first phase of a school-based internship is part of a 9-credit course sequence focusing on school leadership and management activities with an experienced practitioner in school leadership. The participants in the internship program enroll in three consecutive semesters (summer, fall and spring) during the second year of the M.A. in educational leadership program to complete 120 hours of field experience with an assigned mentor and adviser. Corequisite: EDUC5720 Field-based Internship I.

EDUC6721

3 Credits

Educational Leadership Field-based Internship Seminar II

This second course in a sequence of three courses dedicated to the field-based internship is part of a 9-credit course sequence focusing on school leadership and management activities

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with an experienced practitioner in school leadership. The participants in the internship program enroll in three consecutive semesters (summer, fall and spring) during the second year of the M.A. in educational leadership program. Students will have an opportunity to apply their learning in an authentic school setting while working with a current school administrator who also serves as a mentor for the educational leadership program. Prerequisite: EDUC6720 Educational Leadership Field-based Internship I. Corequisite: EDUC5721 Field-based Internship Seminar II.

EDUC6722

3 Credits

Educational Leadership Field-based Internship Seminar III

This third course in a sequence of three courses dedicated to the field-based internship is part of a 9-credit course sequence focusing on school leadership and management activities with an experienced practitioner in school leadership. The participants in the internship program enroll in three consecutive semesters (summer, fall and spring) during the second year of the M.A. in educational leadership program. Students will have an opportunity to apply their learning in an authentic school setting while working with a current school administrator who also serves as a mentor for the educational leadership program. Prerequisites: EDUC6720 Educational Leadership Field-based Internship Seminar I and EDUC6721 Educational Leadership Field-based Internship Seminar II. Corequisite: EDUC5722 Field-based Internship Seminar II.

EDUC6723

3 Credits

Final Project: School-based Research

This course emphasizes the supervisor's and principal's roles in conducting school-based research as a means of school improvement and professional development. Research-based strategies will be used to develop an instructional plan focused on school improvement and student achievement.

EDUC6732

2 Credits

Project Read: Phonics

Systematic phonics using multisensory strategies. The sequence of concepts and skills from awareness, sound/symbol correspondence, syllabication and, ultimately, context. Designed for primary-level students but basic for any age person at a beginning level.

EDUC6733

3 Credits

The Oral Language Reading Connection

An examination of the nature of oral-language problems and their impact on upper-level

reading skills. Differentiating instructional strategies to align with oral-language profiles of students with reading disabilities.

EDUC6735

3 Credits

Orton-Gillingham Resources for Administrators

Understanding dyslexia and the characteristics of students who benefit from the Orton-Gillingham approach. Content and strategies of Orton-Gillingham lessons. Administrative procedures including scheduling, program and teacher evaluation and creating professional development. Serves as a resource for teachers and parents.

EDUC6736

0–2 Credits

Literacy Topics

Study of literacy topic(s). The course can be taken again but specific topics may not be repeated.

EDUC6737

1 Credit

Phonemic Awareness

Theoretical framework and research. Developmental stages and related tasks. Assessment as a basis for individualized instruction. Guidelines for selection of published materials and teacher-made materials.

EDUC6740

3 Credits

Introduction to Students with Disabilities and Autistic Spectrum Disorders

Overview of normal growth and development as a basis to identify developmental delays and learning differences. Characteristics of different disabilities and their effects on how children learn. Review of federal, state and local regulations and their effects on local policies, procedures and placement. Transition planning, resources and assistive technology to enhance the performance of students with disabilities and autistic spectrum disorders.

EDUC6741

1 Credit

Response to Intervention (RTI): Strategies for Struggling Readers

Presentation of screenings/assessments, strategies and program options to enhance and monitor reading achievement within the multi-tier RTI model.

EDUC6742

2 Credits

Innovations in Effective Teaching in Special Education

An analysis of the literature on studies of teacher effectiveness and their implications for teaching students with learning disabilities.

Methods for reading and interpreting research reports in educational journals are covered.

EDUC6743

3 Credits

Introduction to Students with Disabilities in School and Community

Introduction to the student with disabilities. Overview of normal growth and development as a basis to identify developmental delays and learning differences. Characteristics of different disabilities and their effects on how children learn. Review of federal, state and local regulations and their effect on local policies, procedures and placement. Transition planning, resources and assistive technology to enhance the performance of students with disabilities.

EDUC6744

3 Credits

Foundations: Historical, Philosophical and Legal Issues Related to Disabilities

Foundations of special-education practice. Learning environments that are culturally responsive. Ethical responsibility of special educators to advocate for the highest quality of life potential for students with exceptional needs. Special educators' role in the healing process.

EDUC6745

3 Credits

Principles and Practices of Collaboration and Inclusion

This course addresses the prerequisite knowledge and skill set necessary to create collaborative teaching/learning environments essential for inclusion. Students will examine effective teaching practices for whole-class instruction and the adaptations and modification necessary to meet the needs of students with high- and low-incidence disabilities. Students will learn strategies that prompt acquisition and application of core curriculum competencies. Prerequisite: EDUC6740 Introduction to Students with Learning Disabilities and Autistic Spectrum Disorders.

EDUC6746

3 Credits

Learning Environment and Effective Management of Teaching and Learning

Review of psychological, social and emotional characteristics of individuals with learning disabilities. Exploration of teacher attitudes and behaviors that influence behavior of students with diverse learning needs. Classroom management theories and strategies for individuals with learning disabilities. Collection and interpretation of performance data to develop behavior management plans for individuals with learning disabilities.

EDUC6747

3 Credits

Multisensory Reading Instruction for Students with Reading Disabilities

Causes, characteristics and intervention for students with reading disabilities with special emphasis on students with dyslexia. Strategies and related materials for assessing and instructing students in phonological awareness, word attack, word recognition, fluency, spelling, vocabulary and comprehension.

EDUC6749

1 Credit

Syntax: Its Role in Writing and Comprehension

Syntax, the arrangement of words within a sentence, plays an important role in a student's reading comprehension and written expression. Syntax and various ways to teach it will be covered in this course.

EDUC6750

3 Credits

Teaching in an Inclusive Classroom

The focus of this course will include identifying differing ways of learning of individuals with exceptional learning needs including those from culturally diverse backgrounds. Strategies for addressing these differences, methods for ensuring individual academic success in various settings and the use of research-supported methods for academic and nonacademic instruction of individuals with learning disabilities will be addressed. Topics will include collaborating with families, professional and community agencies in culturally responsive ways; assistive technology; and language issues impacting student learning.

EDUC6752

1 Credit

K-4 Literature for Struggling Readers

The focus of this course will include finding appropriate and exciting literature for the struggling reader, using picture books effectively for listening comprehension and vocabulary instruction and analyzing traits of literature beneficial to children with dyslexia.

EDUC6753

2 Credits

Written Expression Practicum

Supervised practice teaching written expression and syntax to individual students and small groups. Includes experience with managing peer revising, sharing written pieces and conducting brainstorming sessions for the struggling writer.

EDUC6772

1 Credit

Technology to Support Reading and Writing Instruction

This course explores assistive technology tools that enhance reading and writing instruction, for compensation or remediation. It highlights

understanding of devices such as iPads, Chromebooks, laptops, Google Apps for Education, iOS apps and effective web tools.

EDUC6777

3 Credits

English Language Education: Grammar for Teachers of English and E.S.L.

This course examines grammatical theories underlying the teaching of English to native and non-native English speakers. All language skills — listening, speaking, reading and writing — are addressed.

EDUC6778

3 Credits

Methods ELL Content Areas

This course focuses on educational approaches that synthesize language-learning objectives with content-area objectives. Informed by the findings of current research, the course surveys the variety of ways K-12 programs tie together language and content instruction. Course assignments are designed to provide students with practical training in the design and implementation of lesson plans that integrate both language and content objectives. Special attention is given to the SIOP (Sheltered Instruction Observation Protocol) and CALLA (Cognitive Academic Language Learning Approach) models. This course is appropriate for all students in education programs, regardless of their area of intended certification.

EDUC6780

1 Credit

Using Technology to Enhance Learning for Students with Dyslexia

Overview and application of new technologies and discussion of their applications for students with dyslexia. Discussion of technological tools to permit nonprint alternatives for student learning. Demonstration of tools to help students make web research more efficient. Approaches to evaluating website content.

EDUC6784

1 Credit

Developing Metacognitive Skills

Presents a standard format of instruction to help students develop reading-comprehension strategies. Demonstrates listening comprehension, transitional metacognition and guided metacognition lessons. Provides predesigned lessons that extend throughout the curriculum.

EDUC6792

3 Credits

Assistive Technology for the Inclusive Classroom

This course introduces teacher candidates to technologies that enhance the learning of all students. Assistive technology will be explored to increase access to the general-education

classroom. Strategies and technologies to address diverse learning needs will be introduced.

EDUC6793

3 Credits

Education of Students with Moderate to Severe Disabilities

This course examines major historical trends, legal mandates and current philosophical issues influencing the education of students with moderate/severe disabilities. Students will develop knowledge regarding the learning, communication, behavioral, social and physical characteristics of these students and the implications of these characteristics on program planning. Evidence-based practices for modifying curriculum, aligning instruction to the general education curriculum, designing and supporting instruction in general education programs and facilitating social skill development will be emphasized. Students will develop the knowledge and skills related to the use of augmentative and assistive technology, community-based instruction, positive-behavior supports, transition planning and home-school collaboration.

EDUC6795

3 Credits

Teaching Strategies for the Secondary/Post-secondary Students in Learning Disabilities

Training to instruct secondary and post-secondary students in the use of learning strategies. Instruction on integrating technology-based accommodations into content-based teaching. Includes a hands-on practicum with college-bound students with learning disabilities.

EDUC6797

3 Credits

Multisensory Mathematics Instruction for Students with Disabilities

Causes, characteristics and intervention for students with mathematics disabilities. Strategies and instructional materials for assessing and instructing students in calculations, word problems and fluency.

EDUC6804

3 Credits

Integrating Science/Mathematics/Technology in the Classroom

Utilizing a project-based approach, preservice and in-service teachers will become familiar with an integrated approach for the delivery of science and mathematics using technology tools. In-depth understanding of the appropriate use of technology (i.e., MBL[s], sensors and probes, robotics, LEGO/LOGO) in and out of a classroom setting to deliver science and mathematics content aligned with New Jersey Core Curriculum Content Standards (NJCCCS).

Education • Course Offerings

EDUC6806

3 Credits

Language Development Through Mathematics/Science

Student-centered mathematics and science instruction can be harnessed to enhance first- and second-language acquisition on the part of language minority students. Underlying theory of language acquisition will be reviewed along with a presentation of methodologies for teaching language through mathematics and science. Students will be called upon to apply theory and strategies learned to the production of instructional resources and experiences that encompass course teachings.

EDUC6810

3 Credits

Schools, Communities and Substance Abuse

One of eight courses required for substance abuse coordinator certification, this course addresses curriculum issues, models of implementation for programs to prevent substance abuse, school policies and methods of implementing effective programs as well as historical context from which current mandates have arisen.

EDUC6818

3 Credits

Language Development and Literacy I

Recent research and findings in language development and literacy and its application in elementary education will be the focus of this course. Literacy skills in reading and language arts across grade levels for students with varying abilities and cultural and linguistic backgrounds will be included.

EDUC6819

3 Credits

Language Development and Literacy II

Recent research and findings in language development and literacy and applications in social studies and science in the elementary school will be the focus of this course. Literacy across the curriculum will be emphasized.

EDUC6820

3 Credits

Problem-based Strategies for Elementary Mathematics

Recent findings in critical thinking, quantitative reasoning and problem solving as they apply to all elementary subjects and grades is the focus of course content. Special emphasis is given to mathematical problem solving using manipulative materials.

EDUC6824

1 Credit

Teaching Laboratory and Field Experience I

Guided observation and clinical analysis in an education setting. Program assessment and design. Supervised practical experiences in the classroom, increasing in intensity and duration.

EDUC6825

2 Credits

Apprenticeship Teaching Seminar

The seminar will provide an opportunity to review current theories and practices in education as they directly relate to the students' teaching experiences. This course is taken as a corequisite with EDUC6575 Apprenticeship Teaching. Corequisite: EDUC6575 Apprenticeship Teaching.

EDUC6827

1 Credit

Field Project Seminar

Seminar concentrating on observations and experiences in the field. Emphasis on adapting theory to classroom practice with various age groups.

EDUC6828

1 Credit

Teaching Laboratory and Field Experience II

Guided observation and clinical analysis in an educational setting. Program assessment and design. Supervised practical experiences in the classroom, increasing in intensity and duration. Prerequisite: EDUC6824 Teaching Laboratory and Field Experience I.

EDUC6829

1 Credit

Teaching Laboratory and Field Experience III

Guided observation and clinical analysis in educational settings. Program assessment and design. Supervised practical experiences in the classroom, increasing in intensity and duration. Prerequisite: EDUC6828 Teaching Laboratory and Field Experience II.

EDUC6835

3 Credits

Effective Teaching and Effective Schools

Students will acquire and demonstrate skills in effective teaching for students with varying abilities and cultural and linguistic backgrounds. Essential skills as identified by the New Jersey Department of Education for beginning teachers will be emphasized. Presentations of research findings, demonstrations of essential teaching skills by faculty, microteaching, peer coaching and audiovisual instructional materials will be used to impart skills. Students also will acquire a thorough knowledge of effective school management and operations that relate to successful classroom instruction.

EDUC6845

1 Credit

Understanding IQ Testing

This course for teachers, reading specialists and learning consultants will provide a comprehensive review of the Wechsler Intelligence Scales as a basis for understanding diagnosis, remediation and strategy instruction for students with learning disabilities, particularly students with dyslexia.

EDUC6849

1–3 Credits

Advanced Special Project

Students are supervised while working with children in the field, using materials and methods studied in the academic section of the courses in diagnosis and correction of learning disabilities and remediation in basic school subjects. Each credit hour represents 30 hours of fieldwork.

EDUC6851

3 Credits

Child Development from Birth to Age 8

This course is designed to foster the understanding of the development and learning of children from birth through age eight. It examines the current information concerning the development of the child through the various stages of childhood. Educators will gain knowledge based on the growth, development and learning of children from birth through eight years old. The class will explore the crucial role that communities, families and teachers play in the lives of young children. Students will engage in observations of children at various ages to gain a deeper knowledge of the integration of theory of child development into practice.

EDUC6852

3 Credits

P–3 Curriculum and Assessment

This course examines the current literature on developmentally appropriate curriculum, classroom management and assessment for the Pre-K through third-grade classrooms.

EDUC6853

3 Credits

Family and Community in Education

This course examines the current research on parent, school and community influences on children's lives. It addresses effective family-engagement activities in classrooms, schools and communities. Educators will gain more knowledge and skills to work collaboratively to work with families. Contemporary issues of bullying, diverse family lifestyles, social media and children with differing abilities will be explored.

EDUC6854

3 Credits

Child and Adolescent Development

This course is designed to foster the understanding of the development and learning of children from birth through adolescence. It examines the current information concerning the development of the child through the various stages of childhood and adolescence. The class will explore the crucial role that communities, families and teachers play in the lives of children. Students will engage in observations of children at various ages to gain a deeper knowledge of the integration of theory of child development into practice.

EDUC6862

1 Credit

Project Read: Reading Comprehension (Report Form)

This course presents the Report Form section of the reading comprehension strand of the Project Read program. It teaches students how to collect, organize and analyze information from expository text (report form).

EDUC6864

1 Credit

The Montessori Approach to Learning

Overview of Montessori methods for teaching oral and written language, as well as mathematics in preschool through grade 12.

EDUC6870

3 Credits

Standards-based Strategy: Elementary Science

In-depth program on teaching science to elementary school children through a hands-on, process-oriented and problem-solving approach. Lesson design, management of the students and materials, safety and cross-curricular teaching are integral to the instruction activities in the life and physical sciences.

EDUC6871

3 Credits

Seminar: Practice of Elementary Science Education

Analysis of the design and construction of instructional units; application of research in cooperative learning, learning styles, effective teaching and peer coaching in clinical practice of elementary science.

EDUC6880

1 Credit

Teaching Vocabulary to Students with Learning Disabilities

Current research on vocabulary-development strategies for enhancing reading comprehension and word choice in writing for students with learning disabilities. Application for instruction in inclusion and special-education classrooms.

EDUC6893

3 Credits

Evaluation and Measurement in Education

This course emphasizes the use of multiple methods to assess student learning in K–12 classrooms; development and assessment of portfolios and performance-based tasks; and objective and standardized tests. Analysis of assessment information and self-/peer assessments to enhance teaching and address individual student-learning needs is integral to the course. Strategies for evaluation and grading and the use of rubrics are addressed. Emphasis is placed on standards-based instruction and assessment using the New Jersey Core Curriculum Content Standards and statewide assessments as reference points.

EDUC6910

3 Credits

Race, Immigration and Education in Contemporary America (1960s to the Present)

This course focuses on contemporary America (1960s to the present) through the analysis of key historical events in America such as the civil rights movement. Specifically, the course examines post-1965 immigration patterns and other current issues, events and themes related to contemporary America such as globalism and transnationalism. The reshaping of America's racial geography is explored. One of the primary objectives of this class is for students to understand that historical cohorts of different ethnic groups have parallel experiences of Americanization. From this realization can grow a greater understanding of and ability to cross American racial/ethnic lines and focus on the needs and experiences of the newest Americans, particularly in the educational context.

EDUC6912

3 Credits

Sociology of Multicultural Identity Development

This course is designed to equip educators with appropriate skills and knowledge for the effective teaching of culturally and socioeconomically different students. The course focuses on multicultural cognitive and psychosocial development as it bears on teaching and learning within different social and cultural populations (gender, race, ethnicity, sexual orientation) and contexts (homes, schools). It examines research related to the identity development of racial/ethnic minority students and to the societal and school experiences of these students. While special attention is given to ethnic and racial identity development of African-American, Latino/a and Asian-American students, identity development of Caucasian-American students will also be discussed.

EDUC6914

3 Credits

Developing Multicultural Curricula

This course is designed to help teachers better understand the school's role in the multicultural education of students and acquire the insights, understandings and skills needed to design and implement curricular and instructional strategies that reflect ethnic diversity. Topics include philosophy and principles of multicultural education; racial and cultural influences on education; the impact of teaching and learning on instruction and assessment; alternative assessment theories; and the relationship of instruction to classroom management. This course is designed to help educators identify content and materials, devise methods for incorporating multicultural content into regular K–12 social studies, language arts and humanities curricula. Prerequisite: EDUC6661 The Multicultural Classroom.

EDUC6916

3 Credits

Foundations of Modern America: African-Americans

The course briefly reviews the post-Civil War to pre-civil-rights-era history of African-Americans, with a particular focus on education; examines the goals, achievements and legacies of the modern civil rights movement; and evaluates progress and changes in African-American social, political and economic status during the last quarter of the 20th century. By applying critical thinking skills to competing views of historical and current events, students explore the impact and meaning of these developments for African-American students and their teachers.

EDUC6918

3 Credits

Foundations of Modern America: Asian-Americans

This course answers the questions: Who are Asian-Americans? What has been their role in American history? By applying critical-thinking techniques to competing views of historical and current events, the course explores issues of ethnic identity development, religion, gender and sexuality, language, Americanization and the sociopolitical climate as they affect Asian-Americans. The class will focus on second-generation Asian-Americans whose families arrived in the United States in 1965 as immigrants and refugees. The Asian-American experience and the factors affecting it — including the civil rights and women's movements, immigration patterns and policy and the current War on Terrorism — will be used to examine the role of cultural heritage in how one views oneself, one's ethnic group(s) and the dominant culture.

Education • Course Offerings

EDUC6920

3 Credits

Foundations of Modern America: Latino/a

This course presents a sociohistorical and cultural analysis of the diversity within Latino/a groups, particularly as represented in educational settings. In this context, the class examines global, political, economic and social changes in the 20th century, including rapid population growth, increasing urbanization and globalization. Applying critical thinking skills and historical analysis, the class explores how all these factors affect the goals, achievements and legacies of Latinos/as in the United States today. This course will prepare educators to respond to the diversity within Latino/a groups by developing an awareness of the relationships among different Latino/a groups — including the different demographics, linguistic factors and sociological perspectives among Latinos/as.

EDUC6921

1 Credit

Clinical Teaching Internship and Seminar III

Second-year teaching candidates undergo clinical supervision by a college supervisor who is a member of a school-based professional support team. Observations are followed by critique sessions; problems arising in professional practice are addressed. Prerequisites: EDUC6571 Clinical Teaching Internship and Seminar I and EDUC6572 Clinical Teaching Internship and Seminar II.

EDUC6923

1 Credit

Clinical Teaching Internship and Seminar IV

Second-year teaching candidates undergo clinical supervision by a college supervisor who is a member of a school-based professional support team. Observations are followed by critique sessions; problems arising in professional practice are addressed. Prerequisites: EDUC6571 Clinical Teaching Internship and Seminar I, EDUC6572 Clinical Teaching Internship and Seminar II and EDUC6921 Clinical Teaching Internship and Seminar III.

EDUC7603

3 Credits

Multisensory Reading III

Focuses on skills for teaching upper-level language skills (fourth-grade level and above) involved in teaching reading, spelling and handwriting, using the Orton-Gillingham approach. Topics include roots, prefixes and suffixes. Consists of lecture followed by supervised practicum in which teachers are assigned upper-level students with dyslexia. Group seminars and individual conferences between teacher and supervisor also are

included. Prerequisite: B+ or better grade in the clinical component of EDUC6602 Multisensory Reading II.

Fall, Spring, Summer

EDUC7604

3 Credits

Multisensory Reading IV

Continuation of training in the Orton-Gillingham techniques taught in EDUC7603 Multisensory Reading III, with continued study of upper-level language skills. Consists of lecture, supervised practicum, group seminars and individual conference between teacher and supervisor, as described in EDUC7603 Multisensory Reading III. Prerequisite: B+ or better grade in the clinical component of EDUC7603 Multisensory Reading III.

Fall, Spring, Summer

EDUC7620

1–2 Credits

Diagnosis of Dyslexia

Advanced study of diagnosis of individuals with dyslexia. Integrates current research, theory and assessment approach. Prerequisite: New Jersey Learning Disabilities Teacher Consultant (LDTC) Certification or equivalent.

EDUC7623

3 Credits

Diagnosis of Learning Disabilities

Research on characteristics, uses, advantages and limitations of formal and informal assessment techniques and instruments used to assess educational strengths and weaknesses. Students will learn how to gather background information, select assessment measures, interpret results and practice writing learning evaluations and Individual Education Plans (IEPs) based on evaluation results.

Prerequisites: EDUC6740 Introduction to Students with Disabilities or EDUC6743 Introduction to Students with Disabilities in School and Community and Autistic Spectrum Disorders and EDUC6745 Principles and Practices of Collaboration and Inclusion or EDUC6746 Learning Environment and Effective Management of Teaching and Learning.

EDUC7624

3 Credits

Correction of Learning Disabilities

Selection, adaptation and use of research-based instructional strategies and materials to plan and modify the curriculum for students with learning disabilities in remedial and replacement settings. Interpretation of formal and informal test data as the basis for planning Individualized Education Programs (IEPs), including writing goals and objectives and selecting appropriate strategies and materials to facilitate maintenance and generalization of learning across environments. Prerequisites: EDUC6740 Introduction to Students with Disabilities or

EDUC6743 Introduction to Students with Disabilities in School and Community and Autistic Spectrum Disorders and EDUC6745 Principles and Practices of Collaboration and Inclusion or EDUC6746 Learning Environment and Effective Management of Teaching and Learning.

EDUC7674

2–3 Credits

Master's Seminar: Research in Specialization

This course serves as a capstone experience that extends and reinforces the teachers' knowledge, skills and competencies related to professional and educational practice through research and completion of a culminating project in their relevant area of specialization. The course reviews research methodologies and various research models. The teacher will prepare a research study on a topic/problem of his/her choice (subject to approval by an adviser) under the direction of a mentor. The teacher will be required to submit a written report and action plan in an approved format, subject to approval of the mentor in accordance with School of Education policy. (Only for M.A. in education for certified teachers students.)

EDUC7675

2 Credits

Master's Seminar in Early Childhood Education

This course reviews research methodologies in early childhood education. The student will choose a research topic and write a written report in an approved format under the guidance of a mentor. It will be a culminating research project in the area of early childhood education.

EDUC7718

2 Credits

Final Project: Second Language Acquisition

Application of linguistic and pedagogical knowledge in the development of one or two units of language study rooted in appropriate New Jersey Core Curriculum Content Standards as well as appropriate language standards (either New Jersey English Language Proficiency Standards or Standards for Foreign Language Learning in the 21st Century) for age/grade level cited and for the target language addressed.

EDUC7721

3 Credits

Philosophy of Education

An introduction to educational philosophy, emphasizing modern theories and their origins, development and application to present problems.

Fall, Spring, Summer

Education • Course Offerings

EDUC7723

3 Credits

Principles of Curriculum Construction

Emphasis on recent curriculum materials and evaluation of planning process. Procedures in supervision, design and implementation of innovative curriculum. Implications for public education of recent curriculum trends.

EDUC7763

3 Credits

Human Relations and Conflict Resolution for Educators

This course provides a theoretical and practical framework for decision making, social problem solving, conflict resolution and mediation in the classroom and school environment for both students and adults. The theoretical knowledge base emphasizes the sociological and psychological aspects of human behavior. Varied learning activities will develop skills and techniques that address preventative measures to minimize conflict and mediate conflict situations when they occur. The course emphasizes conflict-resolution strategies as an intervention, and learning experiences that promote development of character and social responsibility, productive social interactions and collaboration.

EDUC7779

1-3 Credits

Computer-based Programming for Gifted Children

This course is designed to introduce regular classroom teachers, teachers of the gifted and talented and supervisors to the use of computers in instructing gifted children. Review of existing software and techniques, planning and integration with traditional instruction.

EDUC7782

3 Credits

Technology in the Reading/Writing Process

This course examines how technology can support the reading and writing process in the classroom. Basic research in the field is covered. Word processing and software programs are examined. The impact of technology on the reading/writing process will be examined and discussed.

EDUC7783

3 Credits

Telecommunications and Distance Learning

This course examines two-way interactive television to present courses to remote locations via fiber-optic networks. Emphasis is on using this technology to deliver courses and learning techniques that increase interactivity. Distance-learning programs such as Blackboard will be introduced. Students will be asked to create a lesson using Blackboard.

EDUC7784

3 Credits

Multimedia Production

Techniques for the application of visual, audio and animation file formats to curriculum activities are explored. Teachers use a professional multimedia-authoring tool to design and author an interactive curriculum module for use in the classroom which is designed for placement and curriculum delivery within the teacher's web folio site. Prerequisite: EDUC7785 Internet for Educators.

EDUC7785

3 Credits

Internet for Educators

The internet is treated as a dynamic curriculum delivery, authoring and collaborative medium. Teachers use professional web-authoring tools to design and author the structure of a comprehensive shell for their web-based folio site. Design principles are emphasized which support regular use of the site in classroom and school activities. Prerequisite/Corequisite: EDUC6584 Computers as a Teacher's Aid: Curriculum and Instruction.

EDUC7786

3 Credits

Technology in the Social Science/Humanities Classroom

This course focuses on integrating computers and technology into the social sciences/humanities classroom. New products will be evaluated and model school districts using technology in social studies and English classrooms will be reviewed, along with strategies to use technology in the classroom. Students will create many different projects they can use in a social studies or English classroom.

EDUC7790

3 Credits

Seminar in Instructional Technology

Research and techniques in the field of instructional technology are explored in a seminar setting. Topics investigated include state and district technology plans and the implications of national policy initiatives. A research project is presented as part of the teacher's web folio site. Prerequisite: EDUC7784 Multimedia Production.

EDUC7795

3 Credits

Advanced Internet for Educators

This is an advanced internet course which will build upon knowledge of how to design a web page using more advanced tools. It will continue to explore how the internet can be a valuable classroom resource for educators. Prerequisite: EDUC7785 Internet for Educators.

Fall, Spring, Summer

EDUC7796

3 Credits

Projects Based on the Web

A major multimedia module featuring interactive content and incorporating techniques and work from the instructional technology program is authored as a capstone project for the teacher's web folio site. Prerequisite: EDUC7784 Multimedia Production.

EDUC7797

3 Credits

Technology in Visual/Performing Arts

Explores the exciting role computers can take in bringing the visual and music arts alive in the classroom. Students develop their own visual and music projects which model classroom activities that might be used to support New Jersey Core Curriculum Content Standards. No prerequisite "arts literacy" or "art background" are required. Prerequisite: EDUC6584 Computers as a Teacher's Aid: Curriculum and Instruction.

EDUC7798

3 Credits

Special Topics in Instructional Technology

Current issues related to the growing movement toward technologies which support schoolwide networking are emphasized. Topics focus on current technology trends and developing strategic plans for change and technology implementation strategies for schools and districts. A module is authored as part of the teacher's web folio site. Prerequisite: EDUC7785 Internet for Educators.

EDUC7810

1-3 Credits

Advanced Special Projects: Field Experiences

Guided observation and clinical analysis in an educational setting. Program assessment and design. May be taken with EDUC7811 Research in Curriculum Development, in preparation for EDUC7812 Final Project.

EDUC7811

1 Credit

Research in Curriculum Development

Survey of literature in curriculum followed by development of a research project in a specific discipline.

EDUC7812

2-3 Credits

Final Project

The fundamentals of educational research and the link between theory and practice are explored. Students develop a research proposal that is specific to their needs and interests as practitioners. This course explores the fundamentals of educational research, its value and the links between educational research and

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practice. Students will conduct a survey of the literature on a selected topic and use higher-order thinking skills to develop a research question or series of questions and research proposal. Signature of adviser required.

EDUC7813

3 Credits

Applied Field Project

Applied field project as culmination of program of study. Project to be related to elementary-, secondary- or college-level instruction.

EDUC8609

3 Credits

Multisensory Reading V

Techniques for teacher training and supervision of the Orton-Gillingham approach to instruction are offered. Students plan, present and evaluate training sessions. Includes supervision in providing instruction and feedback to individuals in training. Prerequisite: EDUC7604 Multisensory Reading IV.

EDUC8610

3 Credits

Multisensory Reading VI

Techniques for teacher training and supervision of the Orton-Gillingham approach to instruction are offered. Students plan, present and evaluate training sessions for teachers who are enrolled in EDUC7603 Multisensory Reading III and EDUC7604 Multisensory Reading IV. Includes supervision in providing instruction and feedback to individuals in training. Prerequisite: EDUC8609 Multisensory Reading V.

EDUC8612

3 Credits

Advanced Orton-Gillingham Practicum I

Focuses on provision of comprehensive instruction, including decoding, encoding, written expression, reading comprehension and study skills using multisensory strategies. Consists primarily of a supervised practicum working with students with dyslexia. Prerequisite: EDUC7604 Multisensory Reading IV.

EDUC8613

3 Credits

Advanced Orton-Gillingham Practicum II

A continuation of the training provided in EDUC8612 Advanced Orton-Gillingham Practicum I and includes training in syntax and written-expression instruction. Consists of lectures and a supervised practicum working with students with dyslexia.

EDUC8614

3 Credits

Orton-Gillingham Internship

Applied field experience in private practice, schools or clinical settings to meet hours required for the Orton-Gillingham Therapist Certificate. Instruction using the Orton-Gillingham approach is tailored to the individual/group and includes decoding, encoding, fluency, handwriting, vocabulary, comprehension, narrative and expository writing. The course includes 10 of the observations required for certification at the therapy level. Prerequisite: EDUC8612 Advanced Orton-Gillingham Practicum I and EDUC8613 Advanced Orton-Gillingham Practicum II.

EDUC8623

3 Credits

Practicum in Diagnostic and Remedial Techniques I

Students administer tests, analyze results and interview parents and teachers of children with learning problems. Includes a 45-hour supervised practicum and problem-solving seminar. Prerequisites: A B+ or better grade in EDUC7623 Diagnosis of Learning Disabilities and in EDUC7624 Correction of Learning Disabilities.

Fall

EDUC8628

3 Credits

Practicum in Diagnostic and Remedial Techniques II

Emphasizes the development and implementation of detailed educational plans to remediate learning problems of children. Includes a 45-hour supervised practicum and problem-solving seminar. Prerequisite: A B+ or better grade in EDUC8623 Practicum in Diagnostic and Remedial Techniques I.

Fall or Spring

Mathematics

MATH6507

3 Credits

World of Mathematics: Number

Investigations of numbers utilizing a physical modeling, problem-solving approach to show its development and use.

MATH6508

3 Credits

World of Mathematics: Algebra

An investigation of algebra through a hands-on, process-oriented, problem-solving approach.

MATH6509

3 Credits

World of Mathematics: Geometry

An investigation of the world through geometry and its application via a hands-on, process-oriented, problem-solving approach.

MATH6512

3 Credits

World of Mathematics: Seminar

The practice of mathematics and the analysis of the impact of mathematics on the world in its use and understanding. Numeracy, with its many facets, will draw students to aspects of how mathematics is understood by people.

MATH6513

3 Credits

World of Mathematics: Mathematics in Science

An investigation of the role of mathematics in the fields of biology, chemistry, earth science and physics with an emphasis on the meaning and interpretation of data and statistics and its relevance to the real world.

MATH6514

3 Credits

World of Mathematics: Discrete Mathematics

An investigation into the deeper understanding of topics from discrete mathematics such as counting methods, graph theory, trees, networks, Pascal's Triangle, the binomial theorem, sequences, set theory and recursion and problem-solving techniques.

MATH6516

3 Credits

World of Mathematics: Data Analysis and Probability

This course is designed to explore topics from probability and statistics tools in the problem-solving process. Investigations will center on the basics of collection, summarization and interpretation of data and the fundamental ideas of probability.

MATH6517

3 Credits

World of Mathematics: Applications in the Real World

This course is designed to explore how mathematics is applied in real-world scenarios. The course will emphasize real-world problem solving using 21st-century tools and giving students a better understanding of how mathematics functions.

MATH6600

3 Credits

Advanced Special Projects

Studies in the area of mathematical foundations.

MATH6630

0-3 Credits

Special Topics in Mathematics Education

A study of topics of current interest in mathematics education.

Education for Certified Teachers • Educational Leadership • Electrical Engineering

Education for Certified Teachers (M.A.)

See Education, page 126.

Educational Leadership (M.A.)

See Education, page 132.

Electrical Engineering (M.S.E.E.)

Electrical engineering is one of the most dynamic areas of modern technology. The graduate program in electrical engineering provides students with broad scientific knowledge, current information about technological advancement, exposure to modern mathematical techniques and the ability to formulate and meet objectives that are necessary in the successful practice of electrical engineering. Numerical analysis and computer-aided design methods are used in all courses where relevant. The courses are updated frequently to keep pace with new technological developments and to meet the needs of the industry.

Online M.S.E.E. Option: This program is also available through the internet with the same admission requirements, academic standards and evaluation processes as the traditional classroom program. Lecture notes are posted weekly on the program's website (www.fdu.edu/onlinemsee). Homework assignments also are provided regularly to determine student performance. Assignments may be submitted by mail, email or fax. Ongoing communications and guidance via the electronic forum, email, fax and telephone are provided by the faculty. The M.S.E.E. program can be completed entirely online or in combination with traditional classroom instruction.

The program, on-campus or online, is offered under the auspices of the Lee Gildart and Oswald Haase School of Computer Sciences and Engineering, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

1. A Bachelor of Science degree in electrical engineering from an accredited university. Students with a Bachelor of Science degree in science, engineering (other than electrical) or technology may be admitted if they complete undergraduate prerequisites determined by the school.

2. Submission of an official score report for the Graduate Record Examinations (GRE) General Test taken within the last

five years. The GRE may be waived if the applicant enrolls initially as a nonmatriculating student and completes 9 graduate credits in electrical engineering with a minimum grade point ratio (GPR) of 3.00 and no grade below C or is a Fairleigh Dickinson University electrical engineering graduate with an undergraduate GPR of 3.00 or is a non-Fairleigh Dickinson University electrical engineering graduate with an undergraduate GPR of 3.50. This GRE waiver policy is only applicable to applicants who graduated from a regionally accredited college or university in the United States. (The GRE requirement also is waived for applicants who have completed a master's degree from a regionally accredited college or university in the United States.)

3. Three letters of recommendation.

Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a nonmatriculated or nondegree basis.

Requirements for the Master of Science in Electrical Engineering Degree

Students must earn a total of 30 credits with a grade point ratio of at least 2.75. All courses are 3 credits.

Core Requirements (15 credits)

	Credits
EENG6633	
Digital Signal Processing.....	3
EENG6747	
Digital Communications.....	3
EENG7701	
Logic System Design.....	3
EENG7709	
Embedded Systems.....	3
EENG7725	
Automatic Control Systems I.....	3

Specialization Elective Courses (9 credits)

Select three courses from the areas of specialization shown. Any course may be selected, although it is recommended that they are in the same area.

Digital Signal Processing and Communications Specialization
EENG6629

Random Processes in Communications.....3

Electrical Engineering

	Credits
EENG7738	
Wireless Communication.....	3
EENG7748	
Advanced Digital Communications.....	3
EENG7753	
Applications of Digital Signal Processing.....	3
EENG7773	
Digital Image Processing.....	3
EENG7852	
Digital Signal Processing with C and DSP Processors.....	3
<i>Computers Specialization</i>	
EENG6610	
Computer-aided Analysis and Design....	3
EENG7702	
Microprocessor Design.....	3
EENG7707	
Neural Networks and Fuzzy Logic Systems.....	3
EENG7737	
Computer Communication Networks....	3
EENG7773	
Digital Image Processing.....	3
<i>Devices and Systems Specialization</i>	
EENG6601	
Linear Systems I.....	3
EENG6610	
Computer-aided Analysis and Design....	3
EENG7706	
Robotics Engineering.....	3
EENG7715	
Integrated Circuit Devices.....	3
EENG7755	
VLSI Systems (Digital).....	3
EENG7775	
Optics.....	3
EENG7830	
Special Topics in Electrical Engineering (Power Systems).....	3

Additional Elective Courses (6 credits)

Electives may include any graduate electrical engineering courses. Students have the option of registering for a 3-credit internship after completing 18 graduate credits. A 6-credit thesis option is also available in consultation with electrical engineering faculty. Courses in other technical programs such as computer science may be taken with adviser permission.

Telecommunications and Networking Certificate

Admissions requirements and requirements for the certificate are provided in the Computer Science section (page 98).

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with the school.

Electrical Engineering

Lee Gildart and Oswald Haase School of Computer Sciences and Engineering

EENG6601

3 Credits

Linear Systems I

State equations, time domain solutions, matrix functions, Laplace solutions, discrete time state equations and solutions, z-transforms, z domain solutions, controllability and observability of linear systems.

EENG6602

3 Credits

Linear Systems II

Time varying systems, sampled systems, bilateral Laplace transforms, real and complex convolution integrals, distributed parameter systems. Prerequisite: EENG6601 Linear Systems I.

EENG6606

3 Credits

Electromagnetic Radiation and Transmission

Transmission lines, waveguides, antennas, wave propagation in anisotropic media.

EENG6610

3 Credits

Computer-aided Analysis and Design

Study of simulation packages for engineering problem solving. Transient and steady-state analysis of passive circuits. Signal processing, circuit and system modeling. Digital circuit and system simulation.

EENG6629

3 Credits

Random Processes in Communications

Probability and random variables. Random processes and spectral analysis. Modulation, introduction to noise and linear systems with random input.

EENG6633

3 Credits

Digital Signal Processing

Discrete-time signal and systems, z-transform, discrete-time Fourier transform, discrete Fourier

transform, fast Fourier transform, circular convolution, block convolution, basic and advanced filter structures, design of finite impulse response and infinite impulse response filters, applications, introduction to DSP processors.

EENG6747

3 Credits

Digital Communications

Source coding, channel capacity and coding, error-detection and error-correction codes, communication signals and systems, optimum receiver, digital-signal detection and performance, digital modulation.

EENG7701

3 Credits

Logic System Design

Review of combinational and sequential logic. Memory and programmable logic. Register transfer and computer operations. Control logic design. Computer instructions. CPU design. Input/Output and communication. Memory-management hardware. Prerequisite: undergraduate course in logic design.

EENG7702

3 Credits

Microprocessor Design

This course covers 80x86 instruction set architecture: registers, memory organization, data types and instructions: assembly language programming, relation between high-level language and assembly language and the impact on performance and code size; application optimization and tuning, evolution of 80x86 microarchitecture from 80386 through Pentium 4: CISC, RISC, VLIW, execution pipeline and pipelining; issues affecting performance: data and control dependencies, cache, simple and complex instructions, static and dynamic scheduling, parallel instruction execution. Prerequisite: EENG7701 Logic System Design.

EENG7703

3 Credits

Computer Applications in Engineering

Use of computers for design, analysis, control and decision. Engineering applications in circuits electronics, signal processing and numerical analysis. Use of systems interfaces such as assembly-language subroutines, memory video displays, ports and interrupts.

EENG7704

3 Credits

Computer-based Instrumentation

Fundamentals of data acquisition and instrument control. Applied instrumentation automation. Analysis and modeling tools.

EENG7706**3 Credits****Robotics Engineering**

Introduction, robot kinematics, system modeling, control and motion, vision, manufacturing system applications.

EENG7707**3 Credits****Neural Networks and Fuzzy Logic Systems**

Structure of neural network and fuzzy logic systems with applications in signal processing, pattern recognition, process control and optimization. Topics include learning algorithms, perceptron learning rule, adaptive linear neurons, back propagation training, pattern association, competitive neural nets, fuzzy sets and algebra, fuzzy digital devices and control systems, design of fuzzy systems, neuro fuzzy systems and MATLAB simulation.

EENG7708**3 Credits****Itanium Processor Application Architecture**

A thorough study of the application software architecture of the Itanium processor. Data types, organization of data and code in memory, register set, instruction set architecture and parallel instruction dispersal mechanism. Prediction, speculation, parallel compares, software pipelining and fused floating-point multiply divide.

EENG7709**3 Credits****Embedded Systems**

Introduces system hardware and firmware design for embedded applications. Hardware Design Language (HDL)-based combinational and sequential logic design. Software modeling and embedded C-program development. Real-time operating system (RTOS) and task management. Top-down design methodology using a processor-based development platform. Prerequisite: EENG7701 Logic System Design or equivalent background.

EENG7711, EENG7712**6 Credits (3 Credits Each Semester)****Active Circuits Analysis and Design I, II**

BJT and FET circuits, transistor amplifier frequency response, wide-banding, tuned amplifiers, oscillators, feedback amplifiers, operational amplifiers, linear wave-shaping circuits, logic circuits, multivibrators, sweep circuits, synchronization.

EENG7715**3 Credits****Integrated Circuit Devices**

Solid-state physics (review); pn junctions in integrated circuits. Bipolar junction transistors. Ebers-Moll model. Field-effect transistors. Integrated-circuit fabrication.

EENG7725**3 Credits****Automatic Control Systems I**

Analysis and design of both continuous and digital control systems. Stability criteria, frequency response, state variable method. Digital filtering.

EENG7732**3 Credits****Statistical Communication Theory**

Signal detection in noise. Hypothesis testing and likelihood ratio. Estimation. Kalman filtering. Prerequisite: EENG6629 Random Processes in Communications.

EENG7734**3 Credits****Engineering Applications in Medicine**

A seminar-type course, surveying current advances in the field of biomedical engineering, including artificial organs, automated instrumentation, noninvasive diagnostic techniques such as ultrasonics and computerized axial tomography.

EENG7735**3 Credits****Biomedical Instrumentation Design**

Signal processing, transducers, microcomputers in medical instrumentation, cardiac monitors, ultrasonic scanning, medical-imaging systems, electrical safety.

EENG7736**3 Credits****Microwave and Optical Communications**

Microwave and optical sources. Modulation techniques for microwave and optical frequencies. Transmission media, atmosphere, waveguides, antennas and optical fibers. Design of microwave and optical transmitters and receivers. Prerequisite: EENG6606 Electromagnetic Radiation and Transmission.

EENG7737**3 Credits****Computer Communication Networks**

Data transmission and encoding, multiplexing, circuit and packet switching, error detection and correction, switching systems, bridging, IP, routing concepts and forwarding, quality of service, traffic shaping and policing, foundations of cryptography and network security.

EENG7738**3 Credits****Wireless Communication**

Cellular concept. System architectures. Mobile-radio propagation characteristics. Modulation techniques. Diversity. Multiple-access methods. Wireless systems and standards. Channel equalization.

EENG7748**3 Credits****Advanced Digital Communications**

Signal-space concept and signal design. Fading channels. Diversity and multiple-antenna systems. Multicarrier modulation. Spread spectrum. Multi-user communication.

EENG7749**3 Credits****Telecommunications Engineering**

Signals and channels. Modulation, transmission and noise. Analog and digital telephone systems. Transmission lines and antennas. Packet switching. Satellite and mobile communications.

EENG7753**3 Credits****Applications of Digital Signal Processing**

Applications of multirate signal processing, applications of adaptive signal processing, speech processing and coding, random signals, linear prediction and optimum filters, power spectrum estimation, DSP processor architecture, implementation of FIR, IIR and adaptive filters on a DSP processor. Prerequisite: EENG6633 Digital Signal Processing or permission of the instructor.

EENG7755**3 Credits****VLSI Systems**

Introduction to microelectronics. MOS Logic families. Memories. Logic design with ROMs. Computer-aided design, simulation and analysis.

EENG7757**3 Credits****Coding Theory**

Communication and coding. Properties of codes. Efficiency and redundancy. Fundamental algebra. Linear block codes. Binary cyclic codes. Error trapping decoding. BCH and convolutional codes.

EENG7758**3 Credits****Introduction to Digital Transmission**

Analog telecommunications networks. Digital networks. Voice digitization. Digital transmission and multiplexing. Digital switching. Network synchronization.

Electrical Engineering

EENG7773

3 Credits

Digital Image Processing

A treatment of the techniques used in image enhancement and restoration. Topics will include image modeling and geometry, image transforms, FFT, histogram modification, spatial and frequency domain filtering, image encoding. Some discussion of pattern recognition will be included.

EENG7774

3 Credits

Optical Signal Processing

Optical techniques applied to signal processing. Particular emphasis given to Fourier processing and Fourier plane filtering. Acousto-optical signals. Prerequisite: course in linear systems or permission of the instructor.

EENG7775

3 Credits

Optics

Maxwell's Equations and propagation of light. Diffraction, interference, polarization and birefringence. Coherent and incoherent light. Interaction of light with matter, spontaneous and stimulated emission. Optical properties of metals, semiconductors, insulators and crystals. Thin films and multilayer dielectric and metal-dielectric filters. Light sources including lasers, optical systems, electro-optical effects and fiber optics. Prerequisites: undergraduate courses in optics and electromagnetic theory.

EENG7776

3 Credits

Lasers

The spectra of atoms, molecules, liquids and solids. Cavity modes, interaction of radiation and atoms, black body radiation. Inversion, laser threshold and conditions for laser operation. Steady state and pulsed lasers including gas, ion, solid state, semiconductor and dye lasers. Q-switching, mode locking and very short pulse operation. Application of lasers. Prerequisites: undergraduate courses in optics and electromagnetic theory or permission of the instructor.

EENG7777

3 Credits

Infrared Optics

Optical phenomena in the infrared and far-infrared/submillimeter regions of the spectrum. Topics include infrared-radiation sources, detectors, interferometers and resolution considerations, diffraction grating and Fourier transform spectrometers. Infrared imaging, two-lens systems, optical materials, aberrations, matrix method for laser cavities and imaging systems. Radiometry, atmospheric effects, uniaxial crystals and their use as electro-optical devices. Prerequisites: undergraduate courses in optics and electromagnetic theory or permission of the instructor.

EENG7778

3 Credits

Electro-optical Properties of Materials

Material properties of matter as needed for optical and electro-optical applications. Optical properties of dielectrics, metals and semiconductors; dispersion theory. Transmittance, reflectance and absorptance of light. Light modulation; Kerr, Pockels and Faraday effects. Light sources, display devices and photodetectors. Fiber-optic waveguides and optical communication system. Prerequisites: undergraduate courses in electromagnetic theory, optics and modern physics.

EENG7779

3 Credits

Optical Imaging

A discussion of the principles and techniques needed to design and analyze optical imaging systems. Topics will include paraxial system layout, stops and pupils, geometric and wavefront aberration theory and resolution of imaging system. Computer design exercises will be an integral part of the course. Prerequisite: an optics course or permission of the instructor.

EENG7780

3 Credits

Current Topics in Optics

An in-depth study of one or more current topics of importance in optical research. The problem to be treated will be selected to meet the needs and interest of the class.

EENG7803, EENG7804

6 Credits (3 Credits Each Semester)

Research and Thesis

A program of selected research, tailored to the interest and capabilities of the individual student, under the guidance of a school graduate adviser.

EENG7810, EENG7811

1-3 Credits Each Semester

Advanced Special Projects: Electrical Engineering

Studies in an area of electrical engineering.

EENG7820

3 Credits

Electrical Engineering Seminar

Research in recent developments in electrical engineering. Presentations of seminars by members of the faculty and students.

EENG7830-EENG7870

1-3 Credits Each Semester

Special Topics in Electrical Engineering

Topics of current interest in electrical engineering. Consult the electrical engineering department for details.

EENG7850

3 Credits

Adaptive Signal Processing

Adaptive signal processing, stationary processes and models, spectrum analysis, Wiener filters, Method of Steepest Descent, Least-Mean-Square algorithm, frequency-domain adaptive filters, adaptive FIR filters, adaptive IIR filters, applications. Prerequisite: EENG6633 Digital Signal Processing or permission of the instructor.

EENG7851

3 Credits

Multirate Systems and Filter Banks

Discrete-time systems, digital filters, multirate systems, maximally decimated filter banks, paraunitary perfect reconstruction filter banks, linear phase reconstruction QMF banks, cosine modulated filter banks, Wavelet transform and its relation to multirate filter bank, applications. Prerequisite: EENG6633 Digital Signal Processing or permission of the instructor.

EENG7852

3 Credits

Digital Signal Processing with C and DSP Processors

DSP programmable processors, analog-to-digital signal conversion, C language, TMS320C6X architecture, instruction set and assembly language, DSP development tools, interrupt data processing, fixed-point and floating-point processors, code optimization, circular buffering, frame processing, applications. Prerequisite: EENG6633 Digital Signal Processing or permission of the instructor.

EENG8891

1-3 Credits

Internship/Work Experience

Provides on-the-job education and training in the concepts presented in the graduate electrical engineering curriculum. Students must submit, for the school's approval, a proposal from the employer detailing the nature of the intended work. Weekly contact must be maintained with the student's adviser to confirm the quality of the work experience. A report at the conclusion of the working experience is required, detailing the educational and training aspects of the job. Prerequisite: completion of 18 graduate electrical engineering credits.

Fall, Spring, Summer

Electronic Commerce (M.S.)

The goal of the program is to provide graduate education that imparts a coherent body of managerial and technological knowledge centering on e-commerce. Graduates will acquire the educational background necessary to become performing e-commerce professionals, as well as obtain a solid foundation for lifelong learning necessary in a field that is certain to evolve very rapidly.

The total number of credits to be taken will be 42: of these, 18 are required courses, 12 are elective courses and 12 are prerequisites (some of which may be waived).

This program is offered under the auspices of the Lee Gildart and Oswald Haase School of Computer Sciences and Engineering, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

1. Graduation from an accredited college or university with a satisfactory academic record.
2. Submission of an official score report for the Graduate Record Examinations (GRE) General Test taken within the last five years. The GRE may be waived if the applicant enrolls initially as a nonmatriculating student and completes 9 graduate credits in computer science with a minimum grade point ratio (GPR) of 3.00 and no grade below C or is a Fairleigh Dickinson University computer science graduate and has an undergraduate GPR of 3.00 or is a non-Fairleigh Dickinson University computer science graduate and has an undergraduate GPR of 3.50. This GRE-waiver policy is only applicable to applicants who graduated from a regionally accredited college or university in the United States. The GRE requirement also is waived for applicants who have completed a master's degree.
3. Three letters of recommendation.

Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a nonmatriculated or nondegree basis.

Requirements for the Master of Science Degree

1. Students must complete 42 credits in approved graduate courses. The 42 credits are distributed as follows: 12 credits of prerequisite courses, 18 credits of core requirements and 12 credits of elective courses. Students with a background in the field may reduce the number of required courses by having some or all of the prerequisite courses waived. In any event, a minimum of 30 credits will be required for the degree. Requests for waivers must be made in writing prior to the beginning of the first semester.

2. Students must earn a cumulative grade point ratio (CGPR) of at least 2.75 for the prerequisite courses, if required, or be subject to dismissal from the program. Students may take no more than 6 credits of core or elective courses before completing all of the prerequisites.

3. Students must earn a CGPR of 2.75 for the 30 credits beyond the prerequisite courses.

Prerequisite Courses (12 credits)

The following courses will be waived for qualified students:

	Credits
ACCT5012 Financial Accounting: End-User Applications.....	2
CSCI5505 Introduction to Computer Programming.....	3
CSCI5525 Introduction to Computer Science.....	3
ECON5012 Economic Analysis.....	2
MKTG5012 Marketing Principles.....	2

Required Courses (18 credits)

CSCI6623 Database Systems.....	3
CSCI6720 Management Information Systems.....	3
CSCI6731 Computer Networks.....	3
CSCI6758 Electronic Commerce.....	3
CSCI6844 Programming for the Internet.....	3
CSCI7795 Building Electronic Commerce Systems.....	3

E-commerce Electives (12 credits)

12 credits (four courses) are to be selected from the courses listed below. However, students have the option of registering for a 3-credit internship (which counts as one elective course) after completing 18 graduate credits.

	Credits
CSCI6638 Operating Systems.....	3
CSCI6732 Local Area Networks.....	3
CSCI6810 Java and the Internet.....	3
CSCI6820 J2EE Programming.....	3
CSCI6882 Data Warehouse and Data Mining.....	3
CSCI7727 Development of MIS 1: Project Management and Systems Analysis...	3
CSCI7781 Advanced Database Systems.....	3
CSCI7791 Information Systems for Competitive Advantage.....	3

E-commerce Certificate

The certificate program in electronic commerce provides individuals with expertise in both the business and technological sides of e-commerce: doing business on the internet. The program participants will learn successful market structures and business models, as well as internet programming on the client and the server sides.

Admission Requirements

Admission to the certificate program requires a baccalaureate degree from a regionally accredited college or university with a satisfactory academic record.

Requirements for Certificate in E-commerce

18 credits (six courses) are to be chosen from the following:

CSCI5505 Introduction to Computer Programming.....	3
CSCI5525 Introduction to Computer Science.....	3
CSCI6735 Client-server Computing.....	3
CSCI6758 Electronic Commerce.....	3

English for Professional Success

	Credits
CSCI6810	
Java and the Internet.....	3
CSCI6844	
Programming for the Internet.....	3
CSCI7795	
Building Electronic Commerce	
Systems.....	3
Students must satisfy the prerequisites of the courses that they will take.	
Academic Credits: Courses with numbers 6000 or higher completed through this certificate program can be credited toward the M.S. in electronic commerce program. Other courses may be substituted with prior approval of the student's academic adviser.	

Course Descriptions

See "Course Offerings," Computer Science, pages 104–110, and Management Information Systems, pages 177–178.

English for Professional Success

Programs in Language, Culture and Professional Advancement (PLCPA) offers courses in English for Specific Purposes (ESP) for international students and any interested domestic students. These courses are called English for Professional Success (EPS), and they have taken the place of English as a Second Language (ESL) courses since fall 2006. The EPS courses have a dual purpose: to ensure the academic as well as professional success of international students. Students will be exposed to the different genres of academic and professional discourse in their different fields of study.

Placement Testing

While students may have achieved the TOEFL or other proof of English-proficiency score required for admission, further development in English proficiency may be necessary to support academic achievement and to ensure effective progress in the students' chosen academic program. All incoming graduate international students, unless exempt from testing, *must* be tested for placement during the orientation session. New international students should not assume that they are exempt from this English test even though they have had many years of English education in their home countries or abroad. Students will be placed into or exempted from taking an EPS course based on the result of their placement test.

Graduate students who are placed into an EPS course must take the lecture and corequisite lab and will be charged a fee upon registration. Since fall 2007 and spring 2008, respectively, graduate students who were placed into an EPS course and who matriculated into a University College: Arts • Sciences • Professional Studies or into a Silberman College of Business degree program were required to take the EPS lecture and corequisite lab. Since fall 2011, all the remaining colleges on both New Jersey campuses (Maxwell Becton College of Arts and Sciences and Anthony J. Petrocelli College of Continuing Studies) have been required to take the EPS lecture and corequisite lab.

English for Professional Success (EPS) Courses

Students will take only one EPS course. However, to exit the program, a student must meet the learning objectives set by the curriculum. Students who fail to meet the minimum standards required to pass the course will have to repeat it. Upon exiting the program, graduate students do not need to take any other English or writing courses unless required by their own department. The credits for the EPS5109 course is not figured into the grade point ratio for graduate students but remain as a permanent record on the students' transcript.

The courses offered are:

	Credits
EPS5008, EPS5018	
Academic Writing Skills;	
Academic Communication	
Skills (<i>required for Pre-master's</i>	
<i>Program students</i>).....	6
EPS5109, EPS5119	
English for Occupational	
Purposes; English for	
Academic Purposes (<i>required</i>).....	3
EPS5201	
English for Professional Success:	
Global Exchange — New York	
City as a Classroom	
(<i>optional for non-Pre-master's</i>	
<i>Program students</i>).....	3
EPS5209	
Advanced English for	
Occupational Purposes (<i>optional</i>)....	3
EPS5219	
Advanced English for	
Academic Purposes (<i>optional</i>).....	1

Course Offerings

Courses offered fall, spring, summer and/or winter are so noted. To determine availability of courses not so designated, please check with the unit.

English for Professional Success

Programs in Language, Culture and Professional Advancement

EPS5008

4.5 Credits

Contact hours 6

Academic Writing Skills

Non-native English-speaking students will be exposed to more subtle attitudes of a speaker or writer in different genres. They will recognize the difference between fact and opinion. Students will be able to write argumentatively and to read their own work objectively for editing. Students will demonstrate an

understanding of the American attitude toward specificity. Students will maintain a portfolio of work and participate in self-reflection.
Corequisite: EPS5018 Academic Communication Skills.

EPS5018

1.5 Credits

Contact hours 3

Academic Communication Skills

A corequisite lab for EPS5008 Academic Writing Skills where students engage in critical reading and thinking, as well as speaking activities. Class activities may include academic debates and persuasive presentations.
Corequisite: EPS5008 Academic Writing Skills.

EPS5109

3 Credits

Contact hours 2.5

English for Occupational Purposes

Non-native English-speaking students will focus on English proficiency for occupational purposes. Students will develop their skills in professional writing, oral communication, research and information literacy, group collaboration and cross-cultural competencies.
Corequisite: EPS5119 English for Academic Purposes.

EPS5119

0 Credits

Contact hours 1.5

English for Academic Purposes

A corequisite lab for EPS5109 English for Occupational Purposes, where students will focus on English proficiency for academic purposes. Students will develop their skills in academic research and writing, and proficiency with APA and/or MLA format. Corequisite: EPS5109 English for Occupational Purposes.

EPS5201

3 Credits

English for Professional Success: Global Exchange — New York City as a Classroom

Perceived through the prisms of cultural ethnography and the significance of everyday experiences, this course will utilize New York City as a resource and a classroom to study cross-cultural understandings and misunderstandings. Students will study the multicultural aspects of the city in the context of modern life and situate their findings within a historical context. In addition to studying cross-cultural issues in context, students will be improving their academic language skills while exploring topics of interest through a variety of activities and assignments. *(Optional)*

Experiential learning fees

EPS5209

3 Credits

Advanced English for Occupational Purposes

Students will focus on an advanced level of English for occupational purposes topics. Students will develop their skills in self-reflection as a professional and enhance their skills in oral communication, group collaboration, professional writing and cross-cultural workforce competencies.

EPS5219

1 Credit

Advanced English for Academic Purposes

Students will focus on an advanced level of English for academic purposes specifically on researching and writing a paper using the APA format and style.

EPS5299

3 Credits

Academic Research Foundations

The course provides students with the foundational skills necessary to develop the research, academic writing and oral communication competencies appropriate to a master's-level program. Students will also develop transferable workplace communicative competencies. Topics include: effective research strategies, writing reports and literature reviews at a master's level, APA referencing and citations, delivering effective research presentations and negotiating the expectations and cultural norms in North American university and workplace settings.

Executive Programs

The University offers programs designed for executives in a specific field.

Management (M.B.A.) for Executives — General Management

See page 73.

Management (M.B.A.) for Executives — Health Sector Management

See page 74.

Film (M.F.A.)

The low-residency Master of Fine Arts (M.F.A.) in film offers studies in five concentrations: **screenwriting, producing, directing, cinematography and editing.**

Workshops led by professionals, visits with guest artists and internships are built into the program. Situated near New York City and in the heart of a vibrant media market, FDU's M.F.A. in film will allow students to hone their skills and be well prepared to obtain work in the field.

FDU's low-residency approach to the M.F.A. in film embraces distance learning as a primary method of delivering the curriculum. The student will alternate two 8- to 9-day residencies per year, with semesters spent in online learning. The program features four residencies and four terms over a two-year period.

The M.F.A. program is housed within the School of the Arts, which offers undergraduate programs in film, animation, graphic design, theater arts and fine arts. Student advising will be conducted by the co-directors of the program and by professional mentors.

Admissions Requirements

Applicants holding undergraduate degrees from an accredited four-year institution in the United States or abroad may apply. They should have a cumulative grade point ratio (GPR) of 2.75 or better on a 4.00 scale. An undergraduate degree in film, communication, writing or theater is advised but not required. Applicants who have shown significant talent or professional experience in other art forms will also be given serious consideration. Prior technical experience in film is not required.

Applicants must submit a portfolio of their work. In admissions decisions, the greatest weight will be given to the portfolio. The portfolio can consist of live-action film material, screenplays or other written narrative work. Work from other disciplines can be submitted; be it animation, playwriting, photography, graphic design or fine arts.

All incoming students must begin their first semester of the program by attending a residency and registering for two courses.

Application Deadlines

Fall application deadline: All students must begin the program with a summer residency — the deadline for attending the residency and the fall semester is May 1

Spring application deadline: All students must begin the program with a January residency — the deadline for the residency and the spring semester is November 30

To Apply

1. Complete the FDU Graduate Application online.

- Choose a concentration: screenwriting, producing, directing, cinematography or editing.
- Official transcripts should be sent to the Graduate Admissions Office. All undergraduate transcripts are required.
- GRE scores are not required.
- The M.F.A. program is housed on the Florham Campus in Madison, New Jersey.

2. Submit a portfolio or a link to a portfolio via email to gradfilm@fdu.edu.

- Applicants can submit a film work (.mov or QT file), a screenplay, stage play or creative writing document (Use PDF or MS Word format. Be sure to paginate the document and include the applicant's name on every page). Portfolios may contain live-action film material, screenplays or other written narrative work. Work from other disciplines can be submitted — be it animation, playwriting, photography, graphic design or fine arts.

- If the portfolio is too large to email, applicants will be directed to the University's server. Email gradfilm@fdu.edu for details.

3. Letters of recommendation are welcome but not required. They can be sent to the Graduate Admissions Office at grad@fdu.edu.

4. Applicants with a GPR of 3.00 or greater may apply for the University Provost's Graduate Scholarship.

5. Applicants should complete the Free Application for Federal Student Aid (FAFSA) online for 2019–2020 as soon as possible if they require financial aid. They do not have to accept any funds unless they choose to. Many graduate students are eligible for state and/or federal loans and aid. FDU's Financial Aid Office at the Florham Campus (973-443-8704) can assist with this.

In making admissions decisions, the greatest weight will be given to the

portfolio, screenwriting samples, completed film projects, festival and professional recognition and employer recommendations. Work-related experience will also be taken into consideration. While admission will not require the undergraduate major to have been in a film-related field, creativity demonstrated while an undergraduate or in professional work environments will be considered.

Prospective students may also arrange a meeting with one of the program directors to discuss program options and tour the film facilities.

Curriculum

The degree takes a minimum of two years to complete. Students have up to five years to finish the program. Four on-campus residencies, eight online courses and a completed thesis are required for the degree. A total of 60 credits are required to graduate.

Below is an example of a two-year program layout for a student beginning with a summer residency and fall online courses:

Year One

First 9-day Residency (Summer Session) — (5 credits)

Term I

Two 8-week online courses taken consecutively (Fall Semester) — 10 credits (5 credits each)

Second 9-day Residency (Winter Session) — (5 credits)

Term II

Two 8-week online courses taken consecutively (Spring Semester) — 10 credits (5 credits each)

Year Two

Third 9-day Residency (Summer Session) — (5 credits)

Term III

Two 8-week online courses taken consecutively (Fall Semester) — 10 credits (5 credits each)

Fourth (and Final) 9-day Residency (Winter Session) — (5 credits)

Term IV (Final Term)

Two 8-week online courses taken consecutively (Spring Semester) — 10 credits (5 credits each)

Finance • Forensic Psychology • General/Theoretical Psychology

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate school director.

FILM5000

5 Credits

M.F.A. in Film Residency

Nine-day graduate film residency held at FDU's Florham Campus in Madison, N.J., twice a year during summer and winter sessions. Four residencies are required to complete the degree.

Students take four courses (20 credits) from below — one in each concentration outside of their main concentration

FILM6000

5 Credits

Screenwriting Essentials

Screenwriters are tasked with translating the story into the structure demanded by a teleplay or screenplay. Whether it is selecting what story elements to keep — and which to throw away — or how to structure a story so it is told in the most dramatic way possible, screenwriters use the opportunities provided in their chosen medium — film, television, etc., to create the blueprint of the production.

FILM6001

5 Credits

Producing Essentials

Producers play a vital role in the selection of material, business development, legal filings and creative execution of content produced for theater, streaming or broadcast lead to that position. The producer has a role that is part business person and part creative executive. This course will present an overview of the expectations placed on the producer, and a career path which can lead to that position.

FILM6002

5 Credits

Directing Essentials

Directors do not merely interpret the screenplay. They must understand how best to exploit its cinematic potential. Whether it be in the casting, the locations, in the performances or in the design of the production and camerawork to be used, the director must accept the creative responsibility of anchoring the production for the entirety of its development and execution.

FILM6003

5 Credits

Cinematography Essentials

Armed with the script and supported by production designers and the cast, the cinematographer must lead the talented crew on the set, to visualize and photograph the story. A creative cinematographer is not just a talented photographer, but a key collaborator in how the story is told. The role demands knowledge of the ever-changing technology of film, and the skills

to obtain the best work from a large crew. There are a lot of moving parts the cinematographer must lead in order to best serve the production and allow it to move toward fruition.

FILM6004

5 Credits

Editing/Postproduction Essentials

The editor is the anchor of the film project. Relied upon and trusted by directors and producers to provide another set of “eyes,” the editor not only assists in selecting the best material to use, but often decides where it should be used. Decisions about cutting scenes, moving them around as the story demands and otherwise structuring the story in ways not previously seen often fall to the editor. Artists such as Orson Welles said, “Editing isn't just a part of filmmaking. Editing is filmmaking.”

FILM7000

5 Credits

Screenwriting

Students taking the screenwriting concentration take this course four times for a total of 20 credits.

FILM7001

5 Credits

Producing

Students taking the producing concentration take this course four times for a total of 20 credits.

FILM7002

5 Credits

Directing

Students taking the directing concentration take this course four times for a total of 20 credits.

FILM7003

5 Credits

Cinematography

Students taking the cinematography concentration take this course four times for a total of 20 credits.

FILM7005

5 Credits

Editing

Students taking the editing concentration take this course four times for a total of 20 credits.

***Internship Courses can replace the main concentration courses
Director's permission required***

FILM8001	Screenwriting 1 Internship
FILM8002	Producing 1 Internship
FILM8003	Directing 1 Internship
FILM8004	Cinematography 1 Internship
FILM8005	Editing 1 Internship
FILM8006	Screenwriting 2 Internship
FILM8007	Producing 2 Internship
FILM8008	Directing 2 Internship
FILM8009	Cinematography 2 Internship
FILM8010	Editing 2 Internship

Finance (M.B.A.)

See Business, Finance, page 68.

Forensic Psychology (M.A.)

See Psychology, Forensic Psychology pages 229–231.

General/Theoretical Psychology (M.A.)

See Psychology, General/Theoretical Psychology, pages 232–233.

Global Affairs (M.A.)

The M.A. in global affairs comprises 30 credits (10 courses) of graduate-level course work offered primarily to consular and diplomatic staff off-campus. They are part-time students coming from around the globe, from Argentina to Zambia. They work full-time, typically taking six credits off-campus per quarter and completing the program in two to three years. Courses begin in September, January, May and July. The program seeks to broaden and deepen students' understanding of the historical, economic, cultural, diplomatic and political trends that define current affairs and drive change, stability and instability around the globe.

In addition to full-time FDU faculty, key professors include former U.N. ambassadors and consuls general who hold small, in-person classes. Students also have the option of taking a number of online courses to accelerate the program, or to complete it if they are re-posted out of the area.

Admission Requirements

The credentials required for admission to the master's degree in global affairs as a matriculated student include the following:

1. A graduate application for admission and nonrefundable application fee.
2. A bachelor's degree (or corresponding post-secondary degree) from an accredited college or university with a minimum cumulative grade point ratio (CGPR) of 2.70. Applicants with a CGPR of less than 2.70 may be admitted as matriculated students on probation.
3. Official transcripts from all colleges and universities previously attended. Applicants who are unable to provide official documents at the time of enrollment may register as nonmatriculated students with a graduate faculty adviser.

Spouses and dependents may also apply, and a number of seats are held for U.S. citizens. Applicants who are not consular or diplomatic personnel must provide the following in addition to the above:

1. Two letters of recommendation.
2. A cover letter briefly outlining career ambitions. (Spouses or dependents of a consular or diplomatic employee must indicate this in their cover letter.)

Requirements for the Master of Arts Degree

1. Students must complete 30 credits (10 courses) of graduate-level course work in political science or in sister disciplines, as approved, in history, economics, business or public administration or administrative science.
2. Students are strongly encouraged to engage in a thesis and use up to six credits to complete it.
3. A cumulative grade point ratio of 3.00 on a 4.00 scale is required for graduation. Students who receive more than two grades of C or lower will be dismissed from the program.

Certificate in Diplomacy and International Relations

Students may earn a Certificate in Diplomacy and International Relations after completing any six courses listed for the Master of Arts in global affairs. The certificate is listed on student transcripts and students receive a paper certificate.

Students may apply for the certificate program only and later apply the credits toward a Master of Arts in global affairs.

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with the academic adviser.

Global Affairs

School of Public and Global Affairs

POLS6702

3 Credits

Thesis Seminar

Collaborative preparation for a substantial thesis, including research questions, hypothesis-construction, proposal-writing and the literature review.

POLS6711

3 Credits

Genocide

The course will examine the roots, the methods and the impact of genocide on the global community, including case studies from Armenia to Darfur.

POLS6801

3 Credits

Methods of Political Analysis

A study of fundamental concepts and materials required for political analysis. Development of techniques for hypothesis formation; collection, evaluation and presentation of data.

POLS6816

3 Credits

World Heritage Law and Policy

Practical thinking about ideas of "World Heritage" and sustainable development including religion, environment, warfare, destruction and ruins and rebuilding initiatives. Topics include: conversation law; case studies from the Arabian Peninsula, Asia and East Africa; heritage as sites for tourism; transportation; trade; pilgrimages; moveable collections; museums; parks; fixed relics; foods; and sounds, sights and smells in the natural landscape. A field project challenges participants to match theory with project-based goals to contribute to a digital archive or drafted policies to conserve and preserve UNESCO world heritage sites.

POLS6840

3 Credits

Thesis or Project

POLS6870

3 Credits

Ethics in Public Affairs

This seminar explores the use (and abuse) of moral reasoning and cost-benefit analysis in politics through the critical examination of controversial political issues, such as abortion, affirmative action, health care, welfare reform, military intervention and the death penalty.

POLS6871

3 Credits

Latin-American Relations

This is a study of the modern relationship between the U.S. and specific Latin-American nations.

POLS6873

3 Credits

Seminar on Globalization

This seminar will examine globalization as an important characteristic of the new world order, which is represented by the expansion of market forces and the global transfer of sociocultural and political institutions.

POLS6874

3 Credits

Trafficking in Humans

Examines various issues related to human trafficking with emphasis on political concerns root causes in culture, custom and law.

POLS6875

3 Credits

Seminar in International Trade

Why nations and organizations trade, what they trade, how they trade and who gains or loses. The class also examines regulations and restrictions on international trade and their effects. Topics include commodities markets, foreign direct investment, international transactions under authoritarian regimes, the role of banks and brokers, international trade

agreements, parallel markets and current trade policy disputes.

POLS6876

3 Credits

Comparative Innovation Systems

A collaborative survey of ecosystems at the local, national and global level that support, or do not support, a start-up economy in developing countries as well as in post-industrial societies, to include capital formation and capital deployment, understanding market opportunities, the openness of markets, market barriers, conditions for new entries, enterprise buildouts and entrepreneurship and market, legal, societal and cultural barriers to innovation.

POLS7716

3 Credits

Delivery of Public Services

This course examines the traditional organizational and institutional structures for delivering public services, including regional entities, public authorities and “mixed” approaches. In addition, more recent developments are examined, including competitive contracting; transfer of functions between sectors; and “privatization.” The course covers domestic and international developments in “mixed” economies and enterprises.

POLS7724

3 Credits

Comparative Governmental and Administrative Systems

The course takes a global view of comparative governmental and administrative systems by introducing students to their background development and their essential institutional and political components. The wide diversity of such systems is highlighted by a study of such systems in six or seven nations through comparative analyses of their various approaches to policy and relative problematic issues.

POLS7815

3 Credits

Nationalism and Its Discontents

The political and social bases of nationalism, its relation to culture identity, ethnicity, language and ideological narrative manifesting movements for change. Selected contemporary and historical examples are examined, as well as their subcultural and subnational disidentifications

POLS7820

3 Credits

Models of Political Systems

Comparative analysis of modern democratic and totalitarian governments and institutions. With emphasis on the developing nations and their interpretations of these systems through a study of political culture, political parties and political crises.

POLS7821

3 Credits

Modern Political Theory

Traces the main developments in modern political thought from Hobbes to Mao. Emphasizes problems regarding liberty, political obligation, the common good, etc.

POLS7822

3 Credits

The Character of Revolutionary Movements

An examination of selected revolutionary movements with emphasis on cause, organization and outcome.

POLS7825

3 Credits

Foreign Policy and Diplomacy

Intensive analysis of the dynamics of world politics in the independent post-World War II era; the conceptions of world order among major actors, national and global interests, transnationalism, instrumentalities of foreign policy development and diplomatic processes.

POLS7826

3 Credits

Politics of Public Policy

Studies declared intentions and actions of elected officials in meeting human needs and resolving conflicts within society. Emphasizes agenda setting, policy-making models, policy formulation, implementation, evaluation and the role of ideology.

POLS7830

3 Credits

International Organizations

Typology of organizations: League of Nations to the United Nations, regional organizations, public and private international organizations and transnational organizations.

POLS7831

3 Credits

International Law

Origin of international law and its relationship to municipal law. Challenges and responses to current issues.

POLS7832

3 Credits

International Problems and Conflict Resolution

Causes and possible solutions to major international conflicts.

POLS7833

3 Credits

Modern Warfare and Global Stability

Impact of insurrection, nonconventional warfare and terrorism on the international community.

POLS7834

3 Credits

Politics of the Global Economy

A study of the relationship between political motivations and economic actions on the international economy. With emphasis on the interplay between the free market and planned economies.

POLS7835

3 Credits

Geography and World Politics

Examines the political ramifications of environmental decay, economic and environmental refugees and the utilization of finite resources.

POLS7836

3 Credits

Crisis Leadership

The principles of leadership during times of significant stress. Various models, strategies and tactics of leadership are studied using the examples of civilian and military leaders.

POLS7837

3 Credits

The Modern Balkan States

An intensive examination of the political, economic and cultural forces that shaped the modern Balkan states. The formation of national identities, intrastate institutions, modernization, stability and change and interstate relations in the region will be among the topics covered at the first level of analysis. A second level of analysis views the region within its European context and in a framework of world affairs from the 19th century to the present. Particular attention will be given to Greece and Turkey as the principal Balkan powers.

POLS7838

3 Credits

Political Leadership and the U.N.

Using case studies and current events, the course provides the skills and perspective to better comprehend rapid changes in the global arena, beginning with an introduction to the United Nations; its institutional structure, goals and mechanisms; its Charter; the General Assembly, Security Council, Economic and Social Council, Trusteeship Council and Secretariat; and its roles in peacekeeping, sanctions, collective security, authorizing military action, disarmament, human rights and the global war against terrorism.

POLS7851

3 Credits

Forces and Issues: Middle East

Examines the trends and political forces at work in the region, past struggles, current issues and future aspirations.

POLS7853

3 Credits

The New Europe

The state system of Europe: integration and consolidation since World War II and global implications for East-West relations.

POLS7854

3 Credits

Changing Eastern Europe

Examines the dissolution of the Communist Bloc and the movement toward new ideologies. Emphasizes nationalism, ethnicity and economic organization.

POLS7855

3 Credits

The Modern African State

Examines development of selected African states in terms of history, ideology and institutions. Emphasizes the region south of the Sahara, including Nigeria, Zaire and the Union of South Africa.

POLS7856

3 Credits

Cities in Crisis

The course will examine problems faced by cities: crime, housing, education and finances. It will consider causes and solutions to these problems.

POLS7863

3 Credits

Comparative Government: Middle East

Examines diverse systems of government among selected Middle East states. Emphasizes historical development, current ideologies, institutions and practices.

POLS7866

3 Credits

Africa in World Politics

Examines the impact of African affairs on contemporary world issues. Emphasizes political alignments, economic integration and social diversity.

POLS7867

3 Credits

Political and Economic Challenges for Africa

Examines contemporary issues in Africa. Project trends in political development, human rights and environmental programs.

POLS7868

3 Credits

Terrorism and Insurgency

Examines the conditions that encourage intervention, clandestine political action, demonstration of force, unconventional warfare and terrorism and their impact on the global community.

POLS7869

3 Credits

Economics of National Security

An analysis of the economic drivers and costs of national security. Security issues include, among others, insurgency, terrorism and ethnic conflicts.

POLS7870

3 Credits

International Implications of Middle East Problems

Examines ways in which competing systems within the region affect international alliances and trade. Emphasizes role of Islamic fundamentalism, natural resources and political ideologies.

POLS7871

3 Credits

The Modern Asian State

Examines the development of selected Asian states with an emphasis on historical influences, ideologies, institutions and economic philosophies.

POLS7872

3 Credits

China and Japan: Comparative Systems

Examines the political, economic and social institutions of both nations. Emphasizes the competition for leadership in the region.

POLS7873

3 Credits

Political and Economic Challenges: Asia

Examines the impact of global events on Asian development. Emphasizes roles of the developing nations, the "Little Tigers," China and Japan in political and economic coordination.

POLS7874

3 Credits

Latin America: New Challenges

Political responses to the economic and social challenges of modernization. Focuses on democratization efforts and economic cooperation.

POLS7875

3 Credits

Canada, Mexico and U.S. Perspectives

Examines the growing interdependence of the North American nations. Emphasizes political, diplomatic and economic interaction and identifies future trends.

POLS7902

3 Credits

Rethinking Europe's Future

The twin burdens of "depth" and "breadth" have reappeared in the region's political imagination and debate in the form of two fundamental questions over Europe's future: What is Europe? What Europe for which Europeans?

Health Science (M.H.S.)

The Master of Health Science (M.H.S.) is a 31–33 credit blended degree program (combining online and in-person course work) designed with three tracks allowing students unique opportunities for career development and advancement. The 33-credit Gateway to Professional Studies program can be completed in as little as one year, while all concentrations can be completed on a self-paced schedule that suits the needs of working professionals and seeking career advancement.

The first track in the M.H.S. is the **Gateway to Professional Studies (GPS)**, which has a curriculum that includes foundational courses that will provide an interdisciplinary background in biomedical sciences that can be used as an advanced preparation for professional schools including medical, dental, veterinary and pharmacy schools. In addition, there are two tracks that provide the opportunity for specialization in **clinical research administration** and **regulatory science**. All students obtaining the M.H.S. will complete a health science core consisting of course work around the legal, ethical, managerial and public-health issues facing all aspects of health care.

Following completion of the core curriculum, students will have the option to pursue one of the three distinct tracks available.

The Gateway to Professional Studies track is a diverse mix of courses that will be taught online, blended and face-to-face and is intended to further prepare students for professional school. Students within this track will complete course work in biochemistry, pharmacology, communication skills, histology, anatomy, physiology and other relevant topics of study.

The other two specially designed tracks provide focused expertise in the areas of clinical research administration or regulatory science. Students in these specialized tracks will complete the initial health science core prior to moving into more advanced and specialized course work in preparation for future careers in the pharmaceutical industry, regulatory affairs, health outcomes and health-care delivery.

Courses in these tracks will be offered in person, with options for online and

hybrid course models being introduced as appropriate.

Summary

The growth of employment opportunities within the health sciences has been marked and dramatic over the last decade, and projections indicate exponential growth for these areas by the year 2020. Careers in this area have both high earning potential and significant opportunity for growth, making these fields desirable for students. Many organizations involved in the pharmaceutical industry, health care delivery and health science-related fields place significant value on graduates with the knowledge and skills that are translational across traditional boundaries in health care. These three M.H.S. programs equip students with tangible skills that will provide them with opportunities for employment in areas that are growing much faster than the rate at which graduates can be produced.

The Master of Health Science program in clinical research administration and regulatory science also address the filling of a void that few educational institutions have addressed. Some local graduate programs provide some content within this area of study, though they are not designed to create specializations to serve particular areas of health care. The emphasis this program places on prescription-drug use, in conjunction with its affiliation with the School of Pharmacy and Health Sciences, provides unique opportunities for synergy and collaboration between the students and faculty.

The area of clinical research administration is a fast-growing and rapidly changing environment. Not only are there increasing needs for evidence to address the safety and efficacy of new medical technologies, but there is also a demand from payers for evidence as it relates to effectiveness and efficiency. Professional career opportunities in this area seem to be increasing at a faster rate than ever before, with the advent of new biotechnology corporations that are emerging throughout the world and existing corporations continually pushing forward into new areas of advanced research. In fact, the Bureau of Labor Statistics projects a 40 percent increase in demand for medical scientists within this area of work from the period 2008–2018. A critical need for scientists with the ability to conduct rigorous, ethically

grounded and credible research will continue to grow into the future.

Regulatory-science specialists are also in high demand, and the New Jersey area has greater opportunity than ever before due to the influx of biotechnology and small-market pharmaceutical companies engaged in the development of new products. These entities are constantly in need of experts who can navigate the complex regulatory pathways toward product approval. This career, chosen as one of *CNNMoney* magazine's "Best Jobs," has a projected job-growth rate of 25 percent. Opportunities for employment will be bolstered by a master's degree in this area, as very few programs educate and train students to attain this skill set.

These three M.H.S. tracks are described more completely on the **following pages**.

Requirements for the Master of Health Science Degree

1. All graduate M.H.S. students are required to complete the program within five years. Applications for extension are subject to departmental approval.

2. For the Gateway to Professional Studies Track, students are required to maintain a minimum overall grade point ratio (GPR) of 3.00 and must not earn more than one C-level grade (C or C+) throughout graduate course work. If a student takes any course twice without achieving the equivalent of a B or higher, he/she will be subject to dismissal. Students who earn less than B- or one F grade will be subject to dismissal.

3. See specific tracks for requirements, **Gateway to Professional Studies** this page, **regulatory science** page 168 and **clinical research administration** page 169.

Gateway to Professional Studies Track

NOTE: Enrollment in this program is currently offered only at FDU's Florham Campus in Madison, New Jersey. Applications are processed on a rolling admissions basis.

The primary goal of this degree track will be to transform students on the cusp of admission into professional school into more competitive and prepared applicants for subsequent admission into health-profession programs. During this one-year intensive track, students will work on broadening their educational horizons within the biomedical sciences to assist

with their application to professional school or to better prepare them for employment in the biomedical industry.

The M.H.S. basic track is 33 credits and is designed for students who have completed their bachelor's degree in chemistry, biochemistry, biology, pharmacy or a related field and who plan to attend professional school including medical, dental, veterinary and pharmacy.

This Gateway to Professional Studies (GPS) will enhance the student's application portfolio and will make the student more competitive for admission into professional school. If professional school is not desired, then this GPS track will provide the student with a solid background for a career in biomedical sciences, business and management, science teaching and pharmaceutical sales.

Upon completion of this track, students will be able to:

- Demonstrate an understanding of the role of values/ethics in human services and conduct themselves according to the appropriate professional ethics in the workplace and/or professional program.
- Demonstrate an understanding of the role of drug design, discovery and development in the health professions and the impact these things have on the individual and on public health.
- Demonstrate master's-level skills in professional writing and program planning and management.
- Demonstrate a strong knowledge base specifically in the areas of anatomy, physiology and biochemistry.

Graduates who achieve these objectives will be better prepared to apply to (or reapply to) professional schools with a more competitive portfolio. If subsequent admission is not desired or achieved, then this course of study could also be used as increased general preparation and training for employment and or advancement in the pharmaceutical or biotechnology industry.

This program is offered under the auspices of the School of Pharmacy and Health Sciences and the Maxwell Becton College of Arts and Sciences, Florham Campus, Madison, New Jersey.

Admissions Criteria

Students in each of the specialized tracks will be considered for admission based upon the following criteria:

1. A science baccalaureate degree with a minimum science grade point ratio (GPR) of 3.00 is required in any one of the of the

Health Science

following areas: chemistry, biochemistry, biology, pharmacy or related science field.

2. Students with a bachelor's degree in a different field will have the option of showing transcript evidence of successful completion of the following course work with a grade of B or higher in each course: General Chemistry I and II and Lab, Organic Chemistry I and II and Lab, Physics I and II and Lab, Biochemistry, General Biology I and II and Lab, Anatomy and Physiology I and II and Credits Lab, Calculus I, Statistics.

3. Students are expected to have an overall undergraduate GPR of 3.00. (For the Gateway to Professional Studies track, there is some flexibility concerning the 3.00 GPR requirements. For example, students who fall below the required GPR but with above-average scores on the MCAT, DAT, PCAT or GRE may be eligible for consideration.)

The application package must include:

1. A completed FDU Graduate Admissions Application;
2. Official undergraduate and graduate transcripts from all colleges and universities attended;
3. Two letters of recommendation (from a professor, employer or professional in the field familiar with the student's strengths and abilities);
4. Official test scores from one of the following standardized exams: MCAT, PCAT, DAT or GRE (if applicable);
5. Personal statement; and
6. Résumé or curriculum vitae.

Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a conditional/probationary or nondegree basis.

Required Courses (33 credits)

Health Sciences Courses (Core) — GPS Track

	Credits
HSCI6200	
Ethics of Health Care Research.....	3
HSCI6250	
Psychology for the Medical Sciences.....	3
HSCI7302	
Epidemiology and Study Design	
Evaluation.....	3
HSCI7401	
Biostatistics.....	3
HSCI8806	
Project Management.....	3

GPS Requirements

	Credits
BIOL6891	
Histology.....	3
BIOL6892	
Human Physiology.....	3
BIOL6893	
Human Anatomy.....	3
CHEM6663	
Introductory Medicinal Chemistry.....	3
CHEM6685	
Pharmacology.....	3
CHEM6781	
Biochemistry.....	3
CHEM7500	
Technical and Scientific Writing.....	3

Regulatory Science Track

The M.H.S. regulatory science track is a 31-credit program (inclusive of the 10 hours of required M.H.S. core credits) designed for preprofessional students who are seeking further specialization in regulatory sciences and for working health care professionals who are looking to enhance their standing within this growing and evolving field of study. Educational programming will provide students with a working understanding of regulatory history and theory, federal and state regulatory structures relevant to health care products and professional practices, regulatory compliance methods in the health care industry, health care product patent-licensing processes and the common research methods used in supporting product-licensing applications.

The primary goal of this degree program will be to prepare students for taking on significant roles within government agencies, pharmaceutical and biotechnological industries and health care provider organizations, as well as in other sectors of the health care industry where compliance and regulation are crucial. The program will allow students to develop a comprehensive understanding of the protocols, procedures, statistical analysis, assessment or risk/benefit, documentation and legal and ethical concerns that play a critical role in the day-to-day responsibilities of the field.

Upon completion of this program, students will be able to:

- Demonstrate the constituent elements of federal and state regulations of health-care delivery and manufacture and distribution of pharmaceuticals and biologics in the U.S.

- Compare and contrast the governmental regulatory approaches for manufacture and distribution of pharmaceuticals and biologics in the U.S., Canada, Europe, South America and Asia.

- Generate statistical analyses and reports acceptable to governmental regulatory agencies in the U.S., Canada and Europe.

- Evaluate regulatory applications for new products or professional practices against applicable regulations, standards and guidances.

- Discern the moral, legal, ethical and financial implications of research data or licensing applications for specific pharmaceutical or biological products.

- Detect legal and regulatory requirements that can pose harm to patients and undue disruption to health care operations.

- Identify conflicting regulations at local, state and federal levels and evaluate ways to reconcile them for affected constituencies.

- Identify gaps in regulatory processes for particular health care products and services and propose policy solutions.

Graduates who achieve these objectives will be prepared to assume responsibilities requiring competencies associated with Level I and Level II of the Regulatory Science Professional Development Framework produced by the Regulatory Science Professional Society. Because most of the graduates of this program will have formal education in pharmacy or other health care professions, they will bring added dimensions to the knowledge and skills they acquired in regulatory sciences. Graduates will find rewarding career opportunities in health care provider organizations, health care consultancies, health care research and manufacturing industries, insurance providers, pharmacy benefit managers and state and federal government agencies.

This program is offered under the auspices of the FDU School of Pharmacy and Health Sciences, Florham Campus, Madison, New Jersey.

Admissions Criteria

1. A bachelor of science degree with a minimum grade point ratio of 3.00 is recommended.

2. The GRE is recommended but not required. Other standardized tests such as PCAT, MCAT and DAT may be considered as well.

The application package must include:

1. A completed FDU Graduate Admissions Application;
2. Official undergraduate and graduate transcripts from all colleges and universities attended;
3. Two letters of recommendation (from a professor, employer or professional in the field familiar with the student's strengths and abilities);
4. Official test scores from one of the following standardized exams: GRE, PCAT, MCAT or DAT (if applicable);
5. Personal statement; and
6. Résumé or curriculum vitae.

Applicants who have not completed all the requirements for admission to the degree program may be permitted to enroll in classes for credit on a conditional/probationary or nondegree basis.

Required Courses (31 credits)

Health Sciences Regulatory Science Core

	Credits
HSCI7302	
Epidemiology and Study Design Evaluation.....	3
HSCI7401	
Biostatistics.....	2
HSCI8806	
Project Management.....	3
HSCI8811	
Ethics of Health Care Research.....	2
PHAR6601	
Health Care Systems and Policy.....	3

Regulatory Science Requirements

HSCI7810	
Clinical Trial Design and Regulatory Requirements.....	3
HSCI8810	
Medical and Clinical Report Writing.....	3
HSCI8822	
U.S. Regulatory New Drug Application and Submission and Dossier Preparation.....	3
REGS7104	
Regulatory Affairs Capstone.....	3
REGS8812	
Clinical Trial Research Administration.....	3
REGS8821	
Regulatory Compliance for Pharmaceuticals.....	3

Clinical Research Administration Track

The M.H.S. in clinical research administration is a 31-credit program (inclusive of the 10 hours of required M.H.S. core credits) that will produce graduates with a wide array of knowledge encompassing various approaches to evidence generation, translation and application. Objectives for the clinical research track are drawn from competencies established by the Agency for Healthcare Research and Quality (AHRQ) for clinical research. Upon completion of the program students will be able to:

- Discern the knowledge and skill sets available from clinical research approaches needed to address specific health care issues and problems.
- Synthesize meaningful, relevant and important research questions that address important health care and public health problems that can be informed by systematic reviews of the literature, needs assessment and relevant theory and concepts.
- Select appropriate interventional, quasi-experimental or observational study designs to address specific clinical research questions.

- Collect primary health and health care data obtained by survey, qualitative or mixed methods, as well as assemble and integrate secondary data from existing public and private sources.

- Defend the ethical and responsible design, implementation and analysis of specific clinical research programs.
- Select the appropriate analytical methods to clarify associations between variables and to discern causal inferences.
- Design, construct and deliver written and verbal communication about the findings and implications of particular clinical research programs for both professional and lay audiences.

Many of the graduates will likely also have Pharm.D. degrees or degrees in other clinical or life sciences to bring a knowledge and understanding in therapeutics and health-care delivery to their clinical research course of studies. Graduates will be highly skilled, marketable scientists who can apply their knowledge and skills in an array of health care areas conducting or benefiting from clinical research.

This program is offered under the auspices of the FDU School of Pharmacy

and Health Sciences, Florham Campus, Madison, New Jersey.

Admissions Criteria

1. A bachelor of science degree with a minimum grade point ratio of 3.00 is recommended.

2. The GRE is recommended but not required. Other standardized tests such as PCAT, MCAT and DAT may be considered as well.

The application package must include:

1. A completed FDU Graduate Admissions Application;
2. Official undergraduate and graduate transcripts from all colleges and universities attended;
3. Two letters of recommendation (from a professor, employer or professional in the field familiar with the student's strengths and abilities);
4. Official test scores from one of the following standardized exams: GRE, PCAT, MCAT or DAT (if applicable);
5. Personal statement; and
6. Résumé or curriculum vitae.

Applicants who have not completed all the requirements for admission to the degree program may be permitted to enroll in classes for credit on a conditional/probationary or nondegree basis.

Required Courses (31 credits)

Health Sciences Clinical Research Administration Core

	Credits
HSCI7302	
Epidemiology and Study Design Evaluation.....	3
HSCI7401	
Biostatistics.....	2
HSCI8806	
Project Management.....	3
HSCI8811	
Ethics of Health Care Research.....	2
PHAR6601	
Health Care Systems and Policy.....	3

Clinical Research Administration Requirements

CLIN7104	
Clinical Research Administration Capstone.....	3
CLIN8812	
Clinical Trial Research Administration.....	3
CLIN8821	
Regulatory Compliance for Pharmaceuticals.....	3

Health Science

	Credits
HSCI7810	
Clinical Trial Design and Regulatory Requirements.....	3
HSCI8810	
Medical and Clinical Report Writing.....	3
HSCI8822	
U.S. Regulatory New Drug Application and Submission and Dossier Preparation.....	3

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate program director.

BIOL6891 3 Credits Histology

This course is designed for students to learn more about the organization of the cells of the body into tissues, organs and organ systems. Students will learn to correlate the structure of these cells, tissues and organs with their functions in the human body. Students will become familiar with examining images of stained sections of human tissue and identifying key elements distinguishing one tissue from another. Examples of diseased tissue, for example cancerous tissues, will be compared to normal tissues as well. (Equivalent to HSCI6891 Histology.)

BIOL6892 3 Credits Human Physiology

This course provides the student with a high level of understanding of the physiological basis of the human body. The essential concepts of physiology and mechanisms of body function are presented at various levels of organization, ranging from cellular and molecular to tissue and organ system levels. Emphasis is placed on understanding the integrated regulation of various body processes among the major systems. Cardiovascular, respiratory, urinary, endocrine and reproductive systems will be covered. (Equivalent to HSCI6892 Human Physiology.)

BIOL6893 3 Credits Human Anatomy

The knowledge of human variability and susceptibility to disease begins with a thorough introduction to the basic structure of the human body that occurs in this course. The goals of the course are: to introduce the fundamental organization and structure of the human body and to begin the process of clinical observation by attention to detail and honing of observational skills. (Equivalent to HSCI6893 Human Anatomy.)

**CHEM6663
3 Credits
Introductory Medicinal Chemistry**
Based on all branches of chemistry, but especially organic chemistry, the focus of this course is on improving a drug's therapeutic effect while minimizing its undesirable side effects. (Equivalent to HSCI6663 Medicinal Chemistry.)

**CHEM6685
3 Credits
Pharmacology**
A study of drugs, their history, sources, physical and chemical properties, compounding, biochemical and physiological effects, mechanism of action, absorption, distribution in the body and therapeutic uses. (Equivalent to HSCI6685 Pharmacology.)

**CHEM6781
3 Credits
Biochemistry**
Based on the chemistry of substances of biological significance, structures and mechanisms of hydrolytic and respiratory enzymes, biosyntheses of proteins, bio-oxidations and molecular structures of complex molecules. (Equivalent to HSCI6781 Biochemistry for the Medical Sciences.)

**CHEM7500
3 Credits
Technical and Scientific Writing**
This course is an introduction to learning the written and oral communication of technical information. Assignments include writing and presenting proposals, reports, standard operating procedures, technical papers and documentation. (Equivalent to HSCI7500 Technical and Scientific Writing.)

**CLIN7104
3 Credits
Clinical Research Administration Capstone**
This course is a hands-on, practice-based course that provides an intensive research experience alongside a trained professional within the clinical research framework. Students will be expected to participate in an active, engaging experience that provides insight into the role of the clinical researcher within the hospital and health system, pharmaceutical, biotechnology, device or other related environment.

**CLIN8812
3 Credits
Clinical Trial Research Administration**
This course provides a focused overview on the logistic and operational factors in conducting and completing a clinical research study. This includes discussion on the responsibilities and relationships for each of the professionals and parties involved in bringing the study from conceptualization through implementation and into the phase of data evaluation and report writing.

**CLIN8821
3 Credits
Regulatory Compliance for Pharmaceuticals**
This course will review the regulatory pathways for drugs, biologics, biosimilars, medical devices and other pharmaceutical and biotechnology areas of relevance. Discussions on compliance strategies, risks and processes within each framework will provide insight onto the challenges (financial, ethical and procedural) facing each industry and area.

**HSCI6200
3 Credits
Ethics of Health Care Research**
The student will examine the ethical issues that confront all aspects of health care.

**HSCI6250
3 Credits
Psychology for the Medical Sciences**
This course is designed to help preprofessional graduate students understand the mutually interactive roles of psychological/neuropsychological and biomedical processes. It will examine the theory and research on the neurobiological and psychological foundations of psychological health, wellness and psychopathology. Topics will include research methods, biological, sociocultural and psychological factors in human functioning, as well as psychiatric diagnostic classifications.

**HSCI6663
3 Credits
Medicinal Chemistry**
Based on all branches of chemistry, but especially organic chemistry, the focus of this course is on improving a drug's therapeutic effect while minimizing the undesirable side effects. (Equivalent to CHEM6663 Introductory Medicinal Chemistry.)

**HSCI6685
3 Credits
Pharmacology**
A study of drugs, their history, sources, physical and chemical properties, compounding, biochemical and physiological effects, mechanism of action, absorption, distribution in the body and therapeutic uses. (Equivalent to CHEM6685 Pharmacology.)

**HSCI6781
3 Credits
Biochemistry for the Medical Sciences**
Based on the chemistry of substances of biological significance, structures and mechanisms of hydrolytic and respiratory enzymes, biosyntheses of proteins, bio-oxidations and molecular structures of complex molecules. (Equivalent to CHEM6781 Biochemistry.)

HSCI6833

3 Credits

Special Topics Chemistry: Drugs of Abuse

Knowledge of the varieties of illegal drugs, history, mechanism of action, their toxic effects and tissue damage and an understanding of the basic drug action and pharmacological methods (selectivity, dose-response, affinity, potency, intrinsic activity, binding, absorption, distribution, tolerance, dependence, half-life, metabolism, clearance excretion, adverse reactions, lethality and drug interactions).

HSCI6891

3 Credits

Histology

This course is designed for students to learn more about the organization of the cells of the body into tissues, organs and organ systems. Students will learn to correlate the structure of these cells, tissues and organs with their function in the human body. They will become familiar with examining images of stained sections of human tissue and identifying key elements distinguishing one tissue from another. Examples of diseased tissue, for example cancerous tissues, will be compared to normal tissues as well. (Equivalent to BIOL6891 Histology.)

HSCI6892

3 Credits

Human Physiology

This course provides the student with a high level of understanding of the physiological basis of the human body. The essential concepts of physiology and mechanisms of body function are presented at various levels of organization, ranging from cellular and molecular to tissue and organ system levels. Emphasis is placed on understanding the integrated regulation of various body processes among the major systems. Cardiovascular, respiratory, urinary, endocrine and reproductive systems will be covered. (Equivalent to BIOL6892 Human Physiology.)

HSCI6893

3 Credits

Human Anatomy

The knowledge of human variability and susceptibility to disease begin with a thorough introduction to the basic structure of the human body that occurs in this course. The goals of the course are to introduce the fundamental organization and structure of the human body and to begin the process of clinical observation by attention to detail and honing of observation skills. (Equivalent to BIOL6893 Human Anatomy.)

HSCI7302

3 Credits

Epidemiology and Study Design Evaluation

This course is designed to introduce students to basic concepts of epidemiology and study

designs used in the evaluation of health care technologies. Epidemiological terminology such as risk, hazard, odds and relative risk ratios will be introduced. Further, this course will include critical evaluation of evidence-based medical literature and identification of sources of bias in published medical literature.

HSCI7401

3 Credits

Biostatistics

A comprehensive survey of the theoretical and practical aspects of descriptive and inferential statistical procedures — z tests, t tests, analysis of variance, correlation and regression analysis and nonparametrics. Emphasis is on why and when to use the various procedures as well as on the interpretation of statistical results.

HSCI7500

3 Credits

Technical and Scientific Writing

Introduction to learning the written and oral communication of technical information. Assignments include writing and presenting proposals, reports, standard operating procedures, technical papers and documentation. (Equivalent to CHEM7500 Technical and Scientific Writing.)

HSCI7731

3 Credits

Introduction to Health Systems and Policy

This course presents an integrated overview of traditional and contemporary approaches to financing and organizing the provision of health services in the United States. The course traces the evolution of the health care delivery system, with special attention given to the interplay between political, legal and socioethical dynamics in the formation of health policy at the federal and state levels of government. (Equivalent to PADM7731 Introduction to Health Systems and Policy.)

HSCI7751

3 Credits

Insights Into Human Disease

This course will cover existing understanding and approaches to studying human disease. It will cover topics such as types of cancer, muscular dystrophy, familial hypercholesterolemia, diabetes and/or other diseases. It will address the genetics of simple and complex traits behind these diseases, genetic analysis and diagnosis and disease-treatment strategies such as drug development.

HSCI7771

3 Credits

Advanced Organic Synthesis

Modern synthetic techniques and procedures, emphasizing the theoretical background of the procedures and preparing the student for advanced research. (Equivalent to CHEM4371

Organic Synthesis and CHEM7771 Advanced Organic Synthesis.)

HSCI7810

3 Credits

Clinical Trial Design and Regulatory Requirements

This course covers the principles of clinical-trial design, including determination and evaluation of study objectives; commonly used methodologies of study design; and the ethical, legal, statistical, sociological and epidemiological considerations that play a role in the design of clinical protocols.

HSCI8403

3 Credits

Introduction to Lean Six Sigma

This course introduces pharmacy students to the concepts and methods of Lean Six Sigma (LSS). LSS is a method that relies on effective teamwork to improve performance by decreasing waste and creating a lean enterprise. A framework of both Lean and Six Sigma tools will be covered providing a roadmap and diagnosis for workflow improvements and reduction in variability. The skills learned in this class will build capabilities that can help improve workflow and reduce errors in the pharmacy setting and organize processing in the pharmaceutical industry.

HSCI8806

3 Credits

Project Management

The purpose of this course is to integrate the essential components of project planning and management with health care information systems for health care leaders. The course will outline the process for developing, implementing and evaluating project plans as well as integration of communication and project life-cycle theory.

HSCI8810

3 Credits

Medical and Clinical Report Writing

This course provides a basic overview of the necessary means of communication for the clinical research professional, including methods for documentation, presentation of data and reporting of results. Focused attention will be paid to developing approaches for communication that allows for effective information transfer to a broad and diverse set of audiences, including patients, physicians, nurses, pharmacists, researchers and the general public.

HSCI8811

2 Credits

Ethics of Health Care Research

The student will examine the ethical issues that confront health care providers and patients. The medical, scientific, moral and socioeconomic bases of these issues and the decision-making

Hospitality Management Studies

process that providers and patients engage in are analyzed. Topics include informed consent, the role of institutional review boards, euthanasia and the allocation of scarce resources. Corequisite: PHRM8802 Health Information Exchange and Security, PHRM8812 Clinical Trial Research Administration or PHRM8821 Regulatory Compliance for Pharmaceuticals. Note: only for students in Master of Health Science.

HSCI8822

3 Credits

U.S. Regulatory New Drug Applications and Submission and Dossier Preparation

This course will review steps and consideration in preparing a New Drug Application (NDA) submission to the U.S. Food and Drug Administration (FDA). Students will become knowledgeable on terminology used in NDA submission process in an electronic (e) Common Technical Document (CTD) format, Extensive Markup Language (XML) backbone, portable document format (PDF) file, structured product labeling format (SPL) for U.S. package-insert labeling, what area and statistical analysis systems (SAS) transport files. The course will provide a fundamental understanding of the different types of NDAs to file for under Section 505 of the Federal Food and Drug and Cosmetic Act for marketing authorization in the United States and describe the components and essential documents necessary for inclusion in an NDA submission. Students will learn how to consider key sections and data within the U.S. NDA submission for consideration of global regulatory submissions outside of the U.S. by using the CTD format and International Conference on Harmonization (ICH) principles

PADM7731

3 Credits

Introduction to Health Systems and Policy

This course presents an integrated overview of traditional and contemporary approaches to financing and organizing the provision of health services in the United States. The course traces the evolution of the health care delivery system, with special attention given to the interplay between political, legal and socioethical dynamics in the formation of health policy at the federal and state levels of government. (Equivalent to HSCI7731 Introduction to Health Systems and Policy.)

PHAR6601

3 Credits

Health Care Systems and Policy

This course provides a comprehensive overview of the structure and operations of the United States health care delivery system. Major forces and trends that are likely to shape the external environment and linkages among industry

stakeholders are identified and examined. Fundamentals of health care economics, financing, reimbursement, quality assurance and political policymaking are discussed with due regard for social and ethical implications. The spectrum of life sciences is considered in relation to the continuum of health care delivery. Students will prepare a position paper that applies course concepts to a contemporary issue of relevance to their specific career interests.

REGS7104

3 Credits

Regulatory Affairs Capstone

This course is a hands-on, practice-based course that provides an intensive research experience alongside a trained professional within the regulatory science framework. Students will be expected to participate in an active, engaging experience that provides insight into the role of the regulatory professional within the pharmaceutical, biotechnology, device or other health-related environment.

REGS8812

3 Credits

Clinical Trial Research Administration

This course provides a focused overview on the logistic and operational factors in conducting and completing a clinical research study. This includes discussion on the responsibilities and relationships for each of the professionals and parties involved in bringing the study from conceptualization through implementation and into the phase of data evaluation and report writing.

REGS8821

3 Credits

Regulatory Compliance for Pharmaceuticals

This course will review the regulatory pathways for drugs, biologics, biosimilars, medical devices and other pharmaceutical and biotechnology areas of relevance. Discussions on compliance strategies, risks and processes within each framework will provide insight onto the challenges (financial, ethical and procedural) facing each industry and area.

REGS8822

3 Credits

U.S. Regulatory New Drug Application and Submission and Dossier Preparation

This course will address the necessary data collection, clinical procedures, protocols and preparatory steps necessary for the successful filing of regulatory documents. This will include discussions on expectations, filing procedures and other processes within both the FDA and other international frameworks.

Hospitality Management Studies (M.S.)

The hospitality field currently ranks as the third-largest industry in the United States, and by the end of the second decade of the new millennium, employment experts predict it will be the top-ranked industry in the world.

The International School of Hospitality and Tourism Management (ISHTM) is located in the third-largest hospitality destination in the world. Combined with eastern Pennsylvania and Atlantic City, N.J., this geographic area becomes the largest hospitality destination in the world. ISHTM is the oldest four-year school offering degrees in the area of hospitality management in the New York metropolitan region. Founded in 1942 as one of the University's original programs, it is the only program of its kind in New Jersey.

Since February 2015, ISHTM has been ranked sixth out of 300 hospitality programs nationally in TheBestSchools.org. Keeping company at the top are Cornell and Michigan State Universities and the University of Nevada at Las Vegas. Rankings for each school are based on criteria including academic quality, awards, reputation, rankings, facilities and internship opportunities. ISHTM was also rated by The Princeton Review's *The Gourman Report of Graduate Programs* as one of the top four-year hospitality management programs in the United States.

The Master of Science degree in hospitality management studies, which consists of 33 credits, is structured to meet the educational needs of adult learners working as managers, entrepreneurs, educators or other professionals in the hospitality industry. It is designed to provide an educational alternative for working professionals with an academically rigorous, yet flexible, program of study that meets the requirements for a professional master's degree. For working adults seeking to upgrade their professional skills to enhance their careers, the degree program increases analytical, managerial and leadership competencies and provides graduates with the requisite preparation for career advancement in various hospitality-related professional areas.

Hospitality Management Studies

The program offers students the opportunity to complete degree requirements by taking course work at the Metropolitan Campus, Teaneck, New Jersey; the Florham Campus, Madison, New Jersey; or by combining course work at various off-campus sites with selections from the broader array of courses that are regularly available at the University's campuses. Courses also are offered in Atlantic City, N.J.; in Parsippany, N.J., at the Wyndham Worldwide Corporation; in Jersey City, N.J.; and in West Windsor, N.J.

This program is offered under the auspices of the International School of Hospitality and Tourism Management, Anthony J. Petrocelli College of Continuing Studies, at the Florham Campus, Madison, New Jersey, and the Metropolitan Campus, Teaneck, New Jersey; various locations throughout New Jersey; and at the FDU Vancouver Campus, British Columbia, Canada.

Admission Requirements

Candidates for admission to the Master of Science in hospitality management studies degree program could be managers, business owners or educators or hold other professional positions related to the hospitality industry. The credentials required for admission as a matriculated student include the following:

1. A graduate application for admission and nonrefundable application fee.
2. A bachelor's degree from an accredited college or university with a minimum cumulative grade point ratio (CGPR) of 2.75. (Applicants with a CGPR of less than 2.75 may be admitted as prematriculated students on probation.)
3. Official transcripts from all colleges and universities previously attended.
4. English-language proficiency, both written and verbal.
5. Industry work experience preferred (applicants without industry work experience may be required to take foundation courses HRTM6100 Hospitality Operations Management and HRTM6200 Tourism Destination Management upon evaluation).
6. Personal statement of 400 words explaining reasons for pursuing hospitality graduate studies.
7. Personal interview with a graduate program adviser.

Additional classes may be required as a prerequisite for acceptance into the program. Applicants who are unable to

provide official documents at the time of enrollment may register as nonmatriculated or nondegree students with the approval of a graduate faculty adviser.

Prerequisite Program for Non-hospitality Majors

Foundation courses are required course work for students with non-hospitality degrees and limited or no prior hospitality work experience and are taken as free elective credit subjects. HRTM6100 Hospitality Operations Management and HRTM6200 Tourism Destination Management should not be taken by students with degrees in hospitality or tourism, or with prior hospitality work experience.

The below foundation courses are required for students with non-hospitality degrees and are taken as free elective credit subjects.

	Credits
HRTM6100	
Hospitality Operations Management*... 3	
HRTM6200	
Tourism Destination Management*.....3	

Requirements for the Master of Science Degree

1. Completion of a minimum of 33 graduate credits.
 2. Cumulative grade point ratio of 3.00 for the degree program of study.
 3. Cumulative grade point ratio of 3.00 in the core curriculum.
 4. Minimum of 30 credits completed at Fairleigh Dickinson University.
 5. Maximum of six years to complete the master's degree requirements.
- Up to three credits of graduate course work may be transferred from another college or university if completed within the six-year period. Courses submitted for transfer credit will be reviewed and evaluated by the director of the International School of Hospitality and Tourism Management. In assessing requests for transfer credits, the ISHTM faculty may require students to complete additional course work to update knowledge and skills to meet master's degree requirements.

Course Requirements (33 credits)

Required Hospitality Management Courses (9 credits)

	Credits
HRTM7715	
Special Project*.....0	
HRTM7751	
Research Methodology I**..... 3	
HRTM7752	
Research Methodology II***..... 3	
HRTM7753	
Graduate Capstone****.....3	
Total.....9	

Supporting Hospitality Management Courses (18 credits)

HRTM7708	
Organizational Communication and Conflict Management.....3	
HRTM7710	
Current Concepts in Leadership.....3	
HRTM7713	
Financial Management.....3	
HRTM7714	
Advanced Human Resource Management..... 3	
HRTM7716	
Service Management.....3	
HRTM7734	
Global Marketing.....3	
Total.....18	

Free Electives (6 credits)

This area is to be chosen by students with approval from an adviser.

Total.....6
Total Program.....33

Graduate students have seven years to complete all of the course work requirements of the M.S. degree including the Special Project.

*\$500 recurring semester fee until completed.

**Must be taken in the first or second semester.

***Taken after completing 18 credits.

****Taken after completing 24 credits.

*Must be taken in the first semester.

Hospitality Management Studies

Course Offerings

Hospitality Management Studies

International School of Hospitality and Tourism Management

Foundation Courses for Non-hospitality Majors

HRTM6100

3 Credits

Hospitality Operations Management

This course must be taken in the first semester as a free-elective credit subject. Topics reviewed will include hospitality operations management, food and beverage management and managerial accounting. Students must develop a comprehensive business plan for a hospitality project that integrates these key areas to successfully complete the requirements for this course.

HRTM6200

3 Credits

Tourism Destination Management

This course must be taken in the first semester as the second of the free-elective course work subjects. Topics reviewed will include tourism, sales and marketing and human resource management. Case studies of various global destination marketing organizations will be analyzed and discussed. The term project will consist of planning and developing a tourism destination management project for a chosen city in Canada or in the United States.

Required Hospitality Management Core Courses

HRTM7715

3 Credits

Special Project*

This course provides an interactive, culminating learning project that focuses on an area related to the hospitality industry chosen by the student in line with the student's area of professional interest.

HRTM7751

3 Credits

Research Methodology I

An introduction to graduate studies with heavy emphasis on referencing and citations in APA style and research. Quantitative and qualitative research studies are explored, discussed in depth and critiqued. A comprehensive research proposal is the goal of this course.

HRTM7752

3 Credits

Research Methodology II

This is a required course designated to supplement HRTM7751 Research Methodology I that should be taken after 18 credits have been earned in the graduate program. Students will apply the research methodologies introduced in this course to create a special project research proposal. Prerequisite: HRTM7751 Research Methodology I.

HRTM7753

3 Credits

Graduate Capstone

This class is designed to be a capstone course to the Master of Science in hospitality management studies. Students will draw on all previously taken courses to demonstrate mastery of content knowledge in hospitality management. They will receive theoretical and "real-world" application prompts to solve in written and/or oral formats. To be taken after 25 credits have been completed.

Supporting Hospitality Management Courses

HRTM7708

3 Credits

Organizational Communication and Conflict Management

Overview of theories and models of communication, examination of barriers to effective communication and techniques for improving interpersonal, group and organizational communications. Conflict resolution is studied on the individual, group and organizational levels.

HRTM7710

3 Credits

Current Concepts in Leadership

Examines key theories of leadership and motivation as applied to hospitality operations; emphasis on analysis of leadership behaviors, managerial action and new servant-leadership strategies.

HRTM7713

3 Credits

Financial Management

Review of the current cost-control strategies used to manage food-service and lodging operations including all functional areas (food and labor costs, facility maintenance and engineering, marketing, etc.).

HRTM7714

3 Credits

Advanced Human Resource Management

Advanced human resources management for hospitality professionals. This course reviews

the essential functions within human resources, including selection and retention, performance and evaluation systems, training and employee development, recruitment and succession planning, compensation, employee reward systems, employment-related laws, collective bargaining agreements, diversity and communication.

HRTM7716

3 Credits

Service Management

Review of current service theories and strategies used to provide total guest satisfaction in all customer contact areas; includes methods for measuring guest satisfaction and total quality management applications.

HRTM7734

3 Credits

Global Marketing

This course provides an overview of advanced marketing strategies oriented to North American and global markets. Cultural contexts will be explored to the extent of their impact on strategy, and best practices will be reviewed. The following topics will be reviewed: strategic planning, pricing practices, international marketing, global distribution systems and advertising.

Free Electives

HRTM7717

3 Credits

Discovering the World of Wine

This course provides an advanced analysis of various topics related to wine. These include history, production, service and distribution. Open to nonhospitality majors.

Fee

HRTM7718

0–3 Credits

Advanced Global Seminar

An eight-day trip to either Switzerland or Italy, which will include lectures by European university professors and hotel and restaurant managers on European management, environmental issues and culinary arts.

Fee

HRTM7722

3 Credits

Advanced Human Resource Management

This course is designed to develop critical-thinking, analysis, decision-making and management skills related to the needs of graduate students interested in a focus in hospitality human resource management. Group and individual projects, case studies and presentation technologies will be utilized.

*\$500 recurring semester fee until completed.

Hospitality Management Studies

HRTM7723

3 Credits

Hospitality Education Practicum

For students with education as their area of concentration in the M.S. in hospitality management studies program only. Students will shadow an International School of Hospitality and Tourism Management-certified hospitality educator (CHE) for a semester, and assist and observe the learning-facilitation process. A report of the experience and what learning-facilitation skills were observed and learned during the semester is due at the end of the term as well as a session-by-session journal kept by the student. Prerequisite: certified hospitality educator (CHE) training class.

HRTM7725

3 Credits

Curriculum and Instruction for the Hospitality Educator

The emphasis of this course will be on the relationship between models in all phases of the curriculum in the hotel, restaurant and tourism industry. Curriculum design, content and integration incorporated with technology will be the focus for the individual who will have a career in the hospitality field.

HRTM7726

3 Credits

Educational Organization for the Hospitality Educator

The emphasis of this course will be to explore, model and practice Multiple Intelligence Theory, Learning Styles Theory, cooperative grouping, teaming techniques and other organizational patterns that will prepare the individual for presentations, teaching and working in the hospitality industry. The organizational models covered will serve as a guide for access to the hospitality industry in marketing, education and all the facets of hospitality careers.

HRTM7728

3 Credits

Graduate Internship

This practice training is set to provide students who do not have extensive professional experience in the area of practice chosen with some field experience. A letter from the employer must be provided. Prerequisite: completion of 27 credits in hospitality management.

HRTM7731

3 Credits

Seminar in Gaming/Casino Management

Practices and problems of casino management including security, control, entertainment, taxation, economic impact, mathematics of casino games, regulation and control and accounting are studied. Project is required.

HRTM7732

3 Credits

Hospitality Law — Legal Issues in Hospitality

Provides the student with a review of the laws applicable to the operation of hospitality enterprises. The course of study includes a review of contracts, the uniform commercial code, torts law, franchise law and a review of the current legislation and case law relative to hospitality enterprises.

HRTM7736

3 Credits

Accounting for Hospitality Managers and Administrators

This course focuses on the concepts and tools pertinent to making financial decisions in hospitality businesses. The student will acquire an understanding of financial statements, ratio analysis, pricing structure, cash management and working capital. In addition, students will develop the skill sets necessary to analyze and explain critical financial concepts, trends and results.

HRTM7737

3 Credits

Global Tourism Development

This course will examine global financial institutions' perception of tourism as a foreign exchange generator for developing countries. Principles and philosophies of tourism and its impact on local cultures and economies will be examined. Nature tourism/ecotourism will also be examined.

HRTM7740

3 Credits

Advanced New Venture Management

This is an entrepreneurial course that is designed for graduate students in the hospitality field. The course will teach the fundamental concepts of how to start and run a successful hospitality business, including the development of business plans, financial projections, valuation analysis, capital raising and legal and tax reviews. It also will focus on how to identify the market to customers as well as learn how to pitch the business plan and negotiate with banks and investors.

HRTM7742

3 Credits

International Tourism

This course will explore tourism as generator of foreign exchange for developing countries and how it contributes to economic development. How sustainable tourism can help economic development in developing countries will also be explored as well as economic relationship between developed and developing countries and the role tourism plays in this relationship.

HRTM7745

3 Credits

International Tourism Study Internship

Students must successfully plan and execute — under International School of Hospitality and Tourism Management faculty member supervision — all travel arrangements for a study-abroad program at FDU. This internship requires students to travel with the group for which they planned all arrangements.

HRTM7746

3 Credits

Entrepreneurship and You

An introduction to the basic components involved in establishing and operating one's own business in the hospitality/tourism industry. Topics include how to create a concept and product, how to develop a business plan, pricing, product development, advertising, distribution, logistics, market research, sales, banking (letters of credit) and organizational skills. With a hands-on approach, the course will provide students with the tools needed to succeed in establishing and running their businesses.

HRTM7748

3 Credits

Developing a Sustainability Mindset in Hospitality and Tourism

Developing the sustainability mindset through exercises and dialogue. This course will introduce the three pillars of sustainability mindset: the whole systems perspective, the innovative thinking and the being orientation. Students will identify an area of personal passion that is relevant and significant to them and develop plans to take restorative action. This will give students an opportunity to convert the course experience into an opportunity to make a difference in the world.

HRTM7749

3 Credits

Best Practices in Human Resource Management

The course provides an in-depth review of human resource management practices, with a case-study review of best practices across a wide variety of industries. Students will learn about the human resource functions and activities common in well-run companies and the critical role this function plays in the hospitality industry.

HRTM7750

3 Credits

Project Management in the Service Sector

The course focuses on the practices and processes utilized to manage complex organizational projects. The class provides students with a strategic-system perspective on the management of projects utilizing modern project management tools and techniques.

Industrial/Org. Psych. • International Business • Learning Disabilities • Management • Mgt. for Executives • Management Information Systems

HRTM7997

3 Credits

Communications for the Casino-industry Professional

This course will help casino-industry professionals improve their communication skills. The course will first focus on writing, including essays, letters, memos and reports. Second, oral communication and public and private speaking will be emphasized. Finally, the course will consider the unique problems of communicating effectively in the casino industry, including language and communication problems unique to the culture of gambling.

HRTM7998

3 Credits

History of Casino Gaming

This course will familiarize students in the gaming hospitality industry with the historical development of gaming. This will help industry professionals not only by increasing their knowledge of information about their chosen field, but by giving them a better perspective on how and why the industry evolved as it did. It will provide students with an accurate picture of current developments in the casino industry throughout the nation.

HRTM7999

3 Credits

Casinos' Social and Economic Approach

Introduction to casino operations and management with a social and economic approach. Emphasis on the multiplying effects that casinos have on communities and social problems.

Fall, Spring

Industrial/ Organizational Psychology (M.A.)

See Psychology, Industrial/Organizational Psychology, pages 220–222.

International Business (M.B.A.)

See Business, International Business, page 69.

Learning Disabilities (M.A.)

See Education, Learning Disabilities, page 133.

Management (M.B.A.)

See Business, Management, page 69.

Management (M.B.A.) for Executives — General Management

See Business, Management (M.B.A.) for Executives — General Management, page 73.

Management (M.B.A.) for Executives — Health Sector Management

See Business, Management (M.B.A.) for Executives — Health Sector Management, page 74.

Management Information Systems (M.S.)

The graduate program in management information systems is designed for present and future managers and developers of organizational information systems.

Relying on computers and telecommunications networks, these systems are a source of operational efficiency, managerial effectiveness and corporate strategic advantage. The program combines learning how to use and develop information system technology with instruction in business, management and organizations.

Classes normally are scheduled during the late afternoon and evening in order to meet the needs of currently employed students.

This program is offered under the auspices of the Lee Gildart and Oswald Haase School of Computer Sciences and Engineering, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Selected courses offered for credit toward the M.S. in management information systems also are available on the Florham Campus, Madison, New Jersey.

Admission Requirements

1. Graduation from an accredited college or university with a satisfactory academic record.

2. Submission of an official score report for the Graduate Record Examinations (GRE) General Test taken within the last five years. The GRE may be waived if the applicant enrolls initially as a nonmatriculating student and completes 9 graduate credits in computer science with a minimum cumulative grade point ratio (CGPR) of 3.00 on a 4.00 scale and no grade below C or is a Fairleigh Dickinson University computer science graduate and has an undergraduate CGPR of 3.00 or is a non-Fairleigh Dickinson University computer science graduate and has an undergraduate CGPR of 3.50. This GRE-waiver policy is only applicable to applicants who graduated from a regionally accredited college or university in the United States. (The GRE

Management Information Systems

requirement also is waived for applicants who have completed a master's degree.)

Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a nonmatriculated or nondegree basis.

Requirements for the Master of Science Degree

1. Students must complete 30 credits of courses including topics in computer architecture, database systems, management, systems design, implementation and maintenance and electronic commerce.
2. Students who do not have an undergraduate degree in MIS or a cognate area, or demonstrably equivalent knowledge will take up to 12 credits of prerequisite courses. They must earn a cumulative grade point ratio of at least 2.75 for the prerequisite courses taken. Students who wish to be exempted from these courses must apply in writing to the school before the beginning of their first semester in the program.
3. Students must earn a cumulative grade point ratio of at least 2.75 for the 30 credits beyond the prerequisite courses.

Prerequisite Courses (12 credits)

The prerequisite courses for the M.S. in management information systems are:

	Credits
ACCT5012	
Financial Accounting: End-User Applications.....	2
CSCI5505	
Introduction to Computer Programming.....	3
CSCI5525	
Introduction to Computer Science.....	3
ECON5012	
Economic Analysis.....	2
MKTG5012	
Marketing Principles.....	2

Required Courses (18 credits)

CSCI6605	
Computer Architecture.....	3
CSCI6623	
Database Systems.....	3
CSCI6720	
Management Information Systems.....	3
CSCI6758	
Electronic Commerce.....	3

	Credits
CSCI7727	
Development of MIS 1: Project Management and Systems Analysis.....	3
CSCI7791	
Information Systems for Competitive Advantage.....	3

Elective Courses (12 credits)

Students must select four electives from the list below. However, students have the option of registering for a 3-credit internship (which counts as one elective course) after completing 18 graduate credits. At the discretion of the school and consistent with the program objectives, other information-technology and business-oriented courses may be added to the elective list.	
CSCI6638	
Operating Systems.....	3
CSCI6731	
Computer Networks.....	3
CSCI6733	
Decision Support Systems.....	3
CSCI6734	
Expert Systems.....	3
CSCI6735	
Client-server Computing.....	3
CSCI6751	
Artificial Intelligence.....	3
CSCI6810	
Java and the Internet.....	3
CSCI6844	
Programming for the Internet.....	3
CSCI7728	
Development of MIS 2: Systems Design, Implementation and Maintenance.....	3
CSCI7781	
Advanced Database Systems.....	3
CSCI7785	
Distributed Database Systems.....	3
CSCI7795	
Building Electronic Commerce Systems.....	3

Management Information Systems Certificate

The certificate program in management information systems provides individuals with a broad knowledge base to assist organizations in pursuing information technology-based competitive advantage in a rapidly changing global economy.

Admission Requirements

Admission to the certificate program requires a baccalaureate degree from a regionally accredited college or university with a satisfactory academic record.

Requirements for Certificate in Management Information Systems

18 credits (six courses) are to be chosen from the following:

	Credits
CSCI5525	
Introduction to Computer Science.....	3
CSCI6623	
Database Systems.....	3
CSCI6720	
Management Information Systems.....	3
CSCI6731	
Computer Networks.....	3
CSCI6758	
Electronic Commerce.....	3
CSCI7727	
Development of MIS 1: Project Management and Systems Analysis.....	3
CSCI7791	
Information Systems for Competitive Advantage.....	3
Students must satisfy the prerequisites of the courses that they will take.	

Academic Credits: Courses with numbers 6000 or higher completed through this certificate program can be credited toward the **M.S. in management information systems** program. Other courses may be substituted with prior approval of the student's academic adviser.

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with the school. See also "Course Offerings," *Computer Science*, pages 104–110.

Management Information Systems

Lee Gildart and Oswald Haase School of Computer Sciences and Engineering

CSCI5525

3 Credits

Introduction to Computer Science

Introduction to computer hardware and software, interactions and tradeoffs. Essentials of computer organization and arithmetic, assemblers, I/O devices, operating systems and files. May be taken with CSCI5505 Introduction to Computer Programming or CSCI5550

Medical Technology

Business Programming Techniques and Data Structures (management information systems course).

Fall

CSCI5550

3 Credits

Business Programming Techniques and Data Structures

Methodical development of limited-size programs with the use of a procedural language (Visual Basic). Fundamental data structures: arrays, records, lists and trees. Sorting and searching. Stress on structured development techniques, systems development life cycle, with an introduction to prototyping and program maintenance. Laboratory.

CSCI5551

3 Credits

Mathematics for Computer Science and MIS

Introduction to basic mathematical concepts and how they relate to computer science; formal logic, set theory, functions, relations, Boolean algebra, graph theory and combinatorics.

Fall

CSCI6751

3 Credits

Computer Networks

Introduction to the theory and practice of computer networking. Network design and analysis, elementary queueing theory. Network protocols. Functions of the layers of ISO reference model, including routing, flow control, error control, sequencing and addressing. Prerequisite: CSCI5525 Introduction to Computer Science.

Fall

CSCI6753

3 Credits

Decision Support Systems

Characteristics of decision support systems (DSS) within the MIS framework. Requirements for effective DSS. Normative and behavioral theories of decision making. Dialog, database and model management. Classes of models. DSS development: tools and methodologies. Laboratory. Prerequisite: CSCI6720 Management Information Systems.

CSCI6750

3 Credits

Advanced Quantitative Analysis

Mathematical programming techniques and optimization methods. Goal, integer, nonlinear and dynamic programming. Regression analysis for planning and forecasting. Construction of models with the use of a modeling language. Laboratory. Prerequisite: CSCI5551 Mathematics for Computer Science and MIS.

CSCI7727

3 Credits

Development of MIS 1: Project Management and Systems Analysis

Techniques of information system project management, cost/benefit analysis, development time and cost estimation. Organization of the development process: detailed discussion and use of systems development life cycle with prototyping. Systems documentation. Students will perform feasibility study and structured systems analysis of an online application system, as well as develop a moderate-size prototype for it. Project will use a computer-aided software engineering tool. Laboratory. Prerequisite: CSCI6720 Management Information Systems. Note: This course does not carry credit for computer science majors.

CSCI7728

3 Credits

Development of MIS 2: Systems Design, Implementation and Maintenance

Structured software design, structured programming and multilevel testing. Team implementation of an online system. Complete documentation package for the system will be prepared. Regression tests will be developed. Maintenance of the system, including its documentation, is to be performed by modifying one of its major functional capabilities. Laboratory. Prerequisite: CSCI7727 Development of MIS 1: Project Management and Systems Analysis.

CSCI7791

3 Credits

Information Systems for Competitive Advantage

Use of information technology as a strategic weapon. Forces, strategies and tactics in competitive markets. Value chain analysis of strategic opportunities for use of information systems. Organizational requirements for success with strategic use of information technology. Integration of MIS planning with corporate planning. Changes in industry structure due to strategic information system use. Case studies. Prerequisites: ACCT5012 Financial Accounting; End-User Applications and CSCI7727 Development of MIS 1: Project Management and Systems Analysis.

Medical Technology (M.S.)

This program is offered under the auspices of the Henry P. Becton School of Nursing and Allied Health, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

1. Graduation from an accredited college or university.
2. Grade point ratio (GPR) of 3.00 or higher.
3. Bachelor of Science in medical technology or in biology.
4. Twelve- to 15-month clinical training program in the undergraduate curriculum.
5. Registration as medical technologist of the American Society for Clinical Pathology and two years of clinical experience. (The latter may be completed concurrently with course work, in which case full matriculation for the degree is not permitted until the two full years of experience are presented.)
6. Undergraduate courses in statistics (inferential and descriptive).
7. Three letters of recommendation (academic/professional).
8. An essay on one of two topics: "Why did you choose graduate education?" or "What do you plan to do with your master of science degree?"

Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a nonmatriculated or nondegree basis.

Requirements for the Master of Science Degree

1. Satisfactory completion of a minimum of 35 credits consisting of 12 credits of biology/chemistry; 6 credits of computer science; 6 credits of administration or business courses; 5 credits of research, including a research project; and 6 credits of Clinical Practicum.

2. Upon admission to the M.S. in medical technology program, a student is required to meet with the associate director of allied health from the School of Nursing and Allied Health to discuss a program plan suitable to his or her interests.

Required Courses

Biology/Chemistry Credits

Select 12 credits from the following:

BIOL6240, BIOL6241	
Molecular Cell Biology (Lecture and Laboratory).....	4
BIOL6705	
Advances in Cell Biology.....	3
BIOL6724	
Human Genetics.....	3
BIOL6733	
Enzymology.....	3
BIOL6761, BIOL6661	
Advanced Microbiology (Lecture and Laboratory).....	5
CHEM6525	
Physical Chemistry.....	3
CHEM6529	
Microtoxicology and Biochemistry.....	3
CHEM6673	
Physical Organic Chemistry.....	3
CHEM6781	
Biochemistry.....	3

Computer Science

Select 6 credits from the following:

CSCI5505	
Introduction to Computer Programming.....	3
CSCI5525	
Introduction to Computer Science.....	3
CSCI6720	
Management Information Systems.....	3
NURS6640	
Clinical Nursing Information Systems and Applications.....	3

Administration/Business

Select 6 credits from the following:

MGMT5012	
Foundations of Management.....	2
PADM6602	
Budgeting and Finance.....	3
PADM6604	
Human Resources Management.....	3
PADM7731	
Introduction to Health Systems and Policy.....	3

Introduction to Research

NURS7701	
Advanced Research and Evidence-based Practice.....	3

Research Seminar

NURS7752	
Master Project Seminar.....	2

Clinical Practicum (I, II, III)

Credits

MEDT6623	
Clinical Practicum I.....	2
MEDT7725	
Clinical Practicum II.....	2
MEDT7731	
Clinical Practicum III.....	2
Total.....	35

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with the school.

For Biology, Chemistry, Computer Science, Engineering and Business courses see "Course Offerings" under the respective majors.

Medical Technology

Henry P. Becton School of Nursing and Allied Health

BIOL5306

3 Credits

Immunology

A study of the structure and function of the molecular and cellular components of the immune system, genetic bases of immune responses, normal and pathological responses, tumor immunology, transplantation and immunological techniques. Prerequisites: BIOL1251, BIOL1253 General Biology I; BIOL1252, BIOL1254 General Biology II; BIOL2210 Genetics; BIOL2211 Laboratory: Genetics; CHEM2261 Organic Chemistry I; CHEM2263 Organic Chemistry Laboratory I; and CHEM3281 Biochemistry I.

BIOL6705

3 Credits

Advances in Cell Biology

Molecular organization of cell. Internal membranes and synthesis of macromolecules. The cell nucleus and cell division. Control of cell cycle. Cytoskeleton and cell-cell adhesion. The extra cellular matrix and signal transduction. Fall, Spring

BIOL6721

3 Credits

Advances in Molecular Genetics

Classical mechanisms of recombination in prokaryote; transposition; genetic engineering; isolation and sequencing of DNA; restriction mapping; plasmid vectors; DNA cloning; molecular hybridization; regulation of genetic expression. Mutagenicity and carcinogenicity. Proteomic research: genome to proteome. Applications in research, medicine and agriculture. Prerequisites: BIOL2210, BIOL2211 Genetics. Fall, Spring

BIOL6733

3 Credits

Enzymology

Enzyme sources and purification, structure, kinetics and mechanisms. Sequencing and characterization, biocatalysis, control of enzyme activity, clinical aspects of enzymology and applications in biotechnology. Use of protein data banks and molecular modeling. Spring

BIOL6767

3 Credits

Microbiology and Infectious Diseases

The biology of infectious agents, establishment of infectious diseases and strategies to study microbial and viral pathogens. The biological basis for antimicrobial and antiviral actions. Other topics emphasized are constitutive and induced defenses of the body, microbial subversion of host defenses and bacterial toxins.

MEDT6625

2 Credits

Clinical Practicum I

Supervised experience in the clinical chemistry laboratory will provide students with the opportunity to analyze constituents from blood, urine, spinal fluid and other body fluids. Advanced instrumentation, preventative maintenance, quality-control and assurance procedures, application of theoretical information and technical competence will be emphasized. Students also will obtain additional experience in specimen collection, processing and management.

MEDT7701

3 Credits

Advanced Research

The advancement of knowledge in medical technology through research is explored. Critical analysis of selected concepts using related literature is conducted and applied to the research process. Quantitative statistical procedures and qualitative methods are examined for their appropriate use in research design. Research in medical technology and allied health is evaluated for utilization in practice cognizant of ethical issues. Prerequisite: background in statistics.

MEDT7725

2 Credits

Clinical Practicum II

Students will obtain practical experience in hematology, hemostasis and urine and body-fluid analysis under direct supervision at various clinical sites. Correlation of theoretical studies with current practice, automation, troubleshooting, problem-solving, National Committee on Clinical Laboratory Standards (NCCLS) and College of American Pathologists (CAP) guidelines, accreditation requirements and

technical competence will be emphasized.
Prerequisite: MEDT6623 Clinical Practicum I.

MEDT7731

2 Credits

Clinical Practicum III

Under supervision, students will observe and perform isolation, identification and susceptibility-testing procedures in microbiology. Students will gain experience in correlating theoretical knowledge with clinical practice, ensuring quality through performance and interpretation of quality-control procedures and addressing administrative and management issues of specimen acceptability, work flow, method assessment and appropriate use of interpretive guidelines. Prerequisite: MEDT7725 Clinical Practicum II.

MEDT7752

2 Credits

Research Seminar

The development and presentation of scholarly projects guided by faculty in selected areas of practice, administration and research. Prerequisite: MEDT7701 Advanced Research.

Nursing (M.S.N.)

The graduate curriculum in nursing is designed to serve those who desire to study advanced nursing rooted in explicit nursing knowledge as a guide to various roles.

The Master of Science in Nursing (M.S.N.) program prepares individuals as nurse practitioners for primary care, forensic nurses, nurse information systems specialists or as nurse educators and nurse administrators.

Advanced scholarship takes place within the context of nursing as a discipline and profession and is the guiding theme of all activities encompassed within the learning environment.

This program is offered under the auspices of the Henry P. Becton School of Nursing and Allied Health, University College: Arts • Sciences • Professional Studies, at the Metropolitan Campus, Teaneck, New Jersey, and the Florham Campus, Madison, New Jersey.

Admission Requirements

1. Graduation from an accredited B.S.N. program.
2. Undergraduate grade point ratio (GPR) of 3.00 or higher.
3. Registered nurse licensure in New Jersey.
4. Proficiency in spoken and written English.
5. Undergraduate prerequisites, including courses in health assessment, statistics and nursing research.
6. A personal interview may be required.
7. A minimum of one year of clinical nursing experience.
8. Two letters of recommendation.

Clinical Tracks

- Adult Gerontology Nurse Practitioner* (30 credits)
- Adult Gerontology Nurse Practitioner — Education or Administration Focus (39 credits)
- Adult Gerontology Nurse Practitioner — Forensic Focus (42 credits)
- Family Nurse Practitioner (37 credits)
- Family Psychiatric/Mental Health Nurse Practitioner* (42 credits)

Nonclinical Tracks

- Nursing Administration (33 credits)
- Nursing Education (33 credits)
- Nursing Information Systems (32 credits)

Post-Master's Certificate Programs

Individuals holding an M.S.N. degree may earn a Post-M.S.N. graduate certificate in gerontology nurse practitioner, family nurse practitioner, family psychiatric/mental health nurse practitioner, nursing education and nursing information systems.

- Adult Gerontology Nurse Practitioner (24 credits)
- Family Nurse Practitioner (24 credits)
- Family Psychiatric/Mental Health Nurse Practitioner (24 credits)
- Nursing Education (24 credits)
- Nursing Administration (24 credits)
- Nursing Information Systems (24 credits)

Upon completion of the adult gerontology nurse practitioner, family nurse practitioner and family psychiatric/mental health nurse practitioner programs, the graduate is eligible for the Advanced Practice Nurse (APN) Certification Examination.

Adult Gerontology Nurse Practitioner

Graduates of the adult gerontology nurse practitioner program will be qualified to diagnose and treat clients with a wide variety of illnesses. Students graduate with an M.S.N. degree and are eligible to take the adult-gerontology nurse practitioner certification exam (AANP or ANCC) to become certified in the field.

Required Core Courses (8 credits)

	Credits
NURS6600	
Introduction to Advanced Nursing: Philosophies and Theories.....	3
NURS7701	
Advanced Research and Evidence- based Practice.....	3
NURS7752	
Master Project Seminar.....	2

*Offered at both the Metropolitan Campus in Teaneck, New Jersey, and at the Florham Campus in Madison, New Jersey.

Advanced Nursing Practice Courses (22 credits)

	Credits
NURS6615	
Advanced Pharmacology.....	3
NURS6620	
Advanced Health Assessment Theory....	2
NURS6621	
Advanced Health Assessment Practicum.....	2
NURS6682	
Primary Care of the Adult Gerontology I – Theory.....	3
NURS6683	
Primary Care of the Adult Gerontology I Practicum.....	1
NURS7702	
Advanced Pathophysiology.....	3
NURS7735	
Advanced Adult Gerontology II Theory.....	3
NURS7736	
Advanced Adult Gerontology II Practicum.....	1
NURS7759	
Primary Care of the Adult Gerontology III – Theory.....	3
NURS7760	
Primary Care of the Adult Gerontology III Practicum.....	1

Adult Gerontology Nurse Practitioner — Education or Administration Focus

Graduates of the adult-gerontology nurse practitioner program will be qualified to diagnose and treat clients with a wide variety of illnesses. Students graduate with an advanced practice nursing (A.P.N.) degree and are eligible to take the adult nurse practitioner certification exam (AANP or ANCC) to become certified in the field. Students select a role specialization in education or administration (9 credits).

Required Core Courses (8 credits)

NURS6600	
Introduction to Advanced Nursing: Philosophies and Theories.....	3
NURS7701	
Advanced Research and Evidence-based Practice.....	3
NURS7752	
Master Project Seminar.....	2

Advanced Nursing Practice Courses (22 credits)

NURS6615	
Advanced Pharmacology.....	3
NURS6620	
Advanced Health Assessment Theory....	2

	Credits
NURS6621	
Advanced Health Assessment Practicum.....	2
NURS6682	
Primary Care of the Adult Gerontology I – Theory.....	3
NURS6683	
Primary Care of the Adult Gerontology I Practicum.....	1
NURS7702	
Advanced Pathophysiology.....	3
NURS7735	
Advanced Adult Gerontology II Theory.....	3
NURS7736	
Advanced Adult Gerontology II Practicum.....	1
NURS7759	
Primary Care of the Adult Gerontology III – Theory.....	3
NURS7760	
Primary Care of the Adult Gerontology III Practicum.....	1
Total.....	30

Role Specialization (9 credits)

Education courses: curriculum development; measurement and evaluation; educational theory/teaching strategies.

Administration courses: public and nonprofit management; human resources management; budgeting and finance.

Total.....39

Adult Gerontology Nurse Practitioner — Forensic Focus

As a forensic nurse, graduates will focus on meeting the needs of victims and perpetrators of crimes, applying scientific nursing knowledge to the delivery of care for survivors of traumatic injury, victims of violence or death investigations. The nurse may specialize in such areas as domestic violence, child and elder abuse and emergency trauma. The forensic nurse may also be involved in conducting crime-scene investigations or giving courtroom testimony.

Required Core Courses (8 credits)

NURS6600	
Introduction to Advanced Nursing: Philosophies and Theories.....	3
NURS7701	
Advanced Research and Evidence-based Practice.....	3
NURS7752	
Master Project Seminar.....	2

Advanced Nursing Practice Courses (22 credits)

	Credits
NURS6615	
Advanced Pharmacology.....	3
NURS6620	
Advanced Health Assessment Theory....	2
NURS6621	
Advanced Health Assessment Practicum.....	2
NURS6682	
Primary Care of the Adult Gerontology I – Theory.....	3
NURS6683	
Primary Care of the Adult Gerontology I Practicum.....	1
NURS7702	
Advanced Pathophysiology.....	3
NURS7735	
Advanced Adult Gerontology II Theory.....	3
NURS7736	
Advanced Adult Gerontology II Practicum.....	1
NURS7759	
Primary Care of the Adult Gerontology III – Theory.....	3
NURS7760	
Primary Care of the Adult Gerontology III Practicum.....	1

Forensic Nursing Specialization (12 credits)

Courses for the forensic nursing specialization will be selected each semester from the offerings of the School of Psychology and the School of Criminal Justice, Political Science and International Studies graduate courses in forensics, see below for examples.

CRIM6005	
Advanced Criminological Theory.....	3
CRIM7020	
Ethics, Politics and Justice.....	3
CRIM7065	
Crime, Victimology and Risk Reduction.....	3
PSYC6231	
Psychological Bases of Criminal Behavior.....	3
Total.....	42

Family Nurse Practitioner

Graduates of the family nurse practitioner program will be qualified to diagnose and treat clients across the lifespan with a wide variety of illnesses. Students graduate with an advanced practice nursing M.S.N. degree and are eligible to take the family

Nursing

nurse practitioner certification exam (AANP or ANCC) to become certified in the field. Also available online.

Required Core Courses (8 credits)

	Credits
NURS6600	
Introduction to Advanced Nursing: Philosophies and Theories.....	3
NURS7701	
Advanced Research and Evidence-based Practice.....	3
NURS7752	
Master Project Seminar.....	2

Advanced Nursing Practice Courses (29 credits)

NURS6615	
Advanced Pharmacology.....	3
NURS6620	
Advanced Health Assessment Theory....	2
NURS6621	
Advanced Health Assessment Practicum.....	2
NURS6682	
Primary Care of the Adult Gerontology I – Theory.....	3
NURS6683	
Primary Care of the Adult Gerontology I Practicum.....	1
NURS7702	
Advanced Pathophysiology.....	3
NURS7735	
Advanced Adult Gerontology II Theory.....	3
NURS7736	
Advanced Adult Gerontology II Practicum.....	1
NURS7794	
Family Care I Pediatrics.....	3
NURS7795	
Family Primary Care I Practicum.....	1
NURS7810	
Family Primary Care II Theory.....	3
NURS7811	
Family Primary Care II Practicum.....	1
NURS7812	
Family Systems.....	3

Family Psychiatric/Mental Health Nurse Practitioner

As a family psychiatric/mental health nurse practitioner, graduates will be qualified to diagnose and treat clients with a wide variety of mental illnesses. Students graduate with an advanced practice nursing (A.P.N.) degree and are eligible to take the family psychiatric/mental health nurse practitioner exam (ANCC) to become certified in the field.

Required Core Courses (8 credits)

	Credits
NURS6600	
Introduction to Advanced Nursing: Philosophies and Theories.....	3
NURS7701	
Advanced Research and Evidence-based Practice.....	3
NURS7752	
Master Project Seminar.....	2

Advanced Nursing Practice Courses (34 credits)

NURS6501	
Advanced Psychiatric/Mental Health Nursing Theory I: Families, Children and Adolescents.....	3
NURS6502	
Advanced Psychiatric/Mental Health Nursing Practicum I: Families, Children and Adolescents.....	2
NURS6503	
Advanced Psychiatric/Mental Health Nursing Theory II: Adults.....	3
NURS6504	
Advanced Psychiatric/Mental Health Nursing Practicum II: Adults.....	2
NURS6505	
Advanced Psychiatric/Mental Health Nursing Theory III: Geriatrics.....	3
NURS6506	
Advanced Psychiatric/Mental Health Nursing Practicum III: Geriatrics.....	2
NURS6615	
Advanced Pharmacology.....	3
NURS6620	
Advanced Health Assessment Theory....	2
NURS6621	
Advanced Health Assessment Practicum.....	2
NURS6701	
Psychopharmacology.....	3
NURS7702	
Advanced Pathophysiology.....	3
NURS7812	
Family Systems.....	3
NURS7815	
Advanced Practice Nursing Role Development.....	3
Total.....	42

Nursing Administration

The master of science in nursing administration program is designed to prepare leaders of administrative teams in

hospitals, clinics or other health care organizations who will influence and implement institutional policies during this period of health care reform, restructuring and changes affecting patient outcomes. Students who completed another master's degree cannot transfer any courses to complete this master's degree.

Required Courses

Nursing Core Courses (8 credits)

	Credits
NURS6600	
Introduction to Advanced Nursing: Philosophies and Theories.....	3
NURS7701	
Advanced Research and Evidence-based Practice.....	3
NURS7752	
Master Project Seminar.....	2

Advanced Nursing Courses (10 credits)

NURS7718	
Administrative Practicum.....	4
NURS7771	
Seminar in Nursing Education.....	3
NURS8002	
Health Care Delivery Systems and Public Policy.....	3

Nursing Information Systems Courses (6 credits)

NURS6640	
Clinical Nursing Information Systems and Applications.....	3
NURS7741	
Project Management.....	3

Master of Administrative Science or M.B.A. Courses (9 credits)

MADS6600	
Theory and Practice of Administration.....	3
or	
MGMT5012	
Foundations of Management.....	2
MADS6601	
Financial Administration.....	3
or	
FIN5012	
Principles of Finance.....	2
MADS6606	
Administrative Leadership in Complex Organizations.....	3
or	
MGMT6012	
Organizational Behavior and Leadership.....	2
Total.....	32

Nursing Education

The nurse educator M.S.N. program prepares nurses as teachers in collegiate programs, in associate or bachelor's degree nursing education. Students acquire knowledge and skills in teaching that enable them to work effectively with students, patients and consumers. Students complete a preceptored practicum that is individually tailored to student goals and exposes them to all aspects of the faculty academic and clinical teaching role. Also available online.

Required Core Courses (8 credits)

	Credits
NURS6600	
Introduction to Advanced Nursing: Philosophies and Theories.....	3
NURS7701	
Advanced Research and Evidence-based Practice.....	3
NURS7752	
Master Project Seminar.....	2

Advanced Nursing Education Courses (25 credits)

NURS6615	
Advanced Pharmacology.....	3
NURS7702	
Advanced Pathophysiology.....	3
NURS7705	
Educational and Learning Theory.....	3
NURS7706	
Teaching Strategies for the Learning Environment.....	3
NURS7713	
Curriculum Development and Theory.....	3
NURS7714	
Outcomes Assessment.....	3
NURS7717	
Teaching Practicum.....	4
NURS7771	
Seminar in Nursing Education.....	3
Total.....	33

Nursing Information Systems

The nursing information systems specialist is able to integrate computer science, information science and nursing science to assist in the management and process of nursing data, information and knowledge to support evidence-based practice and to improve the delivery of nursing care.

Required Core Courses (8 credits)

NURS6600	
Introduction to Advanced Nursing: Philosophies and Theories.....	3

NURS7701	
Advanced Research and Evidence-based Practice.....	3
NURS7752	
Master Project Seminar.....	2

Nursing Information Systems Specialization (12 credits)

NURS6640	
Clinical Nursing Information Systems and Applications.....	3
NURS7740	
Nursing Informatics Role.....	3
NURS7741	
Project Management.....	3
NURS7745	
Practicum in Nursing Informatics.....	3

Support Courses (9 credits)

Select three courses from the following:	
CSCI5505	
Introduction to Computer Programming.....	3
CSCI5525	
Introduction to Computer Science.....	3
CSCI6720	
Management Information Systems*.....	3
CSCI6733	
Decision Support Systems**.....	3

Elective Courses (3 credits)

Select one course from the following:	
NURS7705	
Educational and Learning Theory.....	3
NURS7746	
Nursing Informatics Practicum II.....	3
Total.....	32

Post-Master's Certificate Program

The Post-Master's Certificate Program allows nurses who have a master's degree in nursing from an NLN/CCNE-accredited program to pursue further post-graduate study in APRN (Advanced Practice Nursing) in adult gerontology, family, family psychiatric/mental health, forensic and nonclinical areas in education and nursing information systems.

Admissions Criteria

1. Master's degree in nursing from an NLN/CCNE-accredited program.
2. Grade point ratio (GPR) of 3.00.
3. Current New Jersey registered nurse (RN) license or eligibility for RN licensure in New Jersey.

*Prerequisite is CSCI5525 Introduction to Computer Science.

**Prerequisite is CSCI6720 Management Information Systems.

Adult Gerontology Nurse Practitioner Post-Master's Certificate

The adult gerontology nurse practitioner post-master's certificate program includes didactic and clinical experiences that focus on the primary-care needs of the adult-gerontology population.

Designed for M.S.N.-prepared nurses who are interested in becoming adult gerontology nurse practitioners, graduates are eligible for national certification.

Required Courses (24 credits)

	Credits
NURS6615	
Advanced Pharmacology*.....	3
NURS6620	
Advanced Health Assessment Theory**.....	2
NURS6621	
Advanced Health Assessment Practicum**.....	2
NURS6682	
Primary Care of the Adult Gerontology I – Theory.....	3
NURS6683	
Primary Care of the Adult Gerontology I Practicum.....	1
NURS7702	
Advanced Pathophysiology**.....	3
NURS7735	
Advanced Adult Gerontology II Theory.....	3
NURS7736	
Advanced Adult Gerontology II Practicum.....	1
NURS7759	
Primary Care of the Adult Gerontology III Theory.....	3
NURS7760	
Primary Care of the Adult Gerontology III Practicum.....	1
NURS7813	
APN Practicum.....	2-10
Total credits required are determined on an individual basis after gap analysis of prior education and certification. Total clinical hours: 550 hours	

*NURS6615 Advanced Pharmacology must have been taken within three years of entry into the program.

**NURS6620 Advanced Health Assessment Theory, NURS6621 Advanced Health Assessment Practicum and NURS7702 Advanced Pathophysiology must have been completed within five years of entry into the program.

Family Nurse Practitioner Post-Master's Certificate

The family nurse practitioner post-master's certificate program includes didactic and clinical experiences that focus on the primary-care needs of families and communities.

Designed for M.S.N.-prepared nurses who are interested in becoming nurse practitioners, graduates are eligible for national certification.

Required Courses (24 credits)

	Credits
NURS6615	
Advanced Pharmacology*	3
NURS6620	
Advanced Health Assessment Theory**	2
NURS6621	
Advanced Health Assessment Practicum**	2
NURS6682	
Primary Care of the Adult Gerontology I – Theory	3
NURS6683	
Primary Care of the Adult Gerontology I Practicum	1
NURS7702	
Advanced Pathophysiology**	3
NURS7735	
Advanced Adult Gerontology II Theory	3
NURS7736	
Advanced Adult Gerontology II Practicum	1
NURS7794	
Family Primary Care I Pediatrics	3
NURS7795	
Family Primary Care I Practicum	1
NURS7810	
Family Primary Care II Theory	3
NURS7811	
Family Primary Care II Practicum	1
NURS7812	
Family Systems	3
NURS7813	
APN Practicum	2–10

Total credits required are determined on an individual basis after gap analysis of prior education and certification. If the

*NURS6615 Advanced Pharmacology must have been taken within three years of entry into the program.

**NURS6620 Advanced Health Assessment Theory, NURS6621 Advanced Health Assessment Practicum and NURS7702 Advanced Pathophysiology must have been completed within five years of entry into the program.

student is not a nurse practitioner, he or she must complete NURS6682 Primary Care of the Adult Gerontology I – Theory and NURS6683 Primary Care of the Adult Gerontology I Practicum and NURS7735 Advanced Adult Gerontology II Theory or NURS7736 Advanced Adult Gerontology II Practicum as well as NURS7794 Family Primary Care I and NURS7810, NURS7811 Family Primary Care II.

Total clinical hours: 640 hours to be completed in the program.

Family Psychiatric/Mental Health Nurse Practitioner Post-Master's Certificate

Upon completion of the family psychiatric and mental health advanced practice certificate program, students are eligible for family psychiatric and mental health nurse practitioner certification through the American Nurses Credentialing Center (ANCC).

Required Courses (24 credits)

	Credits
NURS6501	
Advanced Psychiatric/Mental Health Nursing Theory I: Families, Children and Adolescents	3
NURS6502	
Advanced Psychiatric/Mental Health Nursing Practicum I: Families, Children and Adolescents	2
NURS6503	
Advanced Psychiatric/Mental Health Nursing Theory II: Adults	3
NURS6504	
Advanced Psychiatric/Mental Health Nursing Practicum II: Adults	2
NURS6505	
Advanced Psychiatric/Mental Health Nursing Theory III: Geriatrics	3
NURS6506	
Advanced Psychiatric/Mental Health Nursing Practicum III: Geriatrics	2
NURS6701	
Psychopharmacology	3
NURS7812	
Family Systems	3
NURS7815	
Advanced Practice Nursing Role Development	3

Total credits required are determined on an individual basis after gap analysis of prior education and certification.

Total clinical hours: 555 hours to be completed in the program.

Accelerated D.N.P. Programs

The Henry P. Becton School of Nursing and Allied Health offers the following accelerated D.N.P. programs:

- Pre-baccalaureate Nursing to D.N.P. (109 credits and 1,565 clinical hours)
- Post-baccalaureate Nursing to D.N.P. (58 credits and 1,065 clinical hours)
- Postmaster's D.N.P. (36 credits and 500 residency hours)

For information go to Accelerated D.N.P. Programs, pages 191–192.

For Information

For more information, contact Dr. Boas Yu, associate director of graduate nursing programs, at (201) 692-2881 or boas_yu@fdu.edu.

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with the school.

Nursing

Henry P. Becton School of Nursing and Allied Health

NURS6501 3 Credits

Advanced Psychiatric/Mental Health Nursing Theory I: Families, Children and Adolescents

The focus of this course is on children and adolescents with acute and chronic mental illnesses. Interventions emphasize music therapy; play therapy; cognitive-behavior therapy; individual, family and group therapy; and residential, day and hospital treatment. Biologically based management is also addressed. Assessments and differential diagnoses are emphasized and the use of reliable and valid measurement instruments is taught. Knowledge from nursing science, psychotherapies, biological therapies and evidence-based research provide the basis for culturally competent psychiatric advance-practice nursing care to this population. Prerequisites: NURS6615 Advanced Pharmacology, NURS6620 Advanced Health Assessment Theory, NURS6621 Advanced Health Assessment Practicum and NURS6701 Psychopharmacology. Corequisite: NURS6502 Advanced Psychiatric/Mental Health Nursing Practicum I: Families, Children and Adolescents.

NURS6502

2 Credits

Advanced Psychiatric/Mental Health Nursing Practicum I: Families, Children and Adolescents

Students will apply knowledge from NURS6501 Advanced Psychiatric/Mental Health Nursing Theory I: Families, Children and Adolescents in providing direct care in the clinical arena to children and adolescents with acute and chronic mental illnesses. Students will carry a caseload of patients under the direct guidance of an experienced preceptor who will be certified as a family psychiatric nurse practitioner or child and adolescent psychiatrist. Weekly supervision sessions with faculty enhance students' developing clinical competence. care to this population. Prerequisites: NURS6615 Advanced Pharmacology, NURS6620 Advanced Health Assessment Theory and NURS6621 Advanced Health Assessment Practicum. Corequisite: NURS6501 Advanced Psychiatric/Mental Health Nursing Theory I: Families, Children and Adolescents.

NURS6503

3 Credits

Advanced Psychiatric/Mental Health Nursing Theory II: Adults

The focus of this course is on adults with acute and chronic mental illnesses. Interventions emphasize one-on-one interaction from a variety of therapeutic modalities such as short-term psychotherapy, biologically based management and cognitive-behavior therapy. Group and family therapy are explored as treatment modalities. Assessments and differential diagnoses are emphasized and the use of reliable and valid measurement instruments is addressed. Knowledge from nursing science; individual, group and family theory; and evidence-based research provide the basis for culturally competent psychiatric advance-practice nursing care to this adult population. Prerequisites: NURS6501 Advanced Psychiatric/Mental Health Nursing Theory I: Families, Children and Adolescents; NURS6502 Advanced Psychiatric/Mental Health Nursing Practicum I: Families, Children and Adolescents; and NURS6701 Psychopharmacology. Corequisite: NURS6504 Advanced Psychiatric/Mental Health Nursing Practicum II: Adults.

NURS6504

2 Credits

Advanced Psychiatric/Mental Health Nursing Practicum II: Adults

Students will apply knowledge from NURS6503 Advanced Psychiatric/Mental Health Nursing Theory II: Adults in providing direct care in the clinical arena to adults with acute and chronic mental illnesses. Students will carry a caseload of patients under the direct guidance of an experienced preceptor who will be certified as a nurse practitioner or psychiatrist. Weekly

supervision sessions with faculty enhance students' developing clinical competence.

Prerequisites: NURS6501 Advanced Psychiatric/Mental Health Nursing Theory I: Families, Children and Adolescents; NURS6502 Advanced Psychiatric/Mental Health Nursing Practicum I: Families, Children and Adolescents; and NURS6701 Psychopharmacology. Corequisite: NURS6503 Advanced Psychiatric/Mental Health Nursing Theory II: Adults.

NURS6505

3 Credits

Advanced Psychiatric/Mental Health Nursing Theory III: Geriatrics

The focus of this course is on geriatric patients with acute and chronic mental illnesses. Psychotherapeutic and biologically based therapies that are unique to this population will be addressed. Assessments and differential diagnoses are emphasized and the use of reliable and valid measurement instruments is taught. Knowledge from nursing science; individual, group and family theory; and evidence-based research provide the basis for culturally competent psychiatric advance-practice nursing care to this geriatric population. Prerequisites: NURS6501 Advanced Psychiatric/Mental Health Nursing Theory I: Families, Children and Adolescents; NURS6502 Advanced Psychiatric/Mental Health Nursing Practicum I: Families, Children and Adolescents; NURS6503 Advanced Psychiatric/Mental Health Nursing Theory II: Adults; and NURS6504 Advanced Psychiatric/Mental Health Nursing Practicum II: Adults. Corequisite: NURS6506 Advanced Psychiatric/Mental Health Nursing Practicum III: Geriatrics.

NURS6506

2 Credits

Advanced Psychiatric/Mental Health Nursing Practicum III: Geriatrics

Students will apply knowledge from NURS6505 Advanced Psychiatric/Mental Health Nursing Theory III: Geriatrics in providing direct care in the clinical arena to geriatric patients with acute and chronic mental illnesses. Students will carry a caseload of patients under the direct guidance of an experienced preceptor who will be certified as a nurse practitioner or psychiatrist. Weekly supervision sessions with faculty enhance students' developing clinical competence. Prerequisites: NURS6501 Advanced Psychiatric/Mental Health Nursing Theory I: Families, Children and Adolescents; NURS6502 Advanced Psychiatric/Mental Health Nursing Practicum I: Families, Children and Adolescents; NURS6503 Advanced Psychiatric/Mental Health Nursing Theory II: Adults; and NURS6504 Advanced Psychiatric/Mental Health Nursing Practicum II: Adults. Corequisite: NURS6505 Advanced Psychiatric/Mental Health Nursing Theory III: Geriatrics.

NURS6600

3 Credits

Introduction to Advanced Nursing: Philosophies and Theories

Philosophies of science, nursing theories and conceptual models will be analyzed as guides to nursing education, administration, research and practice.

NURS6615

3 Credits

Advanced Pharmacology

Examines legal implications, pharmacologic action and the monitoring of drug-therapy responses of clients needing various classifications of drugs in the management of health conditions. Prerequisites: NURS6620 Advanced Health Assessment Theory, NURS6621 Advanced Health Assessment Practicum and NURS7702 Advanced Pathophysiology.

NURS6620

2 Credits

Advanced Health Assessment Theory

This course will focus on the comprehensive health assessment of culturally diverse adult clients. Using a system's approach, the student will synthesize and analyze data relative to the health promotion of the adult population. The course will address the health-assessment needs of select populations across the life span of the adult. Ethical and legal implications of health assessment will be addressed. Prerequisite: NURS7702 Advanced Pathophysiology. Corequisite: NURS6621 Advanced Health Assessment Practicum.

NURS6621

1-2 Credits

Advanced Health Assessment Practicum

Utilizing theoretical foundations, the student will perform a comprehensive health assessment across the adult life cycle. The student's clinical skills will be validated by faculty and expert preceptor(s) in supervised clinical settings that provide the student with opportunities to practice cognitive and psychomotor skills necessary to begin the advanced practice role. Prerequisite: NURS7702 Advanced Pathophysiology. Corequisite: NURS6620 Advanced Health Assessment Theory.

NURS6640

3 Credits

Clinical Nursing Information Systems and Applications

This course examines the role and practice of informatics nurse specialists, which includes studying the development, implementation and evaluation of applications, tools, processes and systems that assist nurses with the management of data in taking care of patients and supporting the practice of nursing. The course focuses on assessing, adapting, integrating and evaluating

informatic applications to nursing in both the clinical and nonclinical domain.

NURS6682

3 Credits

Primary Care of the Adult Gerontology I - Theory

This course will introduce the student to the health care management of adult-geriatric clients in the primary-care setting, utilizing Quality and Safety Education For Nurses (QSEN) in developing competencies in the knowledge, skills and attitudes necessary to continuously improve outcomes within the primary-care setting. Students will identify and treat common deviations in health. Using a systems approach, this course will examine those alterations in health which are frequently encountered and managed by adult nurse practitioners in primary health care settings. All aspects of the health maintenance and disease management are emphasized, including but not limited to, disease-lifestyle modifications, nutritional needs, pharmacotherapy, client education, rehabilitation and evaluation of treatment plans.

NURS6683

1 Credit

Primary Care of the Adult Gerontology I Practicum

This course introduces the student to clinical practice as an advanced practice nurse. Students will work with an approved preceptor in an actual clinical setting where they will begin to deliver primary care to adult-gerontology patients. They are expected to apply theory learned in didactic course to patient-management problems. Students are expected to initiate care which involves diagnosis, treatment and management of common illness and deviations from health for an adult and aged population. Students are also expected to promote health maintenance for culturally diverse populations ranging from late adolescence to geriatric clients.

NURS6701

3 Credits

Psychopharmacology

This course provides students with a foundation in providing pharmacotherapy for clients with psychiatric disorders. The neurobiological changes underlying psychopathology are emphasized as the basis for prescribing decisions and management. The central importance of caring within a therapeutic rapport provides the philosophic stance from which students are encouraged to develop their unique prescribing practice. Prerequisites: NURS6615 Advanced Pharmacology, NURS6620 Advanced Health Assessment Theory, NURS6621 Advanced Health Assessment Practicum and NURS7702 Advanced Pathophysiology.

NURS6702

3 Credits

Advanced Psychiatric/Mental Health Nursing I: Assessment and Differential Diagnoses

This course assists students to become proficient in mental health and psychiatric assessment consistent with advanced nursing practice for health promotion, restoration and rehabilitation. Students practice advanced mental health evaluation techniques including individual assessments, laboratory tests, diagnostic studies and interpretation and documentation of the findings. Differential diagnosis from/with common physical health deviations is a hallmark of the course. Corequisite: NURS6703 Advanced Psychiatric/Mental Health Nursing I: Assessment and Differential Diagnoses Practicum.

NURS6703

2 Credits

Advanced Psychiatric/Mental Health Nursing I: Assessment and Differential Diagnoses Practicum

The student applies theoretical foundations by conducting comprehensive mental health assessments of adults. Clinical practice is provided under the supervision of faculty and expert preceptor(s) who validate the student's competence to begin advanced practice in psychiatric nursing. Prerequisites: NURS6615 Advanced Pharmacology, NURS6620 Advanced Health Assessment Theory and NURS6621 Advanced Health Assessment Practicum. Corequisite: NURS6702 Advanced Psychiatric/Mental Health Nursing I: Assessment and Differential Diagnoses.

NURS6801

3 Credits

Advanced Psychiatric/Mental Health Nursing II: Individual Therapeutics

This course is focused on implementing principles for psychiatric advanced practice nursing. Knowledge from nursing science and related fields is used to assess, diagnose and treat clients with psychiatric/mental health problems. Wellness and the promotion of mental health, treatment of clients with acute mental illnesses and the prevention of further psychiatric morbidity or disability are emphasized. The context of caring is explored relative to client circumstances, resources and issues in the delivery of mental health services to individuals. Nursing research findings are applied to emphasize the link between psychotherapeutic process and outcomes which form the evidence base for psychiatric health care. Prerequisites: NURS6702 Advanced Psychiatric/Mental Health Nursing I: Assessment and Differential Diagnoses, NURS6703 Advanced Psychiatric/Mental

Health Nursing I: Assessment and Differential Diagnoses Practicum and NURS7702 Advanced Pathophysiology. Corequisites: NURS6701 Psychopharmacology and NURS6802 Advanced Psychiatric/Mental Health Nursing II: Individual Therapeutics Practicum.

NURS6802

2 Credits

Advanced Psychiatric/Mental Health Nursing II: Individual Therapeutics Practicum

Students apply knowledge from NURS6801 Advanced Psychiatric/Mental Health Nursing II: Individual Therapeutics to the care of acute and chronically mentally ill adults in varied psychiatric settings with the guidance of an individual preceptor in the clinical agency. Weekly supervised sessions with course faculty enhance students' developing clinical competency by encouraging self-reflection, refinement of interviewing skills, integrating primary-care concern and collaborating with colleagues. Therapeutic use of self is an essential and integral aspect of this course. Prerequisites: NURS6702 Advanced Psychiatric/Mental Health Nursing I: Assessment and Differential Diagnoses, NURS6703 Advanced Psychiatric/Mental Health Nursing I: Assessment and Differential Diagnoses Practicum and NURS7702 Advanced Pathophysiology. Corequisites: NURS6701 Psychopharmacology and NURS6801 Advanced Psychiatric/Mental Health Nursing II: Individual Therapeutics.

NURS6810

3 Credits

Advanced Psychiatric/Mental Health Nursing III: Group and Family Therapeutics

This course is focused on principles used by psychiatric advanced practice nurses to optimize group and family functioning. Knowledge from nursing science, group and family theories and research is synthesized to provide an evidence base for psychiatric advanced practice nursing. Special emphasis is placed on the ethnically diverse emotional processes experienced by groups or families. Students engage client groups and families in therapeutic relationships to change biological, psychological and/or social functioning in order to promote optimal health and/or the fullest realization of human potential. Prerequisites: NURS6701 Psychopharmacology, NURS6801 Advanced Psychiatric/Mental Health Nursing II: Individual Therapeutics and NURS6802 Advanced Psychiatric/Mental Health Nursing II: Individual Therapeutics Practicum. Corequisite: NURS6811 Advanced Psychiatric/Mental Health Nursing III: Group and Family Therapeutics Practicum.

NURS6811

2 Credits

Advanced Psychiatric/Mental Health Nursing III: Group and Family Therapeutics Practicum

Students apply knowledge from NURS6810 Advanced Psychiatric/Mental Health Nursing III: Group and Family Therapeutics to the care of groups and families experiencing the challenge of mental illness and dysfunction. Students continue to carry a caseload of individual adult clients under the guidance of (an) experienced preceptor(s) in one or more clinical agencies. Weekly supervised sessions with course faculty enhance students' developing clinical competence by facilitating consultation with advanced practice nurse peers and experts in related disciplines. Dealing with psychiatric emergencies, enhancing cultural competence and integrating theoretical formulations are imperatives in this course. Prerequisites: NURS6801 Advanced Psychiatric/Mental Health Nursing II: Individual Therapeutics and NURS6802 Advanced Psychiatric/Mental Health Nursing II: Individual Therapeutics Practicum. Corequisite: NURS6810 Advanced Psychiatric/Mental Health Nursing III: Group and Family Therapeutics.

NURS7701

3 Credits

Advanced Research and Evidence-based Practice

The advancement of nursing knowledge through development and research is explored. Critical analysis of selected concepts using nursing and related literature is conducted and applied to the research process. Quantitative statistical procedures and qualitative methods are examined for their appropriate use in research design. Nursing research is evaluated for utilization in advanced practice cognizant of ethical issues. Prerequisite/Corequisite: NURS6600 Introduction to Advanced Nursing: Philosophies and Theories.

NURS7702

3 Credits

Advanced Pathophysiology

This course critically analyzes theories and research from the biological and social sciences and the humanities which explain/predict human responses to health and illness. The focus of this course is interventions that promote health, prevent disease, ameliorate pathological responses and foster quality of life.

NURS7703

0 Credits

Advanced Educator Role Seminar I

This course provides the opportunity for students to discuss pertinent issues, challenges and innovations in nursing education in the 21st century. The course also provides a forum for discussion of mentoring activities and exploration of the teaching associate (TA) role. Students will be supported during initial assimilation into the TA role.

NURS7704

0 Credits

Advanced Educator Role Seminar II

This course provides the opportunity for students to discuss pertinent issues, challenges and innovations in nursing education in the 21st century. The course also provides a forum for discussion of mentoring activities and exploration of the teaching associate (TA) role. Students will be supported during initial assimilation into the TA role. Prerequisite: NURS7703 Advanced Educator Role Seminar I.

NURS7705

3 Credits

Educational and Learning Theory

This course provides an overview of philosophies of education and examines teaching-learning processes for the nurse as educator. Emphasis is placed on the adult learner. Components of critical thinking and contexts for learning are explored. The bases for educational evaluation are appraised. Selected theories from the social sciences are analyzed for appropriateness to nursing education and advanced practice.

NURS7706

3 Credits

Teaching Strategies for the Learning Environment

To facilitate active learning, the educator must be able to identify the needs of the learner, as well as strategies that will involve the learner as a lively participant in the learning environment. In this course, traditional and contemporary teaching approaches will be evaluated for use with diverse populations of learners in various settings: classroom, community, health care facilities and clients' homes.

NURS7708

0 Credits

Advanced Educator Role Seminar III

This seminar follows a cohort model and must be taken in sequence. It continues to provide the opportunity for students to discuss pertinent issues, challenges and innovations in nursing education in the 21st century. The course also provides a forum for discussion of mentoring activities and exploration of the teaching role. Students will continue to develop their teaching portfolios. Prerequisites: NURS7703 Advanced Educator Role Seminar I and NURS7704 Advanced Educator Role Seminar II.

NURS7709

0 Credits

Advanced Educator Role Seminar IV

This seminar follows a cohort model and must be taken in sequence. It continues to provide the opportunity for students to discuss pertinent issues, challenges and innovations in nursing education in the 21st century. The course also provides a forum for discussion of mentoring activities and exploration of the teaching role. Students will refine and complete their teaching portfolios. Prerequisites: NURS7703 Advanced Educator Role Seminar I, NURS7704 Advanced Educator Role Seminar II and NURS7708 Advanced Educator Role Seminar III.

NURS7713

3 Credits

Curriculum Development and Theory

This course provides opportunities for learners to explore all that is encompassed by the educational term curriculum. From the initial work by Ralph Tyler to current theories and frameworks, learners will be guided through the application of these essentials to the creation of dynamic curricula. The major project for this course is the development of curricula for use in academic settings, staff development in clinical settings or client education necessary to improve or restore health. Corequisite: NURS7705 Educational and Learning Theory. *Fall, Spring*

NURS7714

3 Credits

Outcomes Assessment

This course provides opportunities for learners to explore methods of evaluation for use in teaching settings. Traditional and contemporary teaching approaches will be evaluated for use with identified populations of learners. The learner will identify, analyze and apply general theories of evaluation specific to individual performance, curriculum and staff development and continuing-education programs in nursing. Discussion of the process of accreditation and its role for quality assurance within nursing education will be highlighted. Prerequisites: NURS7705 Educational and Learning Theory and NURS7713 Curriculum Development and Theory. Corequisite: NURS7706 Teaching Strategies for the Learning Environment.

NURS7717

4 Credits

Teaching Practicum

This is the capstone course in the nursing education track. Learners will identify a nurse educator they would like to work with for the semester. During this experience, learners will participate in and assume many responsibilities associated with being an educator: teaching didactic, clinical in various settings, committee work and evaluation. Learners will meet every other week for a seminar with their peers to share experiences.

NURS7718

4 Credits

Administrative Practicum

This course allows students to apply administrative theories, research and planning in the role of the nurse administrator. Students will be placed with a nurse administrator preceptor in a nursing or health facility. The students are expected to participate in multiple aspects of the nurse administrator role.

Prerequisites: NURS6600 Introduction to Advanced Nursing: Philosophies and Theories, NURS6640 Clinical Nursing Information Systems and Applications, NURS7701 Advanced Research and Evidence-based Practice, NURS7752 Master Project Seminar and NURS7771 Seminar in Nursing Education.

NURS7735

3 Credits

Advanced Adult Gerontology II Theory

This course will continue to examine, assess, diagnose and treat alterations in health which are frequently encountered and managed by adult-gerontology nurse practitioners using a systems approach. The student will also utilize QSEN (Quality and Safety Education for Nurses) to improve patient outcomes in the adult-geriatric population.

NURS7736

1-2 Credits

Advanced Adult Gerontology II Practicum

This course continues to focus on the application of theory to practice in a primary care setting for the adult-gerontology population. Students will work with an approved preceptor in an actual clinical setting where they will continue to deliver primary care to adult and geriatric patients. Students are expected to apply theory learned in the didactic course to patient to manage health problems. Students are expected to diagnose, treat and manage common illnesses and deviations from healthy for an adult aged population. Students are also expected to promote health maintenance including those from culturally diverse populations.

NURS7740

3 Credits

Nursing Informatics Role

This course builds upon the knowledge and skills of informatics nurse specialists obtained in the prerequisite course(s). Students will cover, in more depth, various alternative roles available to the informatics nurse, emphasizing consulting and education in various nonhospital-based situations. The course focuses on assessing, adapting, integrating and evaluating informatics applications to nursing for use in broad-based situations. Prerequisite: NURS6640 Clinical Nursing Information Systems and Applications.

NURS7741

3 Credits

Project Management

The purpose of this course is to integrate the essential components of project planning and management with health care information systems for nursing leaders. The course will outline the process for developing, implementing and evaluating project plans as well the integration of communication and project life-cycle theory. Prerequisites: NURS6640 Clinical Nursing Information Systems and Applications and NURS7740 Nursing Informatics Role. (Equivalent to PHRM8806 Project Management.

NURS7745

3 Credits

Practicum in Nursing Informatics

Practical experience in selected agencies allows students to develop skills needed for implementation and evaluation of clinical and management information systems in nursing and health care.

NURS7746

3 Credits

Nursing Informatics Practicum II

This practicum builds upon the knowledge and skills of informatics that nurse specialists acquired in NURS7745 Practicum in Nursing Informatics. Students will enhance their practical experience in selected agencies. The practicum will allow students to further develop skills necessary for system implementation in nursing and health care applications.

NURS7752

2 Credits

Master Project Seminar

Learners further develop the evidence-based project proposal started in NURS7701 Advanced Research and Evidence-based Practice. In addition, learners will have hands-on experience with a statistical analysis software (e.g. SPSS) using "dummy" data. Learners will meet periodically with their classmates and their mentors to complete the implementation and evaluation phases of the project.

NURS7757

3 Credits

Primary Care III

Expanding on the principles of assessment, diagnosis and therapeutics, this course prepares an adult-gerontology nurse practitioner to formulate differential diagnoses based on the presenting client's chief complaint. Approached in this manner, the practitioner is prepared for the reality of health care management. The entire course is taught using case studies and anecdotes from actual clinical experiences and moves the student through symptom analysis, physical findings, diagnostic workup, management and follow-up. Prerequisite: NURS7735 Advanced Adult Gerontology Theory. Corequisite: NURS7758 Primary Care III Practicum.

NURS7758

1 Credit

Primary Care III Practicum

This clinical course requires that the student practice 16-hour weeks for 16 weeks in a primary-care facility that serves a medically diverse adult gerontology clientele. All clinical experiences will be supervised by expert preceptors who, along with the faculty instructor, will continually evaluate student performance. This course serves as a transition vehicle for future independent practice. Thus the student is supervised by a mentor, but is encouraged to assume the role of the adult gerontology nurse practitioner more autonomously. Prerequisite: NURS7735 Advanced Adult Gerontology Theory. Corequisite: NURS7760 Primary Care of the Adult Gerontology III Practicum.

NURS7759

3 Credits

Primary Care of the Adult Gerontology III - Theory

This course will continue to present the principles of disease management of adult-gerontology clients in the primary-care setting. Role development of the advanced practice nurse will be integrated throughout the course. Students are expected to apply the QSEN (Quality and Safety Education for Nurses) principles and competencies in their role as advanced practice nurses in the primary-care setting. Multi-dimensions of disease states frequently encountered and competently managed by advanced practice nurses will be discussed. Prerequisite: NURS7735 Primary Care of the Adult Gerontology II - Theory. Corequisite: NURS7760 Primary Care of the Adult Gerontology III Practicum.

NURS7760

1 Credit

Primary Care of the Adult Gerontology III Practicum

Students are expected to apply their advanced practice nursing role in conducting health promotion, assessing, making clinical decisions and managing the care of adult-gerontology clients in consultation with appropriate providers in the clinical setting. Preceptorships will be arranged in the varied adult-gerontology-focused setting. Prerequisite: NURS7736 Primary Care of the Adult Gerontology II Practicum. Corequisite: NURS7759 Primary Care of the Adult Gerontology III - Theory.

NURS7762

3 Credits

Forensic Science Technology

This course provides a brief overview of scientific crime detection and more detailed discussion of techniques for case management and documentation, the concept of proof, the impact of emergent technology on the investigative process, interacting with victims

and witnesses and interviewing suspects. The process of forensic-case management and the role of the forensic nurse will be examined. Particular emphasis may be placed on the investigation of particular types of crimes, for example, homicides, sex offenses, child abuse and hate crimes.

NURS7763

3 Credits

Criminal Law and Forensics

This course studies how social diversity and inequality shape the way criminal behavior is defined and controlled through the application of the criminal law and criminal justice system. Attention is given to the disparity of criminal offending, victimization and criminal-justice processing across demographic groups as well as explanations for observed disparities. The course also explores subordinate group members as criminal justice professionals.

NURS7765

3 Credits

Violence, Ethics and Human Rights Issues

This course provides an introduction to psychological issues relating to understanding, assessing and managing criminal and other abnormal behavior. An overview of mental disorders and their relationship to criminality and violence is provided. Topics include sanity, psychopathy, criminal profiling, serial killers, stalking, women who kill and threat assessment.

NURS7771

3 Credits

Seminar in Nursing Education

This course provides the opportunity for the students to discuss pertinent issues, challenges and innovations in nursing education in the 21st century. Discussion will be guided by faculty mentors. Prerequisite: NURS7717 Teaching Practicum.

NURS7794

3 Credits

Family Primary Care I Pediatrics

This course is designed to introduce the family nurse practitioner student to the primary care of infants, children and adolescents. Course content includes information related to principles of health promotion, disease prevention and assessment and management of common primary health care problems in diverse pediatric populations. Content is presented within a family-centered and developmental perspective and includes content related to advanced pathophysiology, research and psychosocial factors. Cultural factors as they relate to health care needs will be examined.

NURS7795

1 Credit

Family Primary Care I Practicum

This course provides students with clinical experience as primary health care givers in various clinical settings under the supervision of faculty and preceptors in the nursing management of infants, children, adolescents and families. In this practicum, students apply advanced knowledge of normal physiology, pathophysiology and psychosocial concepts of nursing care of children. 120 hours of clinical required.

NURS7810

3 Credits

Family Primary Care II Theory

This course is designed to introduce the family nurse practitioner student to the health care issues of women. Critical analysis of clinical strategies and interventions in health promotion, health maintenance and disease prevention, routine prenatal care in uncomplicated pregnancies and assessment and management of common health problems in the primary care of women will be studied. This course builds upon the knowledge of the health care of women in the primary care of adult's theory and practicum courses. Content related to principles of pharmacology, pathophysiology and cultural issues is integrated throughout the course. Health-education methodologies and counseling strategies pertinent to women will be explored and intervention strategies developed. Focus is on health promotion, disease prevention and the clinical management and referral of common, recurring health problems of women.

NURS7811

1 Credit

Family Primary Care II Practicum

In the women's health course practicum, students apply advanced knowledge of normal physiology, pathophysiology and psychosocial concepts to nursing care of women across the life span. This practicum includes specific components of advanced nursing practice from self-directed clinical experience with expert professional nurse/physician preceptors in a variety of settings. Students must complete 120 preceptored clinical hours in the primary care of women.

NURS7812

3 Credits

Family Systems

The purpose of this course is to broaden the students' understanding of the family unit from a systems perspective. Characteristics and functions of families and their relationship to health and illness will be analyzed. Major theoretical perspectives affecting family functioning will be evaluated.

NURS7813

3 Credits

APN Practicum

This course is a preceptored Advanced Practice Nurse (APN) practicum in the primary care of individuals and families. Completion of the practicum is required in order to be eligible for certification as an APN. Prerequisites: all primary care courses.

NURS7815

1 Credit

Advanced Practice Nursing Role Development

This course assists students in preparing for the role of advanced practice nurse. Students will focus on the role from a historical perspective and evaluate social, economic and political factors that have contributed to its evolution. Variables contributing to the practice environment are explored. Ethical, legal and business acumen are examined.

For course description of CSCI-prefixed courses, see "Course Offerings," pages 104-110 and 177-178. For description of EENG7704 Computer-based Instrumentation, see page 156.

Nursing Practice (D.N.P.)

The Doctor of Nursing Practice (D.N.P.) degree program educates nurses for the highest level of clinically expert practice, including sophisticated diagnostic and treatment competencies. These competencies, combined with a focus on health promotion, disease prevention and health education, prepare D.N.P.s for leadership-practice roles on the front line of their profession. Recognizing that advanced-practice preparation requires education at the doctoral level, this program provides intra- and interdisciplinary collaboration in both the education and practice settings.

The 36-credit program offers clinical leadership and organizational leadership tracks. The clinical leadership track prepares advanced practice nurses (APNs) for leadership in practice and the organizational leadership track prepares graduates for leadership positions in organizational systems. The curriculum consists of **24 credits of core requirements** and **12 credits of specialty courses**. The residency requirement of 500 hours offers students the opportunity to work closely with mentors on projects that will demonstrate expanded practice and mastery of D.N.P. competencies. Full-time students may complete the program in two years; part-time students' completion is dependent on their course load each semester. All students must complete the program within five years.

Graduates of the program will be prepared as nurse executives in either a health care system or an educational system. Based on this preparation, D.N.P. graduates will assume roles as independent practitioners, senior clinical faculty members in a college or university, nursing administrators in a variety of health care organizations, deans or department chairs of schools of nursing or nursing leaders in various organizational settings.

This program is offered under the auspices of the Henry P. Becton School of Nursing and Allied Health, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

1. For the **organizational leadership (indirect) track**, a master's degree in nursing from a Commission on Collegiate Nursing Education (CCNE)- or National League for Nursing (NLN)- accredited program and current licensure as a registered nurse (RN).

2. For the **clinical leadership (direct) track**, a master's degree in nursing with advanced practice specialty from a CCNE/NLN-accredited program, current licensure as an RN and advanced practice nurse and relevant experience in advanced practice.

3. Grade point ratio of 3.50.

4. Interview and completion of a writing sample.

5. Three letters of recommendation attesting to the applicant's academic ability and potential for doctoral study.

Requirements for the Doctor of Nursing Practice Degree

Core Courses (24 credits)

	Credits
NURS8000	
Research I: Research Methodology.....	3
NURS8001	
Applied Statistics.....	3
NURS8002	
Health Care Delivery Systems and Public Policy.....	3
NURS8003	
Health Disparities: Social, Ethical, Legal Issues.....	3
NURS8004	
Research II: Evidence-based Research....	3
NURS8007	
Scientific Basis for D.N.P. Practice.....	3
NURS8008	
Information Systems for Health Care....	3
NURS8009	
Global Health: Epidemiology and Genomics.....	3
Total.....	24

Specialty Tracks (12 credits)

Clinical Leadership Track

Graduates of the clinical leadership track are prepared to demonstrate practice expertise, specialized knowledge, expanded responsibility and accountability in the care and management of individuals, families and aggregates in the community. The D.N.P. is prepared to be a leader in the

formation of therapeutic partnerships and interdisciplinary collaborations to facilitate informed decision making, positive lifestyle change and appropriate self-care. In addition to direct care, D.N.P. graduates use their understanding of the practice context to document practice trends, identify potential systemic changes and make improvements in the care of their particular patient population in the systems within which they practice. Roles of D.N.P. clinical-leadership track graduates include: expert practitioner in various health care settings and independent practice; consultant/role model in complex care management; and designer and director of evidence-based projects.

Specialty Courses (12 credits)

Didactic content of these courses will be the same for clinical leadership and organizational leadership students. Application will be specialized for clinical leadership and organizational leadership students.

	Credits
NURS8010	
Health Quality Assessment and Outcomes.....	3
NURS8011	
Leadership/Organizational Analysis.....	3
NURS8012	
D.N.P. Role Development and Entrepreneurship.....	3
NURS8013	
Residency I.....	1
NURS8014	
Residency II.....	1
NURS8015	
Capstone Project Advisement.....	1
NURS8320	
Continuous D.N.P. Matriculation*.....	1
Total.....	12
Total Program.....	36

Organizational Leadership Track

Graduates of the organizational leadership track are prepared to conduct comprehensive organizational, systems and/or community assessments to identify aggregate health or system needs; work with diverse stakeholders for inter- or intraorganizational achievement of health-related organizational goals; and design client-centered delivery systems or policy-level delivery models.

*Students who are not actively registered for any course must register for NURS8320 Continuous D.N.P. Matriculation..

D.N.P. graduates of the organizational leadership track will be prepared as leaders in one of the following areas: management and administration, health care entrepreneurship or education.

Specialty Courses (12 credits)

Didactic content of these courses will be the same for clinical leadership and organizational leadership students. Application will be specialized for clinical leadership and organizational leadership students.

	Credits
NURS8010	
Health Quality Assessment and Outcomes.....	3
NURS8011	
Leadership/Organizational Analysis.....	3
NURS8012	
D.N.P. Role Development and Entrepreneurship.....	3
NURS8013	
Residency I.....	1
NURS8014	
Residency II.....	1
NURS8015	
Capstone Project Advisement.....	1
NURS8320	
Continuous D.N.P. Matriculation*	1
Total.....	12
Total Program.....	36

Bridge Program to the D.N.P.

The Henry P. Becton School of Nursing and Allied Health offers a bridge program to the D.N.P. for nurses who have a master's degree in a field other than nursing who would like to pursue the D.N.P. degree.

Admission Criteria

1. Bachelor of Science in nursing from a CCNE-/NLN-accredited program;
2. Current licensure as a registered nurse; and
3. A master's degree in a field other than nursing.

*Students who are not actively registered for any course must register for NURS8320 Continuous D.N.P. Matriculation.

Requirements

The bridge program consists of three courses (9 credits).

	Credits
NURS6600	
Introduction to Advanced Nursing: Philosophies and Theories.....	3
NURS7701	
Advanced Research and Evidence-based Practice.....	3
NURS7771	
Seminar in Nursing Education.....	3
Upon successful completion of the above courses, the student is automatically admitted to the indirect track of the D.N.P. program.	

Accelerated D.N.P. Programs

The Henry P. Becton School of Nursing and Allied Health offers the following accelerated D.N.P. programs:

- Pre-baccalaureate Nursing to D.N.P. (109 credits and 1,565 clinical hours)
- Post-baccalaureate Nursing to D.N.P. (58 credits and 1,065 clinical hours)
- Postmaster's D.N.P. (36 credits and 500 residency hours)

Admission Requirements

Completion of a baccalaureate degree in fields other than nursing and the following academic prerequisites on a college level with a minimum grade of B:

- Human Anatomy and Physiology* (8 credits, with lab),
- General Chemistry* (4 credits, with lab) — Introductory Chemistry is not accepted;
- Microbiology* (4 credits, with lab)
- Statistics (3 credits) — Course must include inferential and descriptive statistics
- Microeconomics or Macroeconomics** (3 credits);
- Bioethics/Medical Ethics** (3 credits)

Pre-Baccalaureate Nursing to D.N.P. (ABSN–D.N.P.) with Gerontology Focus (109 credits and 1,565 clinical hours)

Required Courses (51 credits)

NURS2003	
Fundamentals of Nursing I.....	3
NURS2004	
Fundamentals of Nursing II.....	3

*Must have been taken within the last five years.

**Required prerequisite for one-year program; taken as corequisite for two-year program only.

	Credits
NURS2005	
Professional Communication Skills: Individual, Family and Groups.....	3
NURS2007	
Pharmacotherapeutics.....	3
NURS3300	
Medical-Surgical Nursing I.....	5
NURS3310	
Psychiatric Nursing.....	5
NURS3320	
Women's Health Nursing.....	5
NURS3340	
Nursing Care of the Child and Family....	5
NURS4410	
Community Health Nursing.....	5
NURS4420	
Health Care Management.....	3
NURS4430	
Nursing Research.....	3
NURS4440	
Medical-Surgical Nursing II.....	8
After completing above courses, students take the R.N. licensure exam.	

M.S.N. Courses (22 credits)

NURS6615	
Advanced Pharmacology.....	3
NURS6620, NURS6621	
Advanced Health Assessment (Lecture and Clinical).....	4
NURS6682, NURS86683	
Primary Care of the Adult Gerontology I (Lecture and Clinical).....	4
NURS7702	
Advanced Pathophysiology.....	3
NURS7735, NURS7736	
Advanced Adult Gerontology II (Lecture and Clinical).....	4
NURS7759, NURS7760	
Primary Care of the Adult Gerontology III (Lecture and Clinical).....	4
After completing above courses, students take the APN exam.	

D.N.P. Courses (36 credits)

NURS8000	
Research I: Research Methodology.....	3
NURS8001	
Applied Statistics.....	3
NURS8002	
Health Care Delivery Systems and Public Policy.....	3
NURS8003	
Health Disparities: Social, Ethical, Legal Issues.....	3

Nursing Practice

	Credits
NURS8004	
Research II: Evidence-based Research.....	3
NURS8007	
Scientific Basis for D.N.P. Practice.....	3
NURS8008	
Information Systems for Health Care....	3
NURS8009	
Global Health: Epidemiology and Genomics.....	3
NURS8010	
Health Quality Assessment and Outcomes.....	3
NURS8011	
Leadership/Organizational Analysis....	3
NURS8012	
D.N.P. Role Development and Entrepreneurship.....	3
NURS8013	
Residency I.....	2
NURS8015	
Capstone Project Advisement.....	1

Post-Baccalaureate Nursing to D.N.P. (M.S.N.–D.N.P.) (58 credits and 1,065 clinical hours)

M.S.N. Courses (22 credits)

NURS6615	
Advanced Pharmacology.....	3
NURS6620, NURS6621	
Advanced Health Assessment (Lecture and Clinical).....	4
NURS6682, NURS86683	
Primary Care of the Adult Gerontology I (Lecture and Clinical).....	4
NURS7702	
Advanced Pathophysiology.....	3
NURS7735, NURS7736	
Advanced Adult Gerontology II (Lecture and Clinical).....	4
NURS7759, NURS7760	
Primary Care of the Adult Gerontology III (Lecture and Clinical).....	4

After completing above courses, students take the APN exam.

D.N.P. Courses (36 credits)

NURS8000	
Research I: Research Methodology.....	3
NURS8001	
Applied Statistics.....	3
NURS8002	
Health Care Delivery Systems and Public Policy.....	3
NURS8003	
Health Disparities: Social, Ethical, Legal Issues.....	3

	Credits
NURS8004	
Research II: Evidence-based Research.....	3
NURS8007	
Scientific Basis for D.N.P. Practice.....	3
NURS8008	
Information Systems for Health Care....	3
NURS8009	
Global Health: Epidemiology and Genomics.....	3
NURS8010	
Health Quality Assessment and Outcomes.....	3
NURS8011	
Leadership/Organizational Analysis.....	3
NURS8012	
D.N.P. Role Development and Entrepreneurship.....	3
NURS8013	
Residency I.....	2
NURS8015	
Capstone Project Advisement.....	1

Post-master's D.N.P. (36 credits and 500 residency hours)

D.N.P. Courses (36 credits)

NURS8000	
Research I: Research Methodology.....	3
NURS8001	
Applied Statistics.....	3
NURS8002	
Health Care Delivery Systems and Public Policy.....	3
NURS8003	
Health Disparities: Social, Ethical, Legal Issues.....	3
NURS8004	
Research II: Evidence-based Research.....	3
NURS8007	
Scientific Basis for D.N.P. Practice.....	3
NURS8008	
Information Systems for Health Care....	3
NURS8009	
Global Health: Epidemiology and Genomics.....	3
NURS8010	
Health Quality Assessment and Outcomes.....	3
NURS8011	
Leadership/Organizational Analysis.....	3
NURS8012	
D.N.P. Role Development and Entrepreneurship.....	3
NURS8013	
Residency I.....	2
NURS8015	
Capstone Project Advisement.....	1

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with the school.

Nursing Practice

Henry P. Becton School of Nursing and Allied Health

NURS8000

3 Credits

Research I: Research Methodology

This course focuses on the principles and conduct of research in the health care profession. Emphasis is on techniques for the control of variables, data analysis and interpretation of results. Students will do an in-depth analysis of the interrelationship of theoretical frameworks, design, sample selection, data-collection instruments and data-analysis techniques. Content is discussed in terms of clinical-nursing research problems and application to clinical settings. Prerequisite: NURS8001 Applied Statistics.

NURS8001

3 Credits

Applied Statistics

This class is designed as an accelerated course to demonstrate applied statistical procedures in medical/nursing contexts. Students will analyze medical/nursing research using major statistical techniques. At the completion of this course, students will be able to identify experimental variables, understand and apply terminology, eyeball-estimate the descriptive and inferential statistics appropriate for data sets, determine which inferential statistics, if any, should be applied to analyze a data set, evaluate data using appropriate statistical tools, calculate all statistical tests and interpret findings.

NURS8002

3 Credits

Health Care Delivery Systems and Public Policy

The course is an overview of trends in the delivery, financing and organization of health services in the United States. The American health care is analyzed and compared with health care services of other countries. Approaches to managing quality, access and costs are considered in the context of their social and ethical implications. Government policymaking is reviewed to form the foundations for discussing the political economy of health-services delivery.

NURS8003

3 Credits

Health Disparities: Social, Ethical, Legal Issues

This course explores the concepts of health disparities and social justice with particular attention to the structural causes of historical and contemporary inequalities as they relate to race and socioeconomic status. Methods of calculating different measures of health disparity will be analyzed, and strategies for creating equality in access to health care will be explored. The course will also examine legal and ethical issues affecting health care.

NURS8004

3 Credits

Research II: Evidence-based Research

Emphasis in this course is placed on methods for designing evidence-based studies and processes for obtaining and evaluating findings as scientific evidence for practice. Students will design projects to address emerging clinical problems. Methods to develop best practices and practice guidelines and to facilitate the evaluation of systems of care that will improve patient safety and outcomes will be explored.

NURS8007

3 Credits

Scientific Basis for D.N.P. Practice

The focus is on biophysical, nursing, psychosocial and organizational sciences as the basis for the highest level of nursing practice, research and health care delivery. The emphasis in this course is on translation and utilization of theory to D.N.P. nursing practice and research. Knowledge from the biophysical, psychosocial and organizational sciences are analyzed and evaluated for application to nursing research and practice.

NURS8008

3 Credits

Information Systems for Health Care

The course focuses on the application of information technology (IT) and information systems (IS) to improve health care effectiveness. It explores IS/IT concepts, models and frameworks that enhance decisions regarding implementation, planning and evaluation of information systems for use in health care. The course provides the student with the information to evaluate and utilize information technology and systems to support and improve nursing and health care systems.

NURS8009

3 Credits

Global Health: Epidemiology and Genomics

This course focuses on the principles of epidemiology and genomics and their effects on global health promotion and disease prevention in aggregates. Global health issues and their impact on individuals and communities will be explored and analyzed. Environmental health concepts, emerging infectious diseases and emergency preparedness are included. Prerequisites: NURS8001 Applied Statistics and NURS8003 Health Disparities: Social, Ethical, Legal Issues.

NURS8010

3 Credits

Health Quality Assessment and Outcomes

This course examines leadership issues and the role of the nurse executive in quality management. The development of quality standards and benchmarking and the design and implementation of quality initiatives will be examined. The processes for collecting and analyzing appropriate data for management decisions will be discussed. Prerequisite: NURS8001 Applied Statistics. Corequisite: NURS8000 Research I: Research Methodology.

NURS8011

3 Credits

Leadership/Organizational Analysis

The emphasis is placed on developing the leadership competencies of the D.N.P. student. The role of the D.N.P. as a clinical and organizational leader will be explored. Organizational and change theories will be discussed and applied to organizational and clinical problems. The student will gain an understanding of grant writing as a tool for facilitating organizational change. Fifty hours of the residency will be completed in this course. Prerequisites: NURS8000 Research I: Research Methodology, NURS8004 Research II: Evidence-based Research and NURS8007 Scientific Basis for D.N.P. Practice.

NURS8012

3 Credits

D.N.P. Role Development and Entrepreneurship

This course provides an understanding of the theory and processes related to the making of decisions that determine the direction and success of the organization. Students will gain an understanding of strategic management and organizational design concepts, theories and techniques in order to illuminate the processes of strategy making and implementation. In addition, this course will enable students to gain insight into the concept of entrepreneurship, its importance for an organization and the challenges associated with it. Case analysis and a business plan will be used to apply theories

and processes learned in the course.

Prerequisite: NURS8011

Leadership/Organizational Analysis.

NURS8013

1 Credit

Residency I

Building on the planned residency experiences of NURS8011 Leadership/Organizational Analysis and under the mentorship of a doctorally prepared preceptor, students immerse themselves in the role of clinical or organizational leader. Individual contracts will be developed. Residency placements are made dependent on current experiences and students' goals. Students are required to complete 150 hours in NURS8013 Residency I. Prerequisites: all D.N.P. core and specialty courses.

NURS8014

1 Credit

Residency II

Building on the residency experiences of NURS8013 Residency I and under the mentorship of a doctorally prepared preceptor, students complete the residency requirements and the D.N.P. portfolio. Students are required to complete 150 hours in NURS8014 Residency II. Prerequisites: all D.N.P. core and specialty courses.

NURS8015

1 Credit

Capstone Project Advisement

The evidence-based project is a faculty-guided experience that provides evidence of critical thinking and aims to improve outcomes in clinical and organizational settings. Prerequisites: NURS8013 Residency I and NURS8014 Residency II.

NURS8320

1 Credit

Continuous D.N.P. Matriculation*

Students enrolled in the D.N.P. program who are not actively taking any courses must be registered in the Continuous D.N.P. Matriculation course. This course provides the opportunity for students' continued use of various University facilities, i.e. libraries, recreation facilities and advisement.

**Students who are not actively registered for any course must register for NURS8320 Continuous D.N.P. Matriculation.*

Pharmaceutical Management Studies (M.B.A.)

See Business, Pharmaceutical Management Studies, page 70.

Pharmacy (Pharm.D.)

The School of Pharmacy and Health Sciences has developed a program and curriculum that looks to prepare students to serve as leaders across the continuum of health care and beyond. From the foundational course work of the first semesters through the final practice experiences of the fourth professional year, students will be challenged to think, lead, implement, communicate and advocate as they expand the borders of pharmacy practice. Through the use of active-learning strategies, technology and enhanced programming including the option to pursue dual degrees, students will be provided with diverse options to prepare for opportunities inside and beyond the traditional realms of pharmacy practice.

The first-year curriculum has been designed to build a solid foundational understanding of the biological, chemical, ethical, professional and communicational aspects of pharmacy. Students will focus on gaining a core of knowledge that will prepare them for their first pharmacy practice experience, to be conducted during the first professional summer at a community setting. During the first professional year, students will also be provided insight and exposure to the expanding horizons of pharmacy, allowing them to begin to contemplate their selection of a dual-degree pathway. Qualified students will be able to select this option of study following their first year in the program, provided they have met both the minimum grade point ratio standards set forth by the School of Pharmacy and Health Sciences and the admissions standards set forth by the master's degree program.

During the second professional year, students will have the opportunity to probe deeper into all areas of pharmacy, both from the clinical and physical aspects as well as the patient-care focus. Students will cover expansive units in integrated pharmacotherapy where they will cover all therapeutic aspects of major organ systems while simultaneously learning about the pharmaceutical techniques of drug preparation and delivery. Students will begin elective course work within their areas of interest, either for the purposes of beginning their dual-degree curriculum or

simply for the purpose of broadening horizons and learning more about areas related to the practice of pharmacy. During either the winter or summer intersessions, students will complete their second introductory practice experience within a hospital or hospital-related institutional setting.

The third professional year provides students with the ability to tie together and interconnect all of the concepts learned throughout the prior semesters. With a series of overview courses that provide a holistic view of pharmacy, students will be able to make connections between all of their classroom, laboratory and practice experiences. Students will continue their pursuit of elective course work toward the completion of their master's level of study, while simultaneously completing the necessary final courses in preparation for their advanced practice experiences. Students will gain an additional point of experience through their third introductory practice experience, geared toward a patient-care experience that aligns with their interests and course of study. Courses in epidemiology, pharmacogenomics, pharmacoeconomics and outcomes and a course on the global mission of pharmacists are innovative courses that will expand the perspectives of pharmacy students beyond a traditional course structure. The expectation is that students will gain a familiarity and understanding of these significant areas that are so vital to understanding health care and the changing role of the pharmacist inside the health sciences.

The focus on the fourth professional year is the completion of nine advanced pharmacy practice experience (APPE) courses, exposing students to the wide range of options and roles for pharmacists within direct patient care, advocacy, management, public health and other areas.

This program is offered under the auspices of the School of Pharmacy and Health Sciences, Florham Campus, Madison, New Jersey.

Admission Requirements

General Requirements Overview

Prior to matriculation, applicants to the the FDU School of Pharmacy and Health Sciences should complete 76 semester hours of course work at any regionally

accredited college or university, including the following required courses:

- 8 semester hours of general biology (with laboratory)
- 8 semester hours of anatomy and physiology (with laboratory)
- 8 semester hours of general chemistry (with laboratory)
- 8 semester hours of organic chemistry (with laboratory)
- 4 semester hours of physics (with laboratory)
- 3 semester hours of biochemistry
- 3 semester hours of calculus
- 3 semester hours of applied statistics
- 3 semester hours of English composition

Standardized Testing

The Pharmacy College Admissions Test (PCAT) or Graduate Record Examinations (GRE) is recommended to make an application more competitive but is not required.

Letters of Recommendation

Three letters of recommendation (two academic references, at least one from a science professor, and the third from a personal reference, who is not a relative). A pharmacist is highly recommended but not required.

Academic Integrity

Students applying to the School of Pharmacy and Health Sciences must sign an affidavit of integrity, stating that all supporting portfolio or written materials submitted for application is the student's original work. Any evidence of plagiarism or academic dishonesty will result in denial of admission or removal from the program and forfeiture of any student status, tuition or fees paid while enrolled within the program.

Technical Standards

For detailed information about the technical standards and requirements, visit the School of Pharmacy and Health Sciences' website at www.fdu.edu/pharmacy.

ACPE Accreditation Status

Fairleigh Dickinson University School of Pharmacy and Health Sciences' Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education, 135 South LaSalle Street, Suite

4100, Chicago, IL 60603; phone: (312) 664-3575; fax: (312) 664-4652; website: www.acpe-accredit.org.

FDU School of Pharmacy and Health Sciences Outcomes

- Provide patient-centered care.
 - a) Formulate a patient-centered pharmaceutical care plan (new or revised) in collaboration with other health care professionals, patients and/or their caregivers.
 - b) Prepare and dispense medication(s) prescribed (or recommended) as part of the patient's care plan.
 - c) Communicate and collaborate with prescribers, patients, caregivers and other involved health care providers to engender a team approach to patient care.
- Provide population-based care by developing population-specific, evidence-based, disease-management programs.
- Manage human, physical, medical, information and technological resources.
 - a) Describe and demonstrate appropriate utilization of management principles and use of health care resources in the American health care system.
 - b) Manage pharmacy operations, including personnel, and optimize physical and technological resources to fulfill the practice mission.
- Manage medication distribution, control and use systems and optimize technological resources to fulfill the practice mission.
- Assure the availability of effective, quality health and disease-prevention services.
 - a) Communicate and collaborate with health care providers and health policy decision makers to engender a team approach to public health.
- Develop public health policy by developing strategic efforts to collaborate with policymakers, payers, members of the community, health providers and other stakeholders and decision-makers to promote public health and resolve public health problems.
- Maintain professional competency in providing pharmaceutical care, managing medication-use systems and understanding various public health care needs and providing appropriate disease-prevention services by committing oneself to being an independent, self-initiated lifelong learner.
- Carry out duties in accordance with legal, ethical, social, economic and professional guidelines.

Requirements for the Pharm.D. Degree

1st Year

Foundations in Pharmacy Education

Fall Semester	Credits
PHRM6100	
Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics.....	4
PHRM6101	
Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care.....	3
PHRM6201	
Pharmaceutics I: Physical Pharmacy.....	3
PHRM6211	
Pharmaceutical Calculations I.....	1
PHRM6301	
Medical Communication and Technical Writing.....	2
PHRM6321	
Pharmacy Practice Law.....	2
PHRM6401	
Professional Pharmacy Practice I: Health Care Delivery.....	3
PHRM6700	
Beyond the Curriculum: Foundations in Pharmacy Education (1).....	0
	Total.....18

Spring Semester

PHRM6102	
Integrated Pharmacotherapy II: Gastrointestinal.....	3
PHRM6103	
Integrated Pharmacotherapy III: Dermatology, Over-the-Counter Remedies and Self Care.....	3
PHRM6104	
Integrated Pharmacotherapy IV: Cardiology/Pulmonology I.....	3
PHRM6111	
Integrated Pharmacotherapy II-IV: Conceptual Connections and Patient Care.....	2
PHRM6202	
Pharmaceutics II – Oral Dosage Forms and Biopharmaceutics/ Pharmacokinetics.....	2
PHRM6212	
Pharmaceutical Calculations II.....	1
PHRM6402	
Professional Pharmacy Practice II: Communication in Health Care.....	2

Pharmacy

	Credits
PHRM6701	
Beyond the Curriculum:	
Foundations in Pharmacy	
Education (2).....	1
Total.....	17

Completed in June, July or August

PHRM6501	
Introductory Pharmacy Practice	
Experience (IPPE) I: Community.....	4

2nd Year

Expanding Horizons

Fall Semester

PHRM7105	
Integrated Pharmacotherapy V:	
Neurology, Psychiatry and	
Anesthesiology.....	4
PHRM7106	
Integrated Pharmacotherapy VI:	
Infectious Disease.....	4
PHRM7111	
Integrated Pharmacotherapy V–VI:	
Conceptual Connections and	
Patient Care.....	2
PHRM7201	
Pharmaceutics III: Dosage Form	
and Drug Delivery Systems.....	2
PHRM7301	
Biostatistics.....	2
PHRM7401	
Professional Pharmacy	
Practice III: Drug Information,	
Informatics and Toxicology.....	2
PHRM7700	
Beyond the Curriculum:	
Expanding Horizons (1).....	0
Elective.....	3
Total.....	19

Spring Semester

PHRM7107	
Integrated Pharmacotherapy VII:	
Cardiology/Pulmonary II and	
Eye Disorders.....	4
PHRM7108	
Integrated Pharmacotherapy VIII:	
Endocrine, Urinary Tract,	
Renal and Reproductive Health.....	4
PHRM7112	
Integrated Pharmacotherapy	
VII–VIII: Conceptual	
Connections and Patient Care.....	2
PHRM7202	
Pharmaceutics IV: Sterile	
Products and Biopharmaceuticals.....	2
PHRM7302	
Epidemiology and Study Design	
Evaluation.....	3

	Credits
PHRM7701	
Beyond the Curriculum:	
Expanding Horizons (2).....	1
Elective.....	3
Total.....	19

Completed in January, June, July or August

PHRM7501	
Introductory Pharmacy Practice	
Experience (IPPE) II: Institutional....	4

3rd Year

Preparing Practitioners

Fall Semester

PHRM8109	
Integrated Pharmacotherapy IX:	
Autoimmune Diseases, Rare	
Diseases and Special Population s.....	3
PHRM8110	
Integrated Pharmacotherapy X:	
Hematology and Oncology.....	3
PHRM8111	
Integrated Pharmacotherapy IX–X:	
Conceptual Connections and	
Patient Care.....	2
PHRM8302	
Public Health and the Global	
Mission of Pharmacy.....	2
PHRM8321	
Health Care Ethics and Team	
Decision Making.....	1
PHRM8700	
Beyond the Curriculum/	
Preparing Practitioners (1).....	0
Electives.....	6
Total.....	17

Spring Semester

PHRM8112	
Integrated Pharmacotherapy I–X:	
A Whole System Overview	
and Effecting Patient Care.....	2
PHRM8201	
Pharmacogenomics and	
Personalized Medicine.....	2
PHRM8301	
Pharmacoepidemiology,	
Pharmacoeconomics and	
Health Outcomes.....	3
PHRM8402	
Professional Pharmacy Practice IV:	
Pharmacy Leadership and	
Management.....	2
PHRM8701	
Beyond the Curriculum/	
Preparing Practitioners (2).....	1
Electives.....	9
Total.....	19

4th Year

Core Advanced Pharmacy Practice Experiences and Capstone

	Credits
PHRM9101	
Advanced Pharmacy Practice	
Experience (APPE) I: Community.....	5
PHRM9102	
Advanced Pharmacy Practice	
Experience (APPE) II: Institutional...	5
PHRM9103	
Advanced Pharmacy Practice	
Experience (APPE) III:	
Ambulatory Care.....	5
PHRM9104	
Advanced Pharmacy Practice	
Experience (APPE) IV: Acute Care...	5
PHRM9900	
Pharmacy Capstone I.....	1
PHRM9901	
Pharmacy Capstone II.....	2

Elective Advanced Pharmacy Practice Experiences

Choose four

PHRM9201	
Advanced Pharmacy Practice	
Experience (APPE) V: Elective –	
Community Practice I.....	5
PHRM9202	
Advanced Pharmacy Practice	
Experience (APPE) V: Elective –	
Community Practice II.....	5
PHRM9203	
Advanced Pharmacy Practice	
Experience (APPE) V: Elective –	
Ambulatory Care I.....	5
PHRM9204	
Advanced Pharmacy Practice	
Experience (APPE) V: Elective –	
Ambulatory Care II.....	5
PHRM9205	
Advanced Pharmacy Practice	
Experience (APPE) V: Elective –	
Community Compounding I.....	5
PHRM9206	
Advanced Pharmacy Practice	
Experience (APPE) V: Elective –	
Community Compounding II.....	5
PHRM9207	
Advanced Pharmacy Practice	
Experience (APPE) V: Elective –	
Medication Therapy Management I...	5
PHRM9208	
Advanced Pharmacy Practice	
Experience (APPE) V: Elective –	
Medication Therapy	
Management II.....	5

	Credits		Credits		Credits
PHRM9209		PHRM9312		PHRM9405	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) V: Elective –		Experience (APPE) VI: Elective –		Experience (APPE) VII: Elective –	
HIV/AIDS I.....	5	Critical Care II.....	5	Managed Care I.....	5
PHRM9210		PHRM9313		PHRM9406	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) V: Elective –		Experience (APPE) VI: Elective –		Experience (APPE) VII: Elective –	
HIV/AIDS II.....	5	Cardiology I.....	5	Managed Care II.....	5
PHRM9211		PHRM9314		PHRM9407	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) V: Elective –		Experience (APPE) VI: Elective –		Experience (APPE) VII: Elective –	
Home Infusion I.....	5	Cardiology II.....	5	Specialty Pharmacy I.....	5
PHRM9212		PHRM9315		PHRM9408	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) V: Elective –		Experience (APPE) VI: Elective –		Experience (APPE) VII: Elective –	
Home Infusion II.....	5	Behavioral Health I.....	5	Specialty Pharmacy II.....	5
PHRM9301		PHRM9316		PHRM9409	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) VI: Elective –		Experience (APPE) VI: Elective –		Experience (APPE) VII: Elective –	
Hospital Practice I.....	5	Behavioral Health II.....	5	Medical Device/Patient Safety I.....	5
PHRM9302		PHRM9317		PHRM9410	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) VI: Elective –		Experience (APPE) VI: Elective –		Experience (APPE) VII: Elective –	
Hospital Practice II.....	5	Transitions of Care I.....	5	Medical Device/Patient Safety II.....	5
PHRM9303		PHRM9318		PHRM9501	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) VI: Elective –		Experience (APPE) VI: Elective –		Experience (APPE) VIII:	
Acute Care I.....	5	Transitions of Care II.....	5	Elective – Public Health I.....	5
PHRM9304		PHRM9319		PHRM9502	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) VI: Elective –		Experience (APPE) VI: Elective –		Experience (APPE) VIII:	
Acute Care II.....	5	Nutrition Support I.....	5	Elective – Public Health II.....	5
PHRM9305		PHRM9320		PHRM9503	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) VI: Elective –		Experience (APPE) VI: Elective –		Experience (APPE) VIII:	
Long Term Care I.....	5	Nutrition Support II.....	5	Elective – Industry I.....	5
PHRM9306		PHRM9321		PHRM9504	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) VI: Elective –		Experience (APPE) VI: Elective –		Experience (APPE) VIII:	
Long Term Care II.....	5	Emergency Medicine I.....	5	Elective – Industry II.....	5
PHRM9307		PHRM9322		PHRM9505	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) VI: Elective –		Experience (APPE) VI: Elective –		Experience (APPE) VIII:	
Infectious Disease I.....	5	Emergency Medicine II.....	5	Elective – Research I.....	5
PHRM9308		PHRM9401		PHRM9506	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) VI: Elective –		Experience (APPE) VII: Elective –		Experience (APPE) VIII:	
Infectious Disease II.....	5	Drug Information I.....	5	Elective – Research II.....	5
PHRM9309		PHRM9402		PHRM9507	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) VI: Elective –		Experience (APPE) VII: Elective –		Experience (APPE) VIII:	
Oncology I.....	5	Drug Information II.....	5	Elective – Marketing I.....	5
PHRM9310		PHRM9403		PHRM9508	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) VI: Elective –		Experience (APPE) VII: Elective –		Experience (APPE) VIII:	
Oncology II.....	5	Medication Safety I.....	5	Elective – Marketing II.....	5
PHRM9311		PHRM9404		PHRM9509	
Advanced Pharmacy Practice		Advanced Pharmacy Practice		Advanced Pharmacy Practice	
Experience (APPE) VI: Elective –		Experience (APPE) VII: Elective –		Experience (APPE) VIII:	
Critical Care I.....	5	Medication Safety II.....	5	Elective – Patient Advocacy I.....	5

Pharmacy

	Credits
PHRM9510	
Advanced Pharmacy Practice	
Experience (APPE) VIII:	
Elective – Patient Advocacy II.....	5
PHRM9511	
Advanced Pharmacy Practice	
Experience (APPE) VIII:	
Elective – Health Care	
Organization Management I.....	5
PHRM9512	
Advanced Pharmacy Practice	
Experience (APPE) VIII:	
Elective – Health Care	
Organization Management II.....	5
PHRM9513	
Advanced Pharmacy Practice	
Experience (APPE) VIII:	
Elective – Informatics I.....	5
PHRM9514	
Advanced Pharmacy Practice	
Experience (APPE) VIII:	
Elective – Informatics II.....	5
PHRM9515	
Advanced Pharmacy Practice	
Experience (APPE) VIII:	
Elective – Management I.....	5
PHRM9516	
Advanced Pharmacy Practice	
Experience (APPE) VIII:	
Elective – Management II.....	5
PHRM9517	
Advanced Pharmacy Practice	
Experience (APPE) VIII:	
Elective – Regulatory I.....	5
PHRM9518	
Advanced Pharmacy Practice	
Experience (APPE) VIII:	
Elective – Regulatory II.....	5
Total.....	43

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate school director.

PHRM6100

4 Credits

Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics

This survey course covers several fundamental concepts required for understanding pharmacotherapy. Pharmacology is the unified study of the properties of chemicals and living organisms and all aspects of their interaction. Medicinal chemistry will address a chemically oriented introduction to pharmacology and therapeutics, focusing on structure, pharmacophores and drug activity. The class emphasizes familiarity with drug structures and properties and an understanding of how the

chemical structures and physicochemical properties of representative drugs determine their molecular mechanisms of action. The pharmacokinetics component will address how the body impacts drugs. These lectures will focus on a mathematical understanding of drug concentrations, pharmacological activity and therapy. Concepts of toxicology and toxicokinetics will also be introduced in acute and chronic settings. Corequisite: PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care.

PHRM6101

3 Credits

Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care

Integrated pharmacotherapy courses combine biological sciences, human systems and clinical sciences. As one of the two foundation courses, this course lays the foundation of subsequent integrated pharmacotherapy modules by providing students with the overview of biochemistry, human anatomy and physiology, human immune system and microbiology. Students are also introduced to genetics and molecular diagnostics, which will be revisited in their third year. Corequisite: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics.

PHRM6102

3 Credits

Integrated Pharmacotherapy II: Gastrointestinal

This is the second integrated pharmacotherapy module focusing on the gastrointestinal system. This course integrates basic principles of biochemistry, anatomy and physiology, pathophysiology, pharmacology, medicinal chemistry, pharmacokinetics, clinical chemistry and pharmacotherapy related to the presentation and management of gastrointestinal diseases (gastroesophageal reflux, peptic ulcer, inflammatory bowel disease, nausea and vomiting, diarrhea, constipation and irritable bowel disease, cirrhosis, drug-induced gastrointestinal disease, pancreatitis, gallbladder and viral hepatitis). Physicochemical and biological principles of dosage forms and drug-delivery strategies used to treat these conditions are discussed, as are the materials and methods used to prepare and administer the appropriate treatment. Cases and examples are used to provide the students with the skills to solve problems related to gastrointestinal diseases in an active learning environment. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An

Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care.

PHRM6103

3 Credits

Integrated Pharmacotherapy III: Dermatology, Over-the-Counter Remedies and Self Care

This is the third integrated pharmacotherapy module focusing on over-the-counter products, dermatology and self care. This course integrates basic principles of biochemistry, anatomy and physiology, pathophysiology, pharmacology, medicinal chemistry, pharmacokinetics, clinical chemistry and pharmacotherapy related to the presentation and management of these areas (herbal/ dietary supplements, fluids/nutrition, pain, common cold/flu, dermatology, otic care, oral care and ophthalmic care, smoking cessation, obesity, sleep disorders, reproductive and genital disorders). Physicochemical and biological principles of dosage forms and drug-delivery strategies used to treat these conditions are discussed, as are the materials and methods used to prepare and administer the appropriate treatment. Cases and examples are used to provide the students with the skills to solve problems related to the use of over-the-counter and self-care medications and dermatological diseases in an active learning environment. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care. Corequisite: PHRM6111 Integrated Pharmacotherapy II-IV: Conceptual Connections and Patient Care.

PHRM6104

3 Credits

Integrated Pharmacotherapy IV – Cardiology/Pulmonology I

This is the fourth integrated pharmacotherapy module and the first of two courses focusing on the cardiovascular and pulmonary systems. This course begins with a description of the autonomic nervous system and its critical role in the functioning of major organ systems, and discusses major drugs affecting this system. This course further integrates basic principles of anatomy and physiology, pathophysiology, pharmacology, medicinal chemistry, pharmacokinetics and pharmacotherapy related to the presentation and management of some major cardiovascular and pulmonary diseases. Physicochemical and biological principles of dosage forms and drug-delivery strategies used to treat these conditions are discussed, as are the materials and methods used to prepare and administer the appropriate treatment. Cases and examples are used to provide the students with the skills to solve problems related to cardiovascular diseases in an active learning

environment. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care. Corequisite: PHRM6111 Integrated Pharmacotherapy II–IV: Conceptual Connections and Patient Care.

PHRM6111

2 Credits

Integrated Pharmacotherapy II–IV: Conceptual Connections and Patient Care

This course ties in the contents learned in Integrated Pharmacotherapy II–IV in a case-based, active-learning fashion. While Integrated Pharmacotherapy II–IV prepare students with clinical knowledge and skill set, this course is designed to provide hands-on experience of patient interaction and assessment, triage and referral and treatment formulation and recommendation. Students will practice and become competent in patient-assessment skills system-by-system, learn effective counseling techniques with regards to drug administration, familiarize themselves with New Jersey prescription regulations and acquire skills in dosing calculation, all of which are commonly encountered in community practice. Real-life cases involving self-care, gastrointestinal and cardiovascular diseases will require students to think critically in every step of the care: presentation, history-taking, assessment, treatment formulation and administration and monitoring for efficacy and toxicity. Students will be introduced to various formats of patient documentation. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care. Corequisites: PHRM6102 Integrated Pharmacotherapy II: Gastrointestinal; PHRM6103 Integrated Pharmacotherapy III: Dermatology, Over-the-Counter Remedies and Self Care; and PHRM6104 Integrated Pharmacotherapy IV: Cardiology/Pulmonology I.

PHRM6201

3 Credits

Pharmaceutics I: Physical Pharmacy

This is the first of three courses in the pharmaceutics series. This course introduces students to basic concepts (e.g., solubility, permeability, stability, etc.) in physical pharmacy and pharmaceutical sciences, and covers gas and solution properties, non-electrolyte and electrolyte solutions, pharmaceutical solids, dissolution and drug release. Mastering the basic concepts will provide the students with a sound foundation in pharmaceutical-product development (dosage forms and drug-delivery systems) as well as pharmacy practice.

PHRM6202

2 Credits

Pharmaceutics II – Oral Dosage Forms and Biopharmaceutics/ Pharmacokinetics

This is the second course in the pharmaceutics series focusing on oral dosage forms. This course is designed and taught using an integrated approach, covering various topics in pharmaceutics (oral dosage forms), biopharmaceutics and pharmacokinetics. The students will learn not only the fundamental aspects of oral dosage forms (solutions, suspensions and solids), but also the biopharmaceutic and pharmacokinetic aspects of oral dosage forms related to drug absorption and evaluation. The course also integrates the application of basic pharmacokinetic principles to special populations and disease states. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6201 Pharmaceutics I: Physical Pharmacy.

PHRM6211

1 Credit

Pharmaceutical Calculations I

This course is the first part of the two-semester pharmaceutical calculations series. Accurately performing pharmaceutical calculations is a critical skill in providing patient care in every pharmacy-practice setting. This course introduces students to basic concepts and skills involved in pharmaceutical calculations. The focus of this course is on basic mathematical principles and their application to pharmaceutical calculations in pharmacy practice. The topics include correct interpretation of prescription and medical orders, pharmaceutical measurements, various expressions of concentration and strength, electrolyte and isotonic solutions.

PHRM6212

1 Credit

Pharmaceutical Calculations II

This course is the second part of pharmaceutical calculations and focuses on specific calculation skills that are important to practicing pharmacists. The students have the opportunity to apply the basic concepts and calculation skills gained in PHRM6211 Pharmaceutical Calculations I to dose and clinical calculation, IV and parenteral solutions and calculations involved in extemporaneous compounding. Prerequisite: PHRM6211 Pharmaceutical Calculations I.

PHRM6301

2 Credits

Medical Communication and Technical Writing

This course is designed to introduce pharmacy students to the concepts and methods of technical and professional communication utilized in different areas of health care.

Development of professional documents including cover letters, personal statements and curriculum vitae utilized in pharmacy practice and required for student pharmacist e-portfolios is a specific focus. Additionally, oral communication skills including assembling presentation materials critical to successfully delivering a professional oral presentation to an audience will be developed. Lastly, students will be introduced to key medical terminology used throughout health care.

PHRM6321

2 Credits

Pharmacy Practice Law

This course is designed to provide pharmacy students with the basic purposes pharmacy law serves, and to prepare them to comply with laws, regulations and ethical standards in their professional and personal lives. The course will feature in-depth reading of texts and case studies, case presentations, short papers and exams.

PHRM6401

3 Credits

Professional Pharmacy Practice I: Health Care Delivery

This course provides foundational knowledge necessary to understand the organization of the health care system and health care delivery in the United States. The various roles played by pharmacists in the U.S. are also presented. Selected international health care systems are covered for comparison purposes. A definition of health care is developed; U.S. health care financing and health economics are introduced; legislative initiatives, such as the Affordable Care Act, and alternative health care models such as the medical home are presented. The implications for both health care delivery and the evolution of the pharmacy profession with these emerging initiatives are explored. The efficient and safe use of health care and pharmaceutical resources to achieve better patient clinical outcomes and improved quality of life in a financial environment where resources are limited is a central theme. Related to this, the U.S. drug-approval process and the pharmaceutical industry are described. The increasing use of informatics and computer-based systems, including electronic medical records and databases, in pharmacy practice is described as well. Multidisciplinary aspects of health care are examined and multiple factors important to the contemporary practice of pharmacy are explored including the social, legal/regulatory, economic, public health, professional and patient-care implications of pharmacy practice. The role of the pharmacist as a member of an interprofessional team of health care professionals is introduced.

Pharmacy

PHRM6402

2 Credits

Professional Pharmacy Practice II: Communication in Health Care

The Communication in Health Care course develops students' nonwritten professional communication skills. The course focuses on developing oral and nonverbal communications skills, an appreciation of different cultural approaches to health care (cultural competency) and health literacy in patient care as well as communication within interprofessional teams. Communication strategies for gathering information from patients, providing information and verifying understanding will be reviewed. Interprofessional communication approaches for fostering relationships with other health care professionals will be explored. This course is designed to help students gain the skills required to effectively communicate with all individuals involved in delivering and receiving health care such as patients, physicians, nurses and family members. Prerequisites: PHRM6301 Medical Communication and Technical Writing and PHRM6401 Professional Pharmacy Practice I: Health Care Delivery.

PHRM6501

4 Credits

Introductory Pharmacy Practice Experience (IPPE) I: Community

This introductory experience is an experiential-education course enabling the student to integrate classroom knowledge with practical pharmacy experience through exposing students to the patient care, administrative, distributive and overall practice of contemporary community pharmacy. Students will be placed at an IPPE I site for four weeks totaling 32 hours per week for a final total of 128 hours experience (IPPE). The student pharmacist will observe and participate with pharmacists, fellow pharmacy students, if applicable, and other health care professionals in the provision of direct patient care. The student will become familiar with essential elements surrounding the dispensing of prescriptions including, but not limited to, interpreting a patient profile, transcribing an oral prescription, preparing a prescription label and patient counseling, in order to assist the pharmacist in dispensing prescriptions. The student pharmacist will observe and participate in assisting patients in selection of nonprescription (over-the-counter) products, monitoring devices and durable medical equipment. This course may require students to participate in an online learning component, reflective sessions in the School of Pharmacy and Health Sciences and completion of a service learning project as assigned. This course prepares students to acquire critical-thinking competencies enabling them to continually build their knowledge across the curriculum as they progress and engage in subsequent experiential-practice experiences.

Prerequisite: successful completion of first year of courses.

PHRM6700

0 Credits

Beyond the Curriculum: Foundations in Pharmacy Education (1)

A great deal of education happens outside of the formal course work. In this course, students will have an opportunity to engage in programs to learn more about the emerging areas of pharmacy in order to gain a deeper understanding of the evolving roles of pharmacists and the areas in which they can practice. This course will serve as a platform for students to network with industry and educational leaders to begin to develop their personal and professional networks as they prepare for their future roles in pharmacy.

PHRM6701

1 Credit

Beyond the Curriculum: Foundations in Pharmacy Education (2)

A great deal of education happens outside of the formal course work. In this course, students will have an opportunity to engage in programs to learn more about the emerging areas of pharmacy in order to gain a deeper understanding of the evolving roles of pharmacists and the areas in which they can practice. This course will serve as a platform for students to network with industry and educational leaders to begin to develop their personal and professional networks as they prepare for their future roles in pharmacy.

PHRM7105

4 Credits

Integrated Pharmacotherapy V: Neurology, Psychiatry and Anesthesiology

This is the fifth integrated pharmacotherapy module focusing on the nervous system. This course integrates basic principles of biochemistry, anatomy and physiology, pathophysiology, pharmacology, medicinal chemistry, pharmacokinetics, clinical chemistry and pharmacotherapy related to the presentation and management of neurologic and psychiatric diseases. Basic principles and knowledge about anesthesiology will also be introduced. Physicochemical and biological principles of dosage forms and drug-delivery strategies used to treat these conditions are discussed, as are the materials and methods used to prepare and administer the appropriate treatment. Cases and examples are used to provide the students the skills to solve problems related to neurologic and psychiatric diseases in an active learning environment. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics,

Microbiology and Delivery of Care. Corequisite: PHRM7111 Integrated Pharmacotherapy V–VI: Conceptual Connections and Patient Care.

PHRM7106

4 Credits

Integrated Pharmacotherapy VI: Infectious Disease

This course relates to pharmacotherapeutics and the treatment of infectious diseases and aims to integrate key concepts from medicinal chemistry, pharmacology, anatomy and physiology, pathology, clinical chemistry for infectious disease topics important to the clinical setting. Ideally, at the end of this course the student will be able to: identify likely pathogens responsible for a particular infectious-disease process; select the appropriate antibiotic(s) to provide antimicrobial coverage for these possible pathogens; select alternative antibiotics should they become necessary; and identify appropriate actions to monitor for efficacy and toxicity. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care. Corequisite: PHRM7111 Integrated Pharmacotherapy V–VI: Conceptual Connections and Patient Care.

PHRM7107

3 Credits

Integrated Pharmacotherapy VII: Cardiology/Pulmonary II and Eye Disorders

This is the seventh integrated pharmacotherapy module and the second of two courses focusing on the cardiovascular and pulmonary systems. It also covers selected diseases of the eye, ear, nose and throat. This course provides students with an integrated approach to understanding principles and solving problems of cardiovascular and pulmonary disorders and diseases of the eye, ear, nose and throat. The anatomy, physiology, pathophysiology, medicinal chemistry, pharmacology, pharmacokinetics and pharmacotherapy related to the presentation and management of these disorders are covered. Physicochemical and biological principles of dosage forms and drug-delivery strategies used to treat these conditions are discussed, as are materials and methods used to prepare and administer the appropriate treatment. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care. Corequisite: PHRM7112 Integrated Pharmacotherapy VII–VIII: Conceptual Connections and Patient Care.

PHRM7108

4 Credits

Integrated Pharmacotherapy VIII: Endocrine, Urinary Tract, Renal and Reproductive Health

This is the eighth integrated pharmacotherapy module focusing on the endocrine, urinary tract, renal and reproductive health systems. This course integrates basic principles of biochemistry, anatomy and physiology, pathophysiology, pharmacology, medicinal chemistry, pharmacokinetics, clinical chemistry and pharmacotherapy related to the presentation and management of diseases of these systems. Physicochemical and biological principles of dosage forms and drug-delivery strategies used to treat these conditions are discussed, as are the materials and methods used to prepare and administer the appropriate treatment. Cases and examples are used to provide the students with the skills to solve problems related to endocrine, urinary-tract, renal and reproductive system diseases in an active learning environment. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care. Corequisite: PHRM7112 Integrated Pharmacotherapy VII–VIII: Conceptual Connections and Patient Care.

PHRM7111

2 Credits

Integrated Pharmacotherapy V–VI: Conceptual Connections and Patient Care

This course ties in the contents learned in Integrated Pharmacotherapy V–VI in a case-based, active-learning fashion. While Integrated Pharmacotherapy V–VI prepare students with clinical knowledge and skill set, this course is designed to provide hands-on experience of patient interaction and assessment, triage and referral and treatment formulation and recommendation. Students will practice and become competent in patient-assessment skills system-by-system, learn effective counseling techniques with regards to drug administration, familiarize themselves with New Jersey prescription regulations and acquire skills in dosing calculations, all of which are commonly encountered in pharmacy practice. Real-life cases involving infectious, neurologic and psychiatric diseases will require students to think critically in every step of the care: presentation, history-taking, assessment, treatment formulation and administration and monitoring for efficacy and toxicity. Students will be certified by the American Pharmacist's Association Medication Therapy Management Program. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations

in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care. Corequisites: PHRM7105 Integrated Pharmacotherapy V: Neurology, Psychiatry and Anesthesiology and PHRM7106 Integrated Pharmacotherapy VI: Infectious Disease.

PHRM7112

2 Credits

Integrated Pharmacotherapy VII–VIII: Conceptual Connections and Patient Care

This course ties in the contents learned in Integrated Pharmacotherapy VII–VIII in a case-based, active-learning fashion. While Integrated Pharmacotherapy VII–VIII prepare students with clinical knowledge and skill set, this course is designed to provide hands-on experience of patient interaction and assessment, triage and referral and treatment formulation and recommendation. Students will practice and become competent in patient-assessment skills system-by-system, learn effective counseling techniques with regards to drug administration, familiarize themselves with New Jersey prescription regulations and acquire skills in dosing calculations, all of which are commonly encountered in pharmacy practice. Real-life cases involving renal diseases, endocrine diseases, pulmonary diseases, ophthalmic diseases, otic diseases and reproductive health will require students to think critically in every step of the care: presentation, history-taking, assessment, treatment formulation and administration and monitoring for efficacy and toxicity. Students will be certified by the American Pharmacist's Association Diabetes Care Program. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care. Corequisites: PHRM7107 Integrated Pharmacotherapy VII: Pulmonary, Eye, Ear, Nose and Throat and PHRM7108 Integrated Pharmacotherapy VIII: Endocrine, Urinary Tract, Renal and Reproductive Health.

PHRM7120

3 Credits

Problem-solving and Clinical Decision-making in Pharmacy I

This course will expand student skills and abilities in evaluating patient cases encountered in pharmacy practice. Cases may focus on calculations commonly performed in a community or institutional setting, pharmacokinetic or dosage-form consultations or clinical evaluations of drug therapy. The course will enhance students' preparedness to provide patient-centered pharmaceutical care using pharmacists' patient-care process. Emphasis will be placed on critical evaluation

of clinical scenarios and decision-making and problem-solving process in pharmacy practice. Corequisite: PHRM7111 Integrated Pharmacotherapy V–VI: Conceptual Connections and Patient Care.

PHRM7121

3 Credits

Clinical Toxicology

The course is designed to give the student an overview of the management of the poisoned patient or one suffering from select drug-induced diseases. The student will become familiar with general principles in managing the poisoned patient, recognize toxidromes and understand the role of the pharmacist in managing a poisoned patient and the role of the local poison center. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I – An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care.

PHRM7122

3 Credits

Natural Medicines

This elective course will introduce students to in-depth concepts of pharmacology of natural medicines as well as specific disease states which can be treated with natural medicines. Overall philosophy of utilizing natural medicine in Western cultures will be discussed. In addition, alternative therapeutic modalities such as acupuncture, homeopathy and others will be reviewed.

PHRM7201

2 Credits

Pharmaceutics III: Dosage Form and Drug Delivery Systems

This course includes a didactic section and a compounding lab. The didactic lectures cover drug-dosage forms and drug-delivery systems commonly used in modern medicine. The emphasis is placed on understanding the basic physicochemical and biopharmaceutical principles underlining each dosage form and delivery system. The students will learn the proper use, administration and storage of various drug-dosage forms and delivery systems. The laboratory session provides the students with hands-on experience in extemporaneous product compounding. In the compounding lab, the students will have the opportunity to apply the basic concepts and calculation skills to extemporaneous compounding. The students will prepare various compounding products including syrup, suspension, ointment, gel, capsule and suppository. Prerequisites: PHRM6201 Pharmaceutics I: Physical Pharmacy and PHRM6202 Pharmaceutics II – Oral Dosage Forms and Biopharmaceutics/ Pharmacokinetics.

Pharmacy

PHRM7202

2 Credits

Pharmaceutics IV: Sterile Products and Biopharmaceutics

This is the last of the three-course series in pharmaceutics. Building upon basic concepts and calculation skills acquired in PHRM6201 Pharmaceutics I: Physical Pharmacy, PHRM6202 Pharmaceutics II – Oral Dosage Forms and Biopharmaceutics/Pharmacokinetics, PHRM6211 Pharmaceutical Calculations I and PHRM6212 Pharmaceutical Calculations II, students will have the opportunity to apply the knowledge and skills to various sterile products including (parenteral, ophthalmic, nasal and irrigation solutions). Biologics products (monoclonal antibody, vaccines and adjuvants) are also included. The course also covers various routes of administration, sterile-product preparation and quality standards. The course is accompanied by a laboratory session, which provides the students with hands-on experience in sterile-product compounding. Prerequisites: PHRM6201 Pharmaceutics I: Physical Pharmacy, PHRM6202 Pharmaceutics II – Oral Dosage Forms and Biopharmaceutics/Pharmacokinetics, PHRM6211 Pharmaceutical Calculations I and PHRM6212 Pharmaceutical Calculations II.

PHRM7301

2 Credits

Biostatistics

This two-credit course introduces pharmacy students to the concepts and methods of biostatistics. Descriptive statistics, inferential statistics, hypothesis testing will be covered. Simple regression techniques used in evaluating pharmacologic therapies in populations will be discussed. The skills learned in this course build the quantitative foundations that students will apply to evaluate the biomedical literature and assess its applicability to their patients.

PHRM7302

3 Credits

Epidemiology and Study Design Evaluation

This course is designed to introduce students to basic concepts of epidemiology and study designs used in the evaluation of health care technologies. Epidemiological terminology such as risk, hazard, odds and relative-risk ratios will be introduced. Further, this course will include critical evaluation of evidence-based medical literature and identification of sources of bias in published medical literature. Prerequisites: PHRM7301 Biostatistics and PHRM7401 Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology.

PHRM7321

3 Credits

History of Pharmacy

This course reviews the history of the profession of pharmacy. Two main focuses will

be 1) the evolution of pharmacy as a distinct patient-care profession throughout ancient history and the Middle Ages and 2) the growth and expansion of pharmacy as a profession in the United States from colonization in the 17th century to present-day trends in pharmacy practice that will shape the future of the profession.

PHRM7322

3 Credits

Drugs of Abuse

This course reviews the history, pathophysiology, epidemiology and societal aspects of the phenomenon of drug abuse and addiction. Two main focuses will be 1) drug addiction as a recognizable disease and its impact on the patient, their caregivers and the health care system and the 2) pathopharmacology of all abused compounds including illegal and prescription drugs as well as emerging designer drugs. Corequisite: PHRM7112 Integrated Pharmacotherapy VII–VIII: Conceptual Connections and Patient Care.

PHRM7323

3 Credits

Substance Abuse Treatment Research: Clinical Implications for Pharmacists

This advanced course covers several fundamental concepts required for understanding substance abuse and addiction research. It provides a comprehensive overview of the chemistry and advanced pharmacology of the most common substances of abuse. The second half of the course will cover issues related to diversity in substance-abuse research treatments and the clinical applications. Current research studies on addiction treatments and the role of the pharmacist, as an integral part of the health care team, will be explored. Students will also be introduced to current measures in place for the curtailing and prevention of substance abuse from a research perspective. Concepts will also be introduced in acute and chronic settings. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care. Corequisite: PHRM7302 Epidemiology and Study Design Evaluation.

PHRM7401

2 Credits

Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology

This two-credit course focuses on the essential sources of drug information, pharmaceutical informatics and toxicology. It introduces the use of health-information technology in delivering health care. Topics covered include primary,

secondary and tertiary sources of drug information; medication safety; an introduction to the use of drug monographs and the role of electronic medical records; e-prescribing; and computerized physician-order entry in pharmacy practice. This course provides an overview of the basic principles of toxicology and poisoning and discusses the identification and management of most commonly encountered toxicities. Prerequisite: PHRM6301 Medical Communication and Technical Writing.

PHRM7402

3 Credits

Practical Politics and Pharmacy

This elective course is designed to be interactive. Students will be introduced to the legislative process in order to develop effective advocacy skills on behalf of the profession. Students in this course will be responsible for being familiar with current pharmacy and related issues by reading professional journals, state and national association legislative updates, relevant newspaper articles, up-to-date bill listings and activities on relevant state and federal issues and utilize the internet as a navigational tool to become informed about and facile with the legislative issues directly affecting the profession. Students will learn the backgrounds of their representatives through state and federal rosters and engage them in discourse.

PHRM7410

3 Credits

Service Learning: Low-income Families and Homeless Population

In this course, students will have the opportunity to engage in a semester-long service commitment focused on the low-income and homeless populations. They will work alongside community partners to develop a foundational understanding of the organization's goals and outcomes in relation to their roles as volunteers. In this team-focused experience, the students will gain an appreciation for both the organization and individual team member's roles and responsibilities in a community setting. Students will communicate with members of the local underserved population through in-person, hands-on interaction, during which students will not only share their knowledge and opinions, but learn the importance of respecting and valuing the knowledge of others. While working in collaboration with other classmates and professionals, students will understand the impact an engaging, values-based and patient-centered team can have on a community. Through class participation, reflection and guided discussions, student will explore and gain a deeper understanding of the potential impact in relation to health disparities, poverty and the medically underserved.

PHRM7411

3 Credits

Service Learning: Culturally Competent Approach to Pediatric Populations

In this course, students will have the opportunity to engage in a semester-long service commitment focused on the health and well-being of pediatric populations. They will work alongside an organization located in Kissimmee, Fla., to develop a foundational understanding of the organization's goals and outcomes in relation to their roles as volunteers. In this team-focused experience, the students will gain an appreciation for both the organization and individual team member's roles and responsibilities in a community setting. They will communicate with members of the pediatric population through in-person, hands-on interaction, during which students will not only share their knowledge and opinions, but learn the importance of respecting and valuing the knowledge of others. While working in collaboration with other classmates and professionals, students will understand the impact an engaging, values-based and patient-centered team can have on a community. Through class participation, reflection and guided discussions, students will explore and gain a deeper understanding of the potential impact in relation to pediatric populations, caregiver responsibility and community organizations.

PHRM7412

3 Credits

Service Learning: Culturally Competent Approach to Geriatric Populations

A service-learning based elective course open to P2 and P3 students. In this course students will have the opportunity to engage in a semester-long service commitment focused on the health and well-being of the geriatric population. They will work alongside a community partner to develop a foundational understanding of the organization's goals and outcomes in relation to their roles as volunteers. In this team-focused experience, the students will gain an appreciation for both the organization and individual team member's roles and responsibilities in a community setting. They will communicate with members of the geriatric population through in-person, hands-on interaction, during which students will not only share their knowledge and opinions, but learn the importance of respecting and valuing the knowledge of others. While working in collaboration with other classmates and professionals, students will understand the impact an engaging, values-based and patient-centered team can have on a community. Through class participation, reflection and guided discussions, students will explore and gain a deeper understanding of the potential impact in relation to geriatric population, caregiver responsibility and community organizations.

PHRM7501

4 Credits

Introductory Pharmacy Practice Experience (IPPE) II: Institutional

This hospital practice-experience course will develop students' awareness, knowledge and skills in various aspects of hospital-pharmacy practice and the roles and responsibilities of the pharmacists as a generalist and overseer of pharmacy management and therapeutic operations in a hospital setting. Introduction of the principles of medication-therapy management as the responsibility of the pharmacists and current topics in health care will be introduced enabling students to tangibly integrate classroom knowledge with hospital-pharmacy practice policies and procedures. Students will be placed at a site for 32 hours each week for four weeks acquiring knowledge across the curriculum as they engage in hospital health-system experiences that promote quality pharmacy operations and services, which optimize patient outcomes and promote patient safety.

PHRM7700

0 Credits

Beyond the Curriculum: Expanding Horizons (1)

A great deal of education happens outside of the formal course work. In this course, students will have an opportunity to engage in programs to learn more about the emerging areas of pharmacy in order to gain a deeper understanding of the evolving roles of pharmacists and the areas in which they can practice. This course will serve as a platform for students to network with industry and educational leaders to begin to develop their personal and professional networks as they prepare for their future roles in pharmacy. Prerequisites/Corequisites: PHRM6700 Beyond the Curriculum: Foundations in Pharmacy Education (1) and PHRM6701 Beyond the Curriculum: Foundations in Pharmacy Education (2).

PHRM7701

1 Credit

Beyond the Curriculum: Expanding Horizons (2)

A great deal of education happens outside of the formal course work. In this course, students will have an opportunity to engage in programs to learn more about the emerging areas of pharmacy in order to gain a deeper understanding of the evolving roles of pharmacists and the areas in which they can practice. This course will serve as a platform for students to network with industry and educational leaders to begin to develop their personal and professional networks as they prepare for their future roles in pharmacy. Prerequisites/Corequisites: PHRM6700 Beyond the Curriculum: Foundations in Pharmacy

Education (1) and PHRM6701 Beyond the Curriculum: Foundations in Pharmacy Education (2).

PHRM7801

3 Credits

Informatics and Information Systems

This course provides an overview of the practical components of health care information systems, including an introduction to the capture, storage and processing of electronic medical records, the changing dynamics of the health information technology and the impact of technology, security and regulation on the transfer and storage of health information.

PHRM7810

3 Credits

Clinical Trial Design and Regulatory Requirements

This course covers the principles of clinical-trial design, including determination and evaluation of study objectives, commonly used methodologies of study design and the ethical, legal, statistical, sociological and epidemiological considerations that play a role in design of clinical protocols.

PHRM8109

3 Credits

Integrated Pharmacotherapy IX: Autoimmune Diseases, Rare Diseases and Special Populations

This is the ninth integrated pharmacotherapy module focusing on autoimmune, rare and special-population diseases and medication management. This course integrates basic principles of biochemistry, anatomy and physiology, pathophysiology, pharmacology, medicinal chemistry, pharmacokinetics, clinical chemistry and pharmacotherapy related to the presentation and management of diseases of these systems. Physicochemical and biological principles of dosage forms and drug-delivery strategies used to treat these conditions are discussed, as are the materials and methods used to prepare and administer the appropriate treatment. Cases and examples are used to provide the students with the skills to solve problems related to autoimmune, rare and special-population diseases in an active learning environment. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care. Corequisite: PHRM8111 Integrated Pharmacotherapy IX-X: Conceptual Connections and Patient Care.

PHRM8110

3 Credits

Integrated Pharmacotherapy X: Hematology and Oncology

This course provides students with an integrated approach to understand the principles of and

solve problems related to oncology in an active, learning-based environment. The biochemistry, anatomy and physiology, pathophysiology, medicinal chemistry, pharmacology, pharmacokinetics, clinical chemistry and pharmacotherapy related to the presentation and management of oncologic diseases will be discussed. Physicochemical and biological principles of dosage forms and drug-delivery strategies used to treat these conditions will be discussed, as will the materials and methods used to prepare and administer appropriate treatments. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care. Corequisite: PHRM8111 Integrated Pharmacotherapy IX-X: Conceptual Connections and Patient Care.

PHRM8111

2 Credits

Integrated Pharmacotherapy IX-X: Conceptual Connections and Patient Care

This course ties in the contents learned in Integrated Pharmacotherapy IX-X, in a case-based, active-learning fashion. While Integrated Pharmacotherapy IX-X prepare students with clinical knowledge and skill set, this course is designed to provide hands-on experience of patient interaction and assessment, triage and referral and treatment formulation and recommendation. Students will develop proficiency in patient-assessment skills system-by-system, effective counseling techniques with regards to drug administration, New Jersey prescription regulations and skills in dosing calculations, all of which are commonly encountered in pharmacy practice. Real-life cases involving autoimmune diseases, rare diseases, oncologic diseases, hematologic diseases and special populations will require students to think critically in every step of the care: presentation, history-taking, assessment, treatment formulation and administration and monitoring for efficacy and toxicity. Students will work on cases focusing on patients with several co-morbidities previously covered. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care. Corequisites: PHRM8109 Integrated Pharmacotherapy IX: Autoimmune Diseases, Rare Diseases and Special Populations and PHRM8110 Integrated Pharmacotherapy X: Hematology and Oncology.

PHRM8112

2 Credits

Integrated Pharmacotherapy I-X: A Whole System Overview and Effecting Patient Care

This course ties in the contents learned in Integrated Pharmacotherapy I-X in a case-based, active-learning fashion. While Integrated Pharmacotherapy I-X prepared students with clinical knowledge and skill set, this course is designed to provide hands-on experience of patient interaction and assessment, triage and referral and treatment formulation and recommendation. Students will demonstrate proficiency in patient-assessment skills system-by-system, effective counseling techniques with regards to drug administration, New Jersey prescription regulations and skills in dosing calculations, all of which are commonly encountered in pharmacy practice. Real-life cases representing the disease states previously covered in the integrated pharmacotherapy courses will require students to think critically in every step of the care: presentation, history-taking, assessment, treatment formulation and administration and monitoring for efficacy and toxicity. Students will work on cases focusing on patients with several co-morbidities. Students will be certified by the American Pharmacist's Association Immunization Program. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care.

PHRM8113

3 Credits

Advanced Topics in Pharmacotherapy I

This course provides students an opportunity to expand their knowledge in the area of drug-induced diseases, nutrition, infectious diseases and critical-care pharmacotherapy. A case-based, team-based learning approach will be utilized to foster an interactive learning experience. Students will build upon their current pharmacotherapeutic knowledge through in-depth reading, discussions and case presentations. Prerequisites: PHRM6102 Integrated Pharmacotherapy II: Gastrointestinal; PHRM6104 Integrated Pharmacotherapy IV: Cardiology/Pulmonology I; PHRM7105 Integrated Pharmacotherapy V: Neurology, Psychiatry and Anesthesiology; PHRM7106 Integrated Pharmacotherapy VI: Infectious Disease and PHRM8110 Integrated Pharmacotherapy X: Hematology and Oncology.

PHRM8114

3 Credits

Advanced Topics in Pharmacotherapy II – Geriatric and Pediatrics

This course will enhance the pharmacy students' skills in geriatric and pediatric pharmacotherapy

by promoting their understanding of the unique physiologic characteristics of such special populations. The course will concentrate on the pharmacotherapy management of the disease states and special-care needs as it applies to geriatric and pediatric patients. The goals of this course are to develop skills necessary to optimize the care of inpatient and outpatient geriatric and pediatric patients by utilizing evidence-based and patient-centered therapy. The course will utilize a combination of didactic lectures, class discussions, collaborative learning and field-based activities. Prerequisites: PHRM6102 Integrated Pharmacotherapy II: Gastrointestinal; PHRM6104 Integrated Pharmacotherapy IV: Cardiology/Pulmonology I; PHRM7105 Integrated Pharmacotherapy V: Neurology, Psychiatry and Anesthesiology; and PHRM7106 Integrated Pharmacotherapy VI: Infectious Disease.

PHRM8115

3 Credits

Advanced Topics in Pharmacotherapy III – Critical Care

This course provides students an opportunity to expand their knowledge in the areas of critical-care pharmacotherapy. A care-based, team-based learning approach will be utilized to foster an interactive learning experience. Students will build upon their current pharmacotherapeutic knowledge through in-depth reading, discussions and case presentations. In this elective course, they will develop critical-thinking, problem-solving and decision-making skills that will help them effectively evaluate medication-related issues and develop appropriate pharmacotherapy recommendations as would be required of pharmacists working in an intensive care unit. Prerequisites: PHRM6102 Integrated Pharmacotherapy II: Gastrointestinal; PHRM6104 Integrated Pharmacotherapy IV: Cardiology/Pulmonology I; PHRM7105 Integrated Pharmacotherapy V: Neurology, Psychiatry and Anesthesiology; PHRM7106 Integrated Pharmacotherapy VI: Infectious Disease; PHRM7107 Integrated Pharmacotherapy VII: Pulmonary, Eye, Ear, Nose and Throat; and PHRM7108 Integrated Pharmacotherapy VIII: Endocrine, Urinary Tract, Renal and Reproductive Health.

PHRM8116

3 Credits

Advanced Topics in Pharmacotherapy IV – Infectious Diseases

This course provides students an opportunity to expand their knowledge in the area of infectious diseases including human immunodeficiency virus (HIV) infection. Students will build upon their current pharmacotherapeutic knowledge through in-depth reading, discussions, journal club and patient-case presentation. Prerequisite: PHRM7106 Integrated Pharmacotherapy VI: Infectious Disease.

PHRM8117

3 Credits

Emerging Topics in Cancer Pharmacology and Pharmacotherapeutics

This course focuses on advances in pharmacology and clinical applications of novel anticancer agents. It combines didactic lectures on the emerging topics in cancer pharmacology and pharmacotherapeutics with journal-club presentation and in-class activities. Emphasis of the presentations will be on the translation of biomedical science discoveries into therapeutic agents and implementation of novel anticancer agents into clinical practice. Students will be exposed to pharmacotherapeutics of several types of cancers not covered in the core hematology/oncology course. Prerequisite: PHRM8110 Integrated Pharmacotherapy X: Hematology and Oncology.

PHRM8118

3 Credits

Advanced Topics in Pharmacotherapy: Advanced Cardiology

This elective course will build on the foundation of knowledge of cardiovascular disease and introduce some new disease states, which are not part of the required curriculum. The students will learn/evaluate major landmark trials in cardiology that provide therapy recommendations used in management of cardiovascular diseases today. The students will practice providing patient-specific recommendations based on evidence available from primary literature resources. The goals of this course are to develop skills necessary to optimize the care of inpatient and outpatient management of cardiovascular diseases by utilizing evidence-based and patient-centered therapy. The course will utilize a combination of didactic lectures, class discussions and collaborative learning. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics; PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care; PHRM6102 Integrated Pharmacotherapy II: Gastrointestinal; PHRM6104 Integrated Pharmacotherapy IV: Cardiology/Pulmonology I; PHRM7107 Integrated Pharmacotherapy VII: Pulmonary, Eye, Ear, Nose and Throat; and PHRM7108 Integrated Pharmacotherapy VIII: Endocrine, Urinary Tract, Renal and Reproductive Health. Corequisite: PHRM8111 Integrated Pharmacotherapy IX–X: Conceptual Connections and Patient Care.

PHRM8120

3 Credits

Problem-solving and Clinical Decision-making in Pharmacy II

This course will expand student skills and abilities in evaluating patient cases encountered

in pharmacy practice. Cases will focus on application of materials covered in the curriculum, particularly application of content of P-1 and P-2 integrated pharmacotherapy courses. The students will hone skills related to pharmacotherapeutic decision-making, clinical evaluation of drug therapies, identification of drug-therapy problems, calculations commonly performed in a community or institutional setting and pharmacokinetic or dosage-form consultations. The course will enhance student's preparedness to provide patient-centered pharmaceutical care using pharmacists' patient-care process. Emphasis will be placed on critical evaluation of clinical scenarios, decision-making and problem-solving process in pharmacy practice. Prerequisite: PHRM8111 Integrated Pharmacotherapy IX–X: Conceptual Connections and Patient Care.

PHRM8201

2 Credits

Pharmacogenomics and Personalized Medicine

This course focuses on how genetic factors can affect the pharmacokinetic and/or the pharmacodynamic parameters of a drug, ultimately impacting its efficacy and toxicity in the patient. Considerations of genomic and phenotypic information to individualize pharmacotherapy and minimize adverse events are emphasized. The underlying principles of pharmacology, pharmacokinetics and pharmacotherapeutics are reinforced. This course includes discussions on biochemical analytical methods, clinical interpretation of laboratory data, applied pharmacokinetics and therapeutic drug monitoring and principles and applications in pharmacogenomics. Economic and ethical issues in relation to the incorporation of pharmacogenomic data in the clinical decision-making process are also discussed. All concepts are discussed against the backdrop of patient-centered care. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care.

PHRM8202

3 Credits

Current Therapeutic Targets and Their Challenges

This course will provide students with an understanding of the drug discovery and development process. The course will be developed into three sections. In the first section, topics covering drug discovery and development will be discussed, including lead finding, hit-to-lead activities, lead optimization, preclinical development and clinical development. In the second section, challenges germane to current therapeutic targets in the neuroscience, cardiovascular, oncology,

inflammation and diabetes therapeutic areas will be discussed. In the final section, students will have the opportunity to research and present a current therapeutic target, exploring the potential advantages and challenges of that target. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics and PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care.

PHRM8203

3 Credits

Advanced Sterile Pharmacy Dispensing and Compounding

Building upon the knowledge gained in PHRM7201 Pharmaceutics III: Dosage Form and Drug Delivery Systems and PHRM7202 Pharmaceutics IV: Sterile Products and Biopharmaceuticals, students will learn the advanced science and art of preparing and dispensing a wide variety of Compounded Sterile Products (CSP). Emphasis is placed on a variety of aseptic technique methods and common regulatory and procedural processes employed in clean rooms. Students will learn USP 797, proposed USP 800 and Board of Pharmacy definitions, concepts and standards. This course provides advanced knowledge for compounding-dispensing techniques, standards and principles and integrates with knowledge gained and will rely upon retention of principles covered in PHRM7201 Pharmaceutics III: Dosage Form and Drug Delivery Systems and PHRM7202 Pharmaceutics IV: Sterile Products and Biopharmaceuticals. The course will have didactic and practical components. Prerequisites: PHRM7201 Pharmaceutics III: Dosage Form and Drug Delivery Systems and PHRM7202 Pharmaceutics IV: Sterile Products and Biopharmaceuticals.

PHRM8211

3 Credits

Advanced Topics in Pharmaceutical Sciences

This course provides students an opportunity to expand their knowledge in the areas of pharmaceutical sciences. A case-based, team-based learning approach will be utilized to foster an interactive learning experience. Students will build upon their current knowledge through in-depth reading, discussions and case presentations. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics; PHRM6101 Foundations in Integrated Pharmacotherapy I – An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care; PHRM6202 Pharmaceutics II – Oral Dosage Forms and Biopharmaceutics/Pharmacokinetics; and

PHRM7202 Pharmaceutics IV: Sterile Products and Biopharmaceuticals.

PHRM8212

3 Credits

Obesity

This course will cover the broad subject of obesity from its epidemiology and associated co-morbidities to its physiological underpinnings and various available treatment options. Firstly, it will provide information regarding the prevalence of obesity along with important timelines. It will cover the complex interplay of various endogenous hormones that are involved in appetite regulation (affecting hunger and satiety). The biochemistry of adipocytes and their role in energy balance will be discussed. Current pharmacotherapeutic treatment options will be discussed along with a historical perspective of prior treatments and the reasons for their failure/withdrawal, as well as potential future targets for anti-obesity drugs. This course will also discuss non-pharmacological options to treating and preventing obesity, along with other topics of relevance to pharmacists such as drug-induced obesity and pharmacodynamics/pharmacokinetic issues in obese patients. Prerequisites: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics; PHRM6101 Foundations in Integrated Pharmacotherapy I: An Introduction to Pathophysiology, Genetics, Microbiology and Delivery of Care; and PHRM6301 Medical Communication and Technical Writing. Corequisite: PHRM8111 Integrated Pharmacotherapy IX–X: Conceptual Connections and Patient Care.

PHRM8213

3 Credits

Principles of Drug Design

This course introduces students to the process of molecular drug design during the early stages of preclinical discovery. The focus of this course is to engage students in the drug design and discovery process. In the first half of the course, students will be educated on the fundamentals of drug design, medicinal chemistry and molecular pharmacology in order to understand rational drug design. The course will examine several cases of drugs and drug candidates that were successfully designed using medicinal chemistry, structure-based drug design and computer-aided drug design. Students will also learn molecular modeling software through tutorials in order to examine drug-target interactions. Drug-design problems such as toxicity, off-target binding, thermodynamics, ADME issues and drug resistance will also be considered and examined at the molecular level. The course emphasizes drug-design project teams; the second half of the course is devoted to team-based learning for drug case studies and completion of a group project/presentation. By

the end of the course, students will be able to use fundamental knowledge and problem-solving abilities to rationally design a hypothetical drug (or drug class) based on a proposed pharmacophore and target structure. Prerequisite: PHRM6100 Foundations in Pharmaceutical Science: Pharmacology, Medicinal Chemistry, Pharmacokinetics.

PHRM8301

3 Credits

Pharmacoepidemiology, Pharmacoeconomics and Health Outcomes

This course is designed to familiarize students with the principles of pharmacoepidemiology and pharmacoeconomics. The course focuses on major areas of the evolving fields of pharmacoepidemiology and pharmacoeconomics with an emphasis on measuring health outcomes. It builds on and extends the skills and concepts learned in previous courses within the curriculum that are focused on the effectiveness of medication use at a population level (PHRM7301 Biostatistics, PHRM7302 Epidemiology and Study Design Evaluation, PHRM7401 Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology). The additional dimension of efficiency or cost relative to value of a given health benefit or outcome is introduced and developed. The role of pharmacoepidemiologic studies in post-marketing safety studies and communication of risk is covered as is the role of both pharmacoepidemiologic and pharmacoeconomic studies in the formulary process used for medication coverage by insurers. It is important for students to understand how to evaluate, interpret and apply medical research involving pharmaceutical care of individual patients and community or population health (public health) and use this information to aid their decision-making processes in pharmacy practice. The principles discussed and applied in this course will better prepare students to function in this capacity. Prerequisites: PHRM6301 Medical Communication and Technical Writing, PHRM6401 Professional Pharmacy Practice I: Health Care Delivery, PHRM7301 Biostatistics, PHRM7302 Epidemiology and Study Design Evaluation and PHRM7401 Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology.

PHRM8302

2 Credits

Public Health and the Global Mission of Pharmacy

The course covers the evolution and basic principles of public health, including focus on relevant public health care issues affecting populations in the United States. Additionally, global public health issues are highlighted, particularly those unique to populations in developing and emerging countries.

Information, principles and tools introduced in previous courses (PHRM6401 Professional Pharmacy Practice I: Health Care Delivery, PHRM7301 Biostatistics, PHRM7302 Epidemiology and Study Design Evaluation, PHRM7401 Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology and PHRM8301 Pharmacoepidemiology, Pharmacoeconomics and Health Outcomes) are reinforced and applied to public health topics, particularly those that pharmacists are likely to encounter in professional practice. Emphasis is given to emergency preparedness, public health improvement and disease prevention. The evolving roles of pharmacists in providing patient care and disease-management services to vulnerable populations and reducing health disparities in access to care are introduced. In particular, the role of pharmacists in improving public health, the charge for pharmacy in the United States public health service and interprofessional opportunities for pharmacists in public health initiatives such as Healthy People 2020 are explored. Prerequisites: PHRM6401 Professional Pharmacy Practice I: Health Care Delivery, PHRM7301 Biostatistics, PHRM7302 Epidemiology and Study Design Evaluation, PHRM7401 Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology and PHRM8301 Pharmacoepidemiology, Pharmacoeconomics and Health Outcomes.

PHRM8303

3 Credits

Research Methods and Data Analysis

This course provides students an opportunity to acquire research experiences in the field of health services research. Students will build up their research projects under the supervision of the faculty. A team-based learning approach will be utilized to foster an interactive learning experience. In this elective course, students will develop critical-thinking, problem-solving and decision-making skills. Prerequisite: PHRM7301 Biostatistics.

PHRM8321

1 Credit

Health Care Ethics and Team Decision Making

This course will introduce the students to the ethical issues that pharmacists and other health-care professionals have to consider when treating patients. Various topics related to clinical ethics, including informed consent, decisional capacity, do-not-resuscitate orders, surrogate decision-making, confidentiality, the distinction between research and clinical care and end-of-life care will be introduced. Ethical decision-making will be practiced in an interactive environment through case studies with teams of students from various health professions. Corequisite: PHRM8111 Integrated Pharmacotherapy IX–X: Conceptual Connections and Patient Care.

PHRM8401

3 Credits

Pharmacists' Careers in Pharmaceutical Industry

This course is designed for doctor of pharmacy students considering an internship, experiential rotation, additional degree options and/or postgraduate training, in preparation for a career within the pharmaceutical industry. Health care has undergone significant change within the past two decades with the advent of various managed-care delivery models, the growing influence of federal and state governments as purchasers, health care reform, increasing regulatory and patent complexities and dramatic innovation and adoption of technology in every facet of people's lives. In many emerging health care models, pharmacists are taking a more influential role on the health care team and this trend will likely continue. However, in some of the more traditional pharmacy-practice settings, the supply of pharmacists is outpacing demand. The result of the current employment landscape is that more student pharmacists than ever before are exploring nontraditional practice settings including the pharmaceutical industry. The pharmaceutical industry including all the organizations that support it offers exciting and professional challenges and opportunities for pharmacist graduates. Consistent with changing roles of pharmacists in traditional health-care practice settings, the industry has also undergone significant changes resulting in a growing diversity of positions that are being filled by pharmacists throughout the commercialization process of pharmaceutical products. This course will explore various aspects of pharmaceutical commercialization from development and regulatory approval to marketing and sales strategies through life-cycle management. Each functional department will be described and discussed with a focus on the roles, responsibilities and opportunities for pharmacists to successfully contribute and achieve high levels of professional satisfaction. Prerequisites: PHRM6301 Medical Communication and Technical Writing and PHRM6401 Professional Pharmacy Practice I: Health Care Delivery.

PHRM8402

2 Credits

Professional Pharmacy Practice IV: Pharmacy Leadership and Management

Pharmacy practice does not exist in isolation; organizational structures and cultures have an impact on the contemporary practice of pharmacy within an organization with various stakeholders taking an interest and having a voice in the professional practice of pharmacy. To be effective, pharmacists will need to be aware of a variety of managerial issues they will likely face as practitioners. As a complement to the clinical and professional expertise pharmacy students develop by completing integrated

pharmacotherapy, population health and previous professional pharmacy-practice courses, this course introduces basic administrative, business, managerial and leadership principles necessary for the effective and efficient delivery of patient-care goals. Application of these principles to pharmacy practice includes budgetary and financial considerations, marketing principles, personnel management, customer service, continuous quality assessment and performance improvement related to both improved value propositions and improved patient safety, as well as the use of technology in pharmacy practice. Risk management and the impact of compliance with state and federal laws and regulations and quality standards proposed by accrediting agencies on pharmacy management and leadership are explored. Prerequisites: PHRM6401 Professional Pharmacy Practice I: Health Care Delivery; PHRM6402 Professional Pharmacy Practice II: Communication in Health Care; and PHRM7401 Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology.

PHRM8403

3 Credits

An Introduction to Lean Six Sigma

This course introduces pharmacy students to the concepts and methods of Lean Six Sigma (LSS). LSS is a method that relies on effective teamwork to improve performance by decreasing waste and creating a lean enterprise. A framework of both Lean and Six Sigma tools will be covered providing a roadmap and diagnosis for workflow improvements and reduction in variability. The skills learned in this class will build capabilities that can help improve workflow and reduce errors in the pharmacy setting and organize processing in the pharmaceutical industry. Prerequisite: PHRM7301 Biostatistics. Corequisite: PHRM8402 Professional Pharmacy Practice IV: Pharmacy Leadership and Management.

PHRM8404

3 Credits

Medication Safety

While medication therapy has become the mainstay of disease treatment and prevention, errors involving medications can result in patient harm and death. This course expands on knowledge acquired in PHRM7401 Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology and PHRM8301 Pharmacoeconomics and Health Outcomes related to medication safety and the technology and tools used in error prevention. The student will also conduct case-study analyses of actual adverse drug events which include both medication errors and adverse drug reactions that have occurred in both the hospital and community-pharmacy settings. Prerequisites: PHRM7401 Professional Pharmacy Practice III: Drug Information,

Informatics and Toxicology and PHRM8301 Pharmacoeconomics and Health Outcomes.

PHRM8405

3 Credits

Medical Spanish for the Pharmacy Professional

This course prepares students to be effective listeners and communicators using the Spanish language with the objective to actively engage with Hispanic patients to facilitate medication utilization and adherence. Triage terminology and basic pharmacy vocabulary will be introduced in addition to self-care specific medical language relative to each chapter in the text *Spanish for the Medical Professional* (i.e. fever, cough, cold, etc). Active engagement techniques and essential competencies will be practiced via role-playing. Phrases and questions required for physical assessments in addition to aspects encompassing Hispanic Cultural Competencies will also be covered. Students will also be introduced to the National CLAS (Culturally and Linguistically Appropriate Services) Standards in order to provide a better understanding of the social and cultural aspects of the Hispanic community influencing beliefs and behaviors.

PHRM8700

0 Credits

Beyond the Curriculum/Preparing Practitioners (1)

In the first of the two-semester course sequence, students will have an opportunity to continue to engage in programs to learn more about the emerging areas of pharmacy in order to gain a deeper understanding of the evolving roles of pharmacists and the areas in which they can practice. Assessment of readiness to enter the world of professional pharmacy and career guidance for traditional and nontraditional pharmacist roles will be introduced. Prerequisites: PHRM7700 Beyond the Curriculum: Expanding Horizons (1) and PHRM7701 Beyond the Curriculum: Expanding Horizons (2).

PHRM8701

1 Credit

Beyond the Curriculum/Preparing Practitioners (2)

In this course, students will have an opportunity to continue to engage in programs to learn more about the emerging areas of pharmacy in order to gain a deeper understanding of the evolving roles of pharmacists and the areas in which they can practice. Assessment of readiness to enter the world of professional pharmacy and career guidance for traditional and nontraditional pharmacist roles will be provided. Prerequisites: PHRM7700 Beyond the Curriculum: Expanding Horizons (1) and PHRM7701 Beyond the Curriculum: Expanding Horizons (2).

PHRM8802

3 Credits

Health Information Exchange and Security

This course will provide an overview of the methods, issues and challenges surrounding the transmission, storage and preservation of health information data, including an overview of the regulatory processes that oversee exchange and security of medical information (i.e., HIPAA, Joint Commission) and a discussion on the concerns around disclosure, accountability and liability involving storage and transmission of data.

PHRM8804

3 Credits

Applied Clinical Data Analytics

This course teaches methodologies and technologies used heavily in the field of clinical analytics. Data-management principles, database foundations and aspects of the data pipeline are educated didactically before students begin to learn and utilize high-powered analytical tools such as Python, R and SQL. This course will heavily feature themes in health care as each of these tools and skills will be applied to real-world problems that data analytics is poised to help solve. Prerequisites: PHRM7801 Informatics and Information Systems and PHRM8802 Health Information Exchange and Security.

PHRM8806

3 Credits

Project Management

The purpose of this course is to integrate the essential components of project planning and management with health care information systems for health care leaders. The course will outline the process for developing, implementing and evaluating project plans as well as integration of communication and project life-cycle theory. Prerequisite: PHRM7401 Professional Pharmacy Practice III: Drug Information, Informatics and Toxicology.

PHRM8807

3 Credits

Human Factors in Informatics

Human Factors is a behavioral science with applications in almost every field, including ergonomics, software design, medical-device development and health care. By definition, this discipline is concerned with the interaction between humans and the systems with which they perform work. Increasingly, the processes that health care workers navigate are technologically laced and data-driven. This presents a perfect area for the expert informaticists to liaise. This course will investigate deeply how people interact with technology and data. Through comprehensive study, future informaticists will identify how best to apply technology to health care processes, how to manage change, best

practices in data exposition and useful instructional design techniques. While the bulk of this course deals with how people interact with technology, the class will also explore how programmatic reporting of outcomes influences the technologies and actions taken in health care. A focused exploration of mortality, readmissions and preventable harm will complement the practical use of technology students will be learning in other courses in the informatics sequence.

PHRM8808

3 Credits

Principles of Informatics in Population Health

Much of pharmacy and medicine is in the treatment of individual patients with specific medical needs and conditions. A major focus now and for the future is population-health management in order to prevent our populations from becoming ill and needing acute treatment. Informatics and analytics are a necessary force multiplier for providers and pharmacists to enhance decision-making and enable care for entire populations of people. Through this course students will learn the management of populations as well as the information systems and techniques to do so safely and efficiently. This integrated course will have multiple instructors covering a wide range of population and public health content areas, which may include practicing physicians, nurses, pharmacists and care-management specialists. Prerequisites: PHRM7801 Informatics and Information Systems and PHRM8802 Health Information Exchange and Security.

PHRM8810

3 Credits

Medical and Clinical Report Writing

This course provides a basic overview of the necessary means of communication for the clinical research professional, including methods for documentation, presentation of data and reporting of results. Focused attention will be paid to developing approaches for communication that allows for effective information transfer to a broad and diverse set of audiences, including patients, physicians, nurses, pharmacists, researchers and the general public. Prerequisite: PHRM7302 Epidemiology and Study Design Evaluation. Note: For pharmacy students only.

PHRM8811

2 Credits

Ethics of Health Care Research

The student will examine the ethical issues that confront health care providers and patients. The medical, scientific, moral and socioeconomic bases of these issues and the decision-making process that providers and patients engage in are analyzed. Topics include informed consent, the role of institutional review boards,

euthanasia and the allocation of scarce resources.

PHRM8812

3 Credits

Clinical Trial Research Administration

This course provides a focused overview on the logistic and operational factors in conducting and completing a clinical research study. This includes discussion on the responsibilities and relationships for each of the professionals and parties involved in bringing the study from conceptualization through implementation and into the phase of data evaluation and report writing.

PHRM8821

3 Credits

Regulatory Compliance for Pharmaceuticals

This course will review the regulatory pathways for drugs, biologics, biosimilars, medical devices and other pharmaceutical and biotechnology areas of awareness. Discussions on compliance strategies, risks and processes within each framework will provide insight into the challenges (financial, ethical and procedural) facing each industry and area.

PHRM8822

3 Credits

U.S. Regulatory New Drug Application Submission and Dossier Preparation

This course will review steps and consideration in preparing a New Drug Application (NDA) submission to the U.S. Food and Drug Administration (FDA). Students will become knowledgeable on terminology used in NDA submission process in an electronic (e) Common Technical Document (CTD) format, Extensive Markup Language (XML) backbone, portable document format (PDF) file, structured product labeling format (SPL) for U.S. package-insert labeling, what area and statistical analysis systems (SAS) transport files. The course will provide a fundamental understanding of the different types of NDAs to file for under Section 505 of the Federal Food and Drug and Cosmetic Act for marketing authorization in the United States and describe the components and essential documents necessary for inclusion in an NDA submission. Students will learn how to consider key sections and data within the U.S. NDA submission for consideration of global regulatory submissions outside of the U.S. by using the CTD format and International Conference on Harmonization (ICH) principles.

PHRM9101

5 Credits

Advanced Pharmacy Practice Experience (APPE) I: Community

This is an advanced practice experience course building on the student's prior knowledge and practice in the community-care setting. The

student will spend full-time hours (40 plus hours per week) for five weeks focusing on patient-centered pharmacy practice in a community-pharmacy setting. Acquisition of new knowledge and skills in providing primary patient care and development of confidence in clinical decision making and managing individual and population care is the goal of this practice course. This course prepares students to be critical thinkers who will continually build their knowledge across the curriculum as they engage in practice experiences.

PHRM9102

5 Credits

Advanced Pharmacy Practice Experience (APPE) II: Institutional

This advanced institutional pharmacy practice experience will provide students with the opportunity to apply knowledge acquired during the didactic portion of the curriculum and build upon skills and competencies gained through earlier introductory pharmacy practice experiences. With a focus on the central pharmacy and distributive areas of an inpatient pharmacy, students will participate in clinical, distributive and administrative functions of pharmacists. Throughout the experience, students will engage in all aspects of hospital/health system pharmacy, including the medication-use process, quality assurance, medication safety, interprofessional collaboration, observation and/or participation in sterile and nonsterile product preparation and patient-care activities. Through this hands-on experience, the student will progress from the student-pharmacist level to developing the competencies necessary to become a practicing pharmacist accountable for pharmacist-delivered, patient-centered care. Students are expected to be at the site a minimum of eight hours a day, five days a week for five consecutive weeks. Students must adhere to the schedule established by the preceptor.

PHRM9103

5 Credits

Advanced Pharmacy Practice Experience (APPE) III: Ambulatory Care

This is an advanced pharmacy practice experience focusing on the application of didactic course work and acquired patient-care skills to the care of ambulatory-care patients. Students will be active participants in the delivery of high-quality care to patients through patient counseling, drug-therapy monitoring and the development of patient-education material. Students will collaborate with other health care professionals as active participants in the drug therapy decision-making process. Acquisition of new knowledge and skills in providing primary patient care and development of confidence in clinical decision making is the goal of this practice course. Students are expected to be

present at the site for a minimum of eight hours a day, five days per week for five consecutive weeks. Students must adhere to the schedule established by the preceptor.

PHRM9104

5 Credits

Advanced Pharmacy Practice Experience (APPE) IV: Acute Care

This acute-care pharmacy practice experience will enable students to integrate skills and knowledge gained during the didactic portion of the curriculum and apply this knowledge and skills to optimize drug-therapy management and medication safety in an acute-care medical setting. Students will establish their understanding of the role of a pharmacist as a clinical provider and as an integrated member of the health care team. Students will evaluate and identify medication-related problems and formulate clinical solutions to provide care for patients in an acute-care setting. Students will contribute to effective patient-care delivery while simultaneously gaining an appreciation and respect for the roles of each health professional within an interprofessional team. Throughout the course, students will be exposed to a variety of disease states and differing levels of medical acuity. Students will utilize their knowledge of therapeutics and health disparities to communicate with patients and health care providers to positively impact patient outcomes, prevent adverse events and assure safe medication use. Students are expected to be at the site a minimum of eight hours a day, five days a week for five consecutive weeks. Students must adhere to the schedule established by the preceptor.

PHRM9201

5 Credits

Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Practice I

The five-credit advanced community advanced pharmacy practice experience surrounds various aspects of medication dispensing encompassing the delivery patient-centered care and effective medication management. The primary focus of this experience is patient assessment, counseling and education, medication therapy, disease-state management and documentation of patient information and interventions. The Advanced Community Advanced Pharmacy Practice Elective Experience is a five-credit, full-time (40 hours per week for five weeks) course affording students a pharmacy-practice setting in which to further develop their skills and competencies acquired in their introductory community experience. This experience contributes to the integration of clinical knowledge and skills with the basics of medication dispensing and control.

PHRM9202

5 Credits

Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Practice II

The five-credit community practice advanced pharmacy practice experience surrounds various aspects of medication dispensing encompassing the delivery of patient-centered care and effective medication management. The primary focus of this experience is patient assessment, counseling and education, medication therapy, disease-state management and documentation of patient information and interventions. This full-time (40 hours per week for five weeks) course affords students a pharmacy-practice setting in which to further develop their skills and competencies acquired in their introductory community experience. This experience contributes to the integration of clinical knowledge and skills with the basics of medication dispensing and control.

PHRM9203

5 Credits

Advanced Pharmacy Practice Experience (APPE) V: Elective – Ambulatory Care I

The five-credit ambulatory care advanced pharmacy practice experience affords students the ability to enhance their skills and competencies in the provision of medication-therapy management and pharmaceutical care in an ambulatory/outpatient clinical setting. The experience emphasizes appropriate identification, resolution and prevention of drug-related problems, as well as effective communication with patients and interprofessional allied health professionals. Competencies enhanced and acquired include patient counseling and education, drug information, written and verbal communication, assessment and documentation of interventions, patient-care services and therapy and the appreciation for the pharmacist's role in patient-centered care and promotion of rational and effective drug therapy.

PHRM9204

5 Credits

Advanced Pharmacy Practice Experience (APPE) V: Elective – Ambulatory Care II

The five-credit ambulatory care advanced pharmacy practice experience affords students the ability to enhance their skills and competencies in the provision of medication-therapy management and pharmaceutical care in an ambulatory/outpatient clinical setting. The experience emphasizes appropriate identification, resolution and prevention of drug-related problems, as well as effective communication with patients and interprofessional allied health professionals. Competencies enhanced and acquired include

Pharmacy

patient counseling and education, drug information, written and verbal communication, assessment and documentation of interventions, patient-care services and therapy, and the appreciation for the pharmacist's role in patient-centered care and promotion of rational and effective drug therapy.

PHRM9205

5 Credits

Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Compounding I

The five-credit community compounding advanced pharmacy practice experience is an elective rotation in a community pharmacy specializing in compounding extemporaneous (patient-specific) drug products. In addition to the preparation and compounding of patient-specific dosage forms, the experience will also encompass the provision of medication-therapy management and individualized medication instructions to enhance medication compliance.

PHRM9206

5 Credits

Advanced Pharmacy Practice Experience (APPE) V: Elective – Community Compounding II

The five-credit community compounding advanced pharmacy practice experience is an elective rotation in a community pharmacy specializing in compounding extemporaneous (patient-specific) drug products. In addition to the preparation and compounding of patient-specific dosage forms, the experience will also encompass the provision of medication therapy management and individualized medication instructions to enhance medication compliance.

PHRM9207

5 Credits

Advanced Pharmacy Practice Experience (APPE) V: Elective – Medication Therapy Management I

The five-credit medication therapy management advanced pharmacy practice experience is an elective clinical rotation affording students the ability to acquire and enhance essential competencies and skills in the identification, prevention and resolution of medication-related problems in addition to effective methods in patient and interprofessional communication to optimize therapeutic outcomes. Medication-therapy management skills developed encompass comprehensive medication review, patient education, written and verbal communication skills and assessment and documentation of medication-related services and therapies.

PHRM9208

5 Credits

Advanced Pharmacy Practice Experience (APPE) V: Elective – Medication Therapy Management II

The five-credit medication therapy management advanced pharmacy practice experience is an elective clinical rotation affording students the ability to acquire and enhance essential competencies and skills in the identification, prevention and resolution of medication-related problems in addition to effective methods in patient and interprofessional communication to optimize therapeutic outcomes. Medication-therapy management skills developed encompass comprehensive medication review, patient education, written and verbal communication skills and assessment and documentation of medication-related services and therapies.

PHRM9209

5 Credits

Advanced Pharmacy Practice Experience (APPE) V: Elective – HIV/AIDS I

The five-credit HIV/AIDS advanced pharmacy practice experience is a clinical elective rotation that introduces the student to the care and treatment of patients in the various stages of the disease state. Since many patients with HIV/AIDS experience numerous complications as their disease progresses, students will learn how to prevent and/or treat these complications in this specific patient population. This rotation may take place in an inpatient or outpatient setting.

PHRM9210

5 Credits

Advanced Pharmacy Practice Experience (APPE) V: Elective – HIV/AIDS II

The five-credit HIV/AIDS advanced pharmacy practice experience is a clinical elective rotation that introduces the student to the care and treatment of patients in the various stages of the disease state. Since many patients with HIV/AIDS experience numerous complications as their disease progresses, students will learn how to prevent and/or treat these complications in this specific patient population. This rotation may take place in an inpatient or outpatient setting.

PHRM9211

5 Credits

Advanced Pharmacy Practice Experience (APPE) V: Elective – Home Infusion I

The five-credit home infusion advanced pharmacy practice experience is an elective clinical rotation in a setting that provides home health care services. The student will acquire and enhance competencies and skills surrounding the pharmacist's responsibilities in

preparation of home-parenteral products including home-parenteral nutrition, home chemotherapy, hospice-care products and medications and necessary medical device equipment for the patient to be managed at home. The experience will also include involvement in participation in home-infusion assessment activities, inventory and quality control of products and patient-discharge consultations along with exposure to various infusion pumps and related home-care parenteral devices utilized in the home-infusion environment.

PHRM9212

5 Credits

Advanced Pharmacy Practice Experience (APPE) V: Elective – Home Infusion II

The five-credit home infusion advanced pharmacy practice experience is an elective clinical rotation in a setting that provides home health care services. The student will acquire and enhance competencies and skills surrounding the pharmacist's responsibilities in preparation of home-parenteral products including home-parenteral nutrition, home chemotherapy, hospice-care products and medications and necessary medical device equipment for the patient to be managed at home. The experience will also include involvement in participation in home-infusion assessment activities, inventory and quality control of products and patient-discharge consultations along with exposure to various infusion pumps and related home-care parenteral devices utilized in the home-infusion environment.

PHRM9301

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Hospital Practice I

The five-credit Hospital Advanced Pharmacy Practice Experience is an inpatient hospital rotation which provides a setting for the provision of pharmaceutical care encompassing medication-management process relative to medication-order entry, preparation, distribution and control of medications, medication interventions, monitoring and control affording the integration of critical thinking problem-solving clinical skills and interprofessional communication.

PHRM9302

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Hospital Practice II

The five-credit Hospital Advanced Pharmacy Practice Experience is an inpatient hospital rotation which provides a setting for the provision of pharmaceutical care encompassing medication-management process relative to

medication-order entry, preparation, distribution and control of medications, medication interventions, monitoring and control affording the integration of critical thinking problem-solving clinical skills and interprofessional communication.

PHRM9303

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Acute Care I

The five-credit acute care advanced pharmacy practice experience is an elective clinical rotation providing students an opportunity to provide medication-therapy management and pharmaceutical care to adult patients in an inpatient acute-care environment. The acute-care experience prepares the student to evaluate drug-therapy problems from a patient-centered care perspective engaging in interprofessional collaboration to gain an appreciation for the wide variety of disease states and therapeutic problems encountered routinely which encompass clinical management and monitoring of patients' disease states and medication therapy.

PHRM9304

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Acute Care II

The five-credit acute care advanced pharmacy practice experience is an elective clinical rotation providing students an opportunity to provide medication-therapy management and pharmaceutical care to adult patients in an inpatient acute-care environment. The acute care experience prepares the student to evaluate drug-therapy problems from a patient-centered care perspective engaging in interprofessional collaboration to gain an appreciation for the wide variety of disease states and therapeutic problems encountered routinely, which encompass clinical management and monitoring of patients' disease states and medication therapy.

PHRM9305

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Long Term Care I

The five-credit long-term care advanced pharmacy practice experience is an elective clinical rotation enabling students to acquire and enhance skills and competence in the distribution of medication; provision of medication-therapy management; and consulting services to residents of nursing home facilities, subacute care and assisted-living facilities, psychiatric hospitals, hospice and home- and community-based care.

PHRM9306

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Long Term Care II

The five-credit long-term care advanced pharmacy practice experience is an elective clinical rotation enabling students to acquire and enhance skills and competence in the distribution of medication; provision of medication-therapy management; and consulting services to residents of nursing home facilities, subacute care and assisted-living facilities, psychiatric hospitals, hospice and home- and community-based care.

PHRM9307

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Infectious Disease I

The five-credit infectious disease advanced pharmacy practice experience is an elective clinical rotation affording students the ability to acquire and enhance competency and proficiency in the medical management of patients with infectious diseases in the hospitalized setting.

PHRM9308

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Infectious Disease II

The five-credit infectious disease advanced pharmacy practice experience is an elective clinical rotation affording students the ability to acquire and enhance competency and proficiency in the medical management of patients with infectious diseases in the hospitalized setting.

PHRM9309

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Oncology I

The five-credit hematology/oncology advanced pharmacy practice experience is an elective clinical rotation enabling students to acquire and enhance competencies and skills encompassing the provision of pharmaceutical care for oncology patients. The student will gain an in-depth knowledge and understanding of antineoplastics, toxicity management, supportive/palliative care and administrative oncology pharmacist functions surrounding patient-centered oncology medication management. This rotation may be completed in an acute-care setting or an ambulatory-care setting.

PHRM9310

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Oncology II

The five-credit hematology/oncology advanced pharmacy practice experience is an elective clinical rotation enabling students to acquire and enhance competencies and skills encompassing the provision of pharmaceutical care for oncology patients. The student will gain an in-depth knowledge and understanding of antineoplastics, toxicity management, supportive/palliative care and administrative oncology pharmacist functions surrounding patient-centered oncology medication management. This rotation may be completed in an acute-care setting or an ambulatory-care setting.

PHRM9311

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Critical Care I

The five-credit critical care advanced pharmacy practice experience is a clinical elective rotation enabling students to acquire and enhance competencies in patient medical management in the intensive-care unit of a hospital. The experience will encompass experiences in pharmacotherapy management of medical, surgical and trauma patients exposing students to a multidisciplinary-team approach actively demonstrating the importance of interprofessional communication and working collaboratively with physicians, nurses and respiratory therapists and other health care professionals.

PHRM9312

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Critical Care II

The five-credit critical care advanced pharmacy practice experience is a clinical elective rotation enabling students to acquire and enhance competencies in patient medical management in the intensive-care unit of a hospital. The experience will encompass experiences in pharmacotherapy management of medical, surgical and trauma patients exposing students to a multidisciplinary-team approach actively demonstrating the importance of interprofessional communication and working collaboratively with physicians, nurses and respiratory therapists and other health care professionals.

PHRM9313

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Cardiology I

The five-credit cardiology advanced pharmacy practice experience is an elective clinical rotation that will develop and enhance the student's ability to make rational decisions surrounding proficient use of cardiovascular medications affecting the cardiovascular system. The student will acquire specialized knowledge encompassing major cardiovascular disease states, invasive and noninvasive cardiovascular diagnostic techniques and the pharmacology, pharmacokinetics and the clinical use of cardiac drugs. This rotation setting is primarily inpatient, but may be based in an ambulatory setting or a combination of both.

PHRM9314

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Cardiology II

The five-credit cardiology advanced pharmacy practice experience is an elective clinical rotation that will develop and enhance the student's ability to make rational decisions surrounding proficient use of cardiovascular medications affecting the cardiovascular system. The student will acquire specialized knowledge encompassing major cardiovascular disease states, invasive and noninvasive cardiovascular diagnostic techniques and the pharmacology, pharmacokinetics and clinical use of cardiac drugs. This rotation setting is primarily inpatient, but may be based in an ambulatory setting or a combination of both.

PHRM9315

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Behavioral Health I

The five-credit behavioral health advanced pharmacy practice experience is an elective clinical rotation offering students the opportunity to provide medication-therapy management to mentally ill patients in an inpatient acute care or outpatient setting. The student will collaborate interprofessionally with members of the mental health care team and engage in patient monitoring, therapeutic decisions regarding drug therapy, patient-medication counseling and provision of drug information to team members. The behavioral health APPE provides students an opportunity to actively communicate with the mental health care team and their patients in an effort to understand the impact and effects of psychiatric medication.

PHRM9316

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Behavioral Health II

The five-credit behavioral health advanced pharmacy practice experience is an elective clinical rotation offering students the opportunity to provide medication-therapy management to mentally ill patients in an inpatient acute care or outpatient setting. The student will collaborate interprofessionally with members of the mental health care team and engage in patient monitoring, therapeutic decisions regarding drug therapy, patient-medication counseling and provision of drug information to team members. The behavioral health APPE provides students an opportunity to actively communicate with the mental health care team and their patients in an effort to understand the impact and effects of psychiatric medication.

PHRM9317

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Transitions of Care I

This five-credit elective will grant students the opportunity to participate in the emerging field of transitions of care, which is intended to improve continuity of care from the inpatient setting to the home. A primary goal of this experience is to reduce 30-day readmission rates by targeting high-risk populations including patients with congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), atrial fibrillation, uncontrolled diabetes, uncontrolled hypertension, multiple medications, as well as patients with insurance issues, medication compliance and/or dietary challenges. By providing the patient with education, tools for adherence to diet and medications and helping patients and/or caregivers to coordinate social and medical necessities, the patients are enabled to remain healthy and medically stable once discharged from the hospital. Students are expected to be at the site a minimum of eight hours a day, five days a week for five consecutive weeks. Students must adhere to the schedule established by the preceptor.

PHRM9318

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Transitions of Care II

This five-credit elective will grant students the opportunity to participate in the emerging field of transitions of care, which is intended to improve continuity of care from the inpatient setting to the home. A primary goal of this experience is to reduce 30-day readmission rates by targeting high-risk populations including patients with congestive heart failure (CHF),

chronic obstructive pulmonary disease (COPD), atrial fibrillation, uncontrolled diabetes, uncontrolled hypertension, multiple medications, as well as patients with insurance issues, medication compliance and/or dietary challenges. By providing the patient with education, tools for adherence to diet and medications and helping patients and/or caregivers to coordinate social and medical necessities, the patients are enabled to remain healthy and medically stable once discharged from the hospital. Students are expected to be at the site a minimum of eight hours a day, five days a week for five consecutive weeks. Students must adhere to the schedule established by the preceptor.

PHRM9319

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Nutrition Support I

This five-credit elective will focus on enteral nutrition (total enteral nutrition and medication administration via feeding tubes) and parenteral nutrition (clinical and compounding). By working with the interdisciplinary team, including nurses, speech-language pathologists, dietitians, prescribers and others, the student pharmacist will manage adult inpatients (medical, surgical and critically ill) receiving nutrition support enterally or parenterally. The student pharmacist may also manage NICU and pediatric patients receiving nutrition support. Note that nutrition support is NOT nutrition. This rotation is not intended for student pharmacists interested in oral nutrition, such as body building, herbal supplementation, diets and so on. The definition of nutrition support can be found online at the American Society of Parenteral and Enteral Nutrition (ASPEN) at: http://www.nutriticare.org/About_Clinical_Nutrition/What_is_Nutrition_Support_Therapy/. Students are expected to be at the site a minimum of eight hours a day, five days a week for five consecutive weeks. Students must adhere to the schedule established by the preceptor.

PHRM9320

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Nutrition Support II

This five-credit elective will focus on enteral nutrition (total enteral nutrition and medication administration via feeding tubes) and parenteral nutrition (clinical and compounding). By working with the interdisciplinary team, including nurses, speech-language pathologists, dietitians, prescribers and others, the student pharmacist will manage adult inpatients (medical, surgical and critically ill) receiving nutrition support enterally or parenterally. The student pharmacist may also manage NICU and pediatric patients receiving nutrition support.

Note that nutrition support is NOT nutrition. This rotation is not intended for student pharmacists interested in oral nutrition, such as body building, herbal supplementation, diets and so on. The definition of nutrition support can be found online at the American Society of Parenteral and Enteral Nutrition (ASPEN) at: http://www.nutritioncare.org/About_Clinical_Nutrition/What_is_Nutrition_Support_Therapy/. Students are expected to be at the site a minimum of eight hours a day, five days a week for five consecutive weeks. Students must adhere to the schedule established by the preceptor.

PHRM9321

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Emergency Medicine I

This five-credit elective will focus on exposing students to the role of the clinical pharmacist in the emergency department. Under preceptor supervision, students will have the opportunity to respond to adult and pediatric emergencies, perform antimicrobial stewardship interventions, serve as a drug-information resource, provide patient counseling and medication reconciliation, review patient cases for optimization of therapy, monitor for clinical response and verify medication orders. Students are expected to be at the site a minimum of eight hours a day, five days a week for five consecutive weeks. Students must adhere to the schedule established by the preceptor.

PHRM9322

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Emergency Medicine II

This five-credit elective will focus on exposing students to the role of the clinical pharmacist in the emergency department. Under preceptor supervision, students will have the opportunity to respond to adult and pediatric emergencies, perform antimicrobial stewardship interventions, serve as a drug-information resource, provide patient counseling and medication reconciliation, review patient cases for optimization of therapy, monitor for clinical response and verify medication orders. Students are expected to be at the site a minimum of eight hours a day, five days a week for five consecutive weeks. Students must adhere to the schedule established by the preceptor.

PHRM9323

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Geriatrics I

This five-credit elective will focus on the elderly population, defined as patients 65 years and older. By working with the multidisciplinary team, including nurses, case managers,

prescribers and others dedicated to this patient population, the student pharmacist will manage adult inpatients. Students will identify medication-related problems and formulate clinical solutions to provide optimal care for all patients that meet criteria (inpatients >65 years old). Students will contribute daily to effective patient-care delivery while developing respect for the elderly population. Students are expected to be at the site a minimum of eight hours a day, five days a week for five consecutive weeks. Students must adhere to the schedule established by the preceptor.

PHRM9324

5 Credits

Advanced Pharmacy Practice Experience (APPE) VI: Elective – Geriatrics II

This five-credit elective will focus on the elderly population, defined as patients 65 years and older. By working with the multidisciplinary team, including nurses, case managers, prescribers and others dedicated to this patient population, the student pharmacist will manage adult inpatients. Students will identify medication-related problems and formulate clinical solutions to provide optimal care for all patients that meet criteria (inpatients >65 years old). Students will contribute daily to effective patient-care delivery while developing respect for the elderly population. Students are expected to be at the site a minimum of eight hours a day, five days a week for five consecutive weeks. Students must adhere to the schedule established by the preceptor.

PHRM9401

5 Credits

Advanced Pharmacy Practice Experience (APPE) VII: Elective – Drug Information I

This five-credit drug information advanced pharmacy practice experience affords students the experience to acquire skills and competencies necessary to competently and efficiently receive questions, identify relevant information and provide evidence-based recommendations surrounding appropriate drug therapy to pharmacists and other health care professionals. Emphasis is placed on the overall processing of drug-information requests encompassing initial inquiries, collection of background information, systematic drug searches and provision of critical analysis of medical literature. The student will develop and enhance knowledge and understanding of relevant practice resources and the development of critical evaluation skills in the provision of drug information. Opportunities may be presented for students to become involved with drug evaluation for formulary consideration and inclusion, quality assurance/drug-usage evaluation activities, news publications, scholarly activities and Pharmacy and Therapeutics Committee support.

PHRM9402

5 Credits

Advanced Pharmacy Practice Experience (APPE) VII: Elective – Drug Information II

This five-credit drug information advanced pharmacy practice experience affords students the experience to acquire skills and competencies necessary to competently and efficiently receive questions, identify relevant information and provide evidence-based recommendations surrounding appropriate drug therapy to pharmacists and other health care professionals. Emphasis is placed on the overall processing of drug-information requests encompassing initial inquiries, collection of background information, systematic drug searches and provision of critical analysis of medical literature. The student will develop and enhance knowledge and understanding of relevant practice resources and the development of critical evaluation skills in the provision of drug information. Opportunities may be presented for students to become involved with drug evaluation for formulary consideration and inclusion, quality assurance/drug-usage evaluation activities, news publications, scholarly activities and Pharmacy and Therapeutics Committee support.

PHRM9403

5 Credits

Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medication Safety I

The five-credit medication safety advanced pharmacy practice experience is an elective rotation that will enable students to become familiar with the key principles utilized in hospitals, health systems and medical device and pharmaceutical companies to improve medication safety. The rotation is designed to expose students to medication-safety nomenclature, key principles, safety devices and available resources. Students will participate in various activities designed to improve their working knowledge and experience with medication-safety concepts. The rotation will provide the student opportunities in which to apply acquired and enhanced knowledge to reduce patient-safety risks, optimize the safe function of medication-management systems and align pharmacy services with national initiatives that measure and reward quality performance and improve medication safety for patients.

PHRM9404

5 Credits

Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medication Safety II

The five-credit medication safety advanced pharmacy practice experience is an elective rotation that will enable students to become

Pharmacy

familiar with the key principles utilized in hospitals, health systems and medical device and pharmaceutical companies to improve medication safety. The rotation is designed to expose students to medication-safety nomenclature, key principles, safety devices and available resources. The student will participate in various activities designed to improve their working knowledge and experience with medication-safety concepts. The rotation will provide the student opportunities in which to apply acquired and enhanced knowledge to reduce patient-safety risks, optimize the safe function of medication-management systems and align pharmacy services with national initiatives that measure and reward quality performance and improve medication safety for patients.

PHRM9405

5 Credits

Advanced Pharmacy Practice Experience (APPE) VII: Elective – Managed Care I

The five-credit managed care advanced pharmacy practice experience is an elective clinical rotation in which the student will acquire and enhance competencies and skills in the application of managed-care pharmacy principles relative to pharmacoeconomics and cost-effective, medication-therapy management within contemporary managed-care health systems. This rotation may take place at health insurance, pharmacy benefits management (PBM) organizations as well as other sites providing formulary management and evaluation.

PHRM9406

5 Credits

Advanced Pharmacy Practice Experience (APPE) VII: Elective – Managed Care II

The five-credit managed care advanced pharmacy practice experience is an elective clinical rotation in which the student will acquire and enhance competencies and skills in the application of managed-care pharmacy principles relative to pharmacoeconomics and cost-effective, medication-therapy management within contemporary managed-care health systems. This rotation may take place at health insurance, pharmacy benefits management (PBM) organizations as well as other sites providing formulary management and evaluation.

PHRM9407

5 Credits

Advanced Pharmacy Practice Experience (APPE) VII: Elective – Specialty Pharmacy I

The five-credit specialty pharmacy elective is designed to offer the student experience in a specialty-pharmacy practice setting which

provides services above and beyond those typically offered at the community-practice level as part of their standard of care. The student will engage in acquiring competencies in specialty pharmacy areas encompassing adherence/compliance management, benefits investigation, interprofessional communication with prescribing physicians, dispensing of specialty pharmaceuticals and shipping coordination, enrollment in patient-assistance programs, financial assistance, patient education and medication-adverse-effect counseling, patient monitoring for safety and efficacy, payer and/or manufacturer reporting, proactive patient outreach for prescription refill and renewal, prior authorization assistance in order to collect and analyze patient information for the development of evidence-based treatment plans in the specialty-pharmacy practice settings.

PHRM9408

5 Credits

Advanced Pharmacy Practice Experience (APPE) VII: Elective – Specialty Pharmacy II

The five-credit specialty pharmacy elective is designed to offer the student experience in a specialty-pharmacy practice setting which provides services above and beyond those typically offered at the community-practice level as part of their standard of care. The student will engage in acquiring competencies in specialty pharmacy areas encompassing adherence/compliance management, benefits investigation, interprofessional communication with prescribing physicians, dispensing of specialty pharmaceuticals and shipping coordination, enrollment in patient-assistance programs, financial assistance, patient education and medication-adverse-effect counseling, patient monitoring for safety and efficacy, payer and/or manufacturer reporting, proactive patient outreach for prescription refill and renewal, prior authorization assistance in order to collect and analyze patient information for the development of evidence-based treatment plans in the specialty-pharmacy practice settings.

PHRM9409

5 Credits

Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medical Device/Patient Safety I

The five-credit medical devices and patient safety elective is designed to offer the student various experiences within a medical-device company whose products and services encompass the provision of safe and efficacious medical devices impacting patient safety.

PHRM9410

5 Credits

Advanced Pharmacy Practice Experience (APPE) VII: Elective – Medical Device/Patient Safety II

The five-credit medical devices and patient safety elective is designed to offer the student various experiences within a medical-device company whose products and services encompass the provision of safe and efficacious medical devices impacting patient safety.

PHRM9501

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Public Health I

The five-credit public health advanced pharmacy practice experience is an elective pharmacy rotation which provides the students with opportunities to participate in specified public health activities with an identified public health partner. Experiences in the rotation will introduce students to and expand their knowledge of pertinent principles and practices of public health impacting pharmacist practitioners. Experiences are intended to prepare and motivate new practitioners to participate in partnerships serving the vested public health interests.

PHRM9502

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Public Health II

The five-credit public health advanced pharmacy practice experience is an elective pharmacy rotation which provides the students with opportunities to participate in specified public health activities with an identified public health partner. Experiences in the rotation will introduce students to and expand their knowledge of pertinent principles and practices of public health impacting pharmacist practitioners. Experiences are intended to prepare and motivate new practitioners to participate in partnerships serving the vested public health interests.

PHRM9503

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Industry I

The five-credit industry advanced pharmacy practice experience is an elective rotation affording the student the opportunity to acquire knowledge and understanding of various responsibilities of the industry pharmacist. The experience will involve student observation and engagement in various activities surrounding the drug industry, such as research and development, manufacturing quality control, clinical trials, medical affairs, marketing and regulatory affairs.

PHRM9504

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Industry II

The five-credit industry advanced pharmacy practice experience is an elective rotation affording the student the opportunity to acquire knowledge and understanding of various responsibilities of the industry pharmacist. The experience will involve student observation and engagement in various activities surrounding the drug industry, such as research and development, manufacturing quality control, clinical trials, medical affairs, marketing and regulatory affairs.

PHRM9505

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Research I

The five-credit research advanced pharmacy practice experience is an elective rotation designed to provide students opportunities to acquire and enhance experiences in research design and development, performance of experiments, data collection and analysis, peer-review processes and animal- or human-research regulations.

PHRM9506

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Research II

The five-credit research advanced pharmacy practice experience is an elective rotation designed to provide students opportunities to acquire and enhance experiences in research design and development, performance of experiments, data collection and analysis, peer-review processes and animal- or human-research regulations.

PHRM9507

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Marketing I

The five-credit marketing advanced pharmacy practice experience is an elective rotation affording students interested in the pharmacy marketing arena to become familiar with various marketing activities directed toward establishing, developing and maintaining successful customer and patient relationships. In the organizational setting, students will acquire knowledge surrounding promotional programs, direct mailings, customer database oversight and educational training materials. In the patient-care pharmacy setting, students will be

exposed to relationship marketing relative to attracting, maintaining and enhancing patient relationships and educational materials to create mutual benefit for the pharmacist and patient.

PHRM9508

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Marketing II

The five-credit marketing advanced pharmacy practice experience is an elective rotation affording students interested in the pharmacy marketing arena to become familiar with various marketing activities directed toward establishing, developing and maintaining successful customer and patient relationships. In the organizational setting, students will acquire knowledge surrounding promotional programs, direct mailings, customer database oversight and educational training materials. In the patient-care pharmacy setting, students will be exposed to relationship marketing relative to attracting, maintaining and enhancing patient relationships and educational materials to create mutual benefit for the pharmacist and patient.

PHRM9509

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Patient Advocacy I

The five-credit patient advocacy advanced pharmacy practice experience is an elective rotation in which the student gains knowledge and understanding in the various beneficial medication and health-related services provided to the public positively impacting human and community health care needs. The student will work with various community organizations providing health care to clients in a variety of settings such as free clinics, community health centers, refugee/migrant health centers, homecare, senior centers, mental health programs, drug/alcohol crisis programs, health associations and homeless clinics/shelters.

PHRM9510

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Patient Advocacy II

The five-credit patient advocacy advanced pharmacy practice experience is an elective rotation in which the student gains knowledge and understanding in the various beneficial medication and health-related services provided to the public positively impacting human and community health care needs. The student will work with various community organizations providing health care to clients in a variety of settings such as free clinics, community health centers, refugee/migrant health centers, homecare, senior centers, mental health programs, drug/alcohol crisis programs, health associations and homeless clinics/shelters.

PHRM9511

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Health Care Organization Management I

The five-credit health care organization management advanced pharmacy practice experience is an elective pharmacy rotation that provides experience in national or local pharmacy association activities and operations, interorganizational affairs, government affairs, health and education policy, institutional research and related programmatic fields. Pharmacy students will acquire knowledge and understanding from participation in the management activities of professional organizations as they work to balance the needs of their members and simultaneously represent pharmacy to other constituencies encompassing third-party payers and governmental agencies.

PHRM9512

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Health Care Organization Management II

The five-credit health care organization management advanced pharmacy practice experience is an elective pharmacy rotation that provides experience in national or local pharmacy association activities and operations, interorganizational affairs, government affairs, health and education policy, institutional research and related programmatic fields. Pharmacy students will acquire knowledge and understanding from participation in the management activities of professional organizations as they work to balance the needs of their members and simultaneously represent pharmacy to other constituencies encompassing third-party payers and governmental agencies.

PHRM9513

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Informatics I

The five-credit informatics advanced pharmacy practice experience is an elective rotation which focuses on the fundamentals of pharmacy informatics such as pharmacy automation technology and information systems in a hospital setting. This rotation is beneficial to students who are interested in hospital pharmacy practice or those interested in specializing in pharmacy informatics.

Political Science

PHRM9514

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Informatics II

The five-credit informatics advanced pharmacy practice experience is an elective rotation which focuses on the fundamentals of pharmacy informatics such as pharmacy automation technology and information systems in a hospital setting. This rotation is beneficial to students who are interested in hospital pharmacy practice or those interested in specializing in pharmacy informatics.

PHRM9515

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Management I

The five-credit management elective is designed to offer the student advanced experience in the management of pharmacy practice in various settings. Students will be expected to apply knowledge and skills in order to manage inventory; contracts; reimbursement; information; risk; and human resources, including scheduling, salaries and performance evaluations.

PHRM9516

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Management II

The five-credit management elective is designed to offer the student advanced experience in the management of pharmacy practice in various settings. Students will be expected to apply knowledge and skills in order to manage inventory; contracts; reimbursement; information; risk; and human resources, including scheduling, salaries and performance evaluations.

PHRM9517

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Regulatory I

The five-credit regulatory advanced pharmacy practice experience is an elective rotation designed to offer the student a practice setting to learn about the regulatory processes surrounding drug discovery, development, pharmacoeconomics, biosimilars, regulatory affairs, managed markets, portfolio management and strategic marketing of a new pharmaceutical drug to better understand the issues facing the challenges of delivering a new drug on the market.

PHRM9518

5 Credits

Advanced Pharmacy Practice Experience (APPE) VIII: Elective – Regulatory II

The five-credit regulatory advanced pharmacy practice experience is an elective rotation designed to provide students opportunities to acquire and enhance experiences in research design and development, performance of experiments, data collection and analysis, peer-review processes and animal- or human-research regulations.

PHRM9519

5 Credits

Advanced Pharmacy Practice Experience (APPE) Elective – Academia

This is an advanced pharmacy practice experience designed to enhance the students' awareness of a career in academia. Students will be active participants in the creation of high-quality lectures and activities to P1–P3 student pharmacists. They will collaborate with pharmacy practice faculty to develop both small and large lecture materials, patient cases, class activities and quizzes. Students will have the opportunity to shadow administration and attend faculty and committee meetings. Acquisition of new knowledge and skills, and development of a unique teaching style and confidence in presentation skills are the goals of this elective course. Students are expected to be present at the site for a minimum of eight hours a day, five days a week, for five consecutive weeks. They must also adhere to the schedule established by the preceptor.

PHRM9900

1 Credit

Pharmacy Capstone I

This is the first course of a two-course series. This course will focus on reviewing and integrating all knowledge and skills acquired through the didactic and experiential curriculum in preparation for licensure. Basic and clinical sciences and pharmaceutical calculations will be emphasized. Capstone assessments will be administered.

PHRM9901

2 Credits

Pharmacy Capstone II

This is the second course of a two-course series. The course will focus on reviewing and integrating all knowledge and skills acquired through the didactic and experiential curriculum in preparation for licensure. Pharmacy law, basic and clinical sciences and pharmaceutical calculations will be emphasized. Capstone assessments will be administered.

Political Science (M.A.)

Fairleigh Dickinson University's School of Criminal Justice, Political Science and International Studies offers students the benefit of earning a Master of Arts degree in political science. This program provides an integration of disciplines and areas of interest in political science and international affairs. The Master of Arts in political science aims to give students a well-rounded education and understanding of the dynamic changes currently taking place in the international community. The degree requires the successful completion of 33 credits. Twelve credits comprise the required courses that every student must take. The remaining 21 credits are electives depending on the student's area of interest and concentration.

The M.A. in political science offers three areas of concentration — **international relations and the United Nations, international justice studies and American government and politics.** Grounded in the theoretical and applied knowledge of the discipline of political science, the program's flexibility permits students to choose related and approved courses from the disciplines of criminal justice and history, as well as approved cross-listed courses in a variety of other disciplines.

International relations and the United Nations and international justice studies are multidisciplinary concentrations which invite students to further explore the meaning of global citizenship, the practice of diplomacy, relations among states, the functions of international systems and the processes of globalization, taking advantage of FDU's unique "Special Consultative Status" as a nongovernmental organization with the U.N. Economic and Social Council (ECOSOC), its membership in the U.N. Academic Impact, its accreditation by the U.N. Department of Public Affairs and its relations with numerous diplomatic missions.

For Information

For more information contact Dr. Samuel Raphaelides, director, School of Criminal Justice, Political Science and International Studies, at sjraph@fdcu.edu or (201) 692-2413.

Admission Requirements

Admission to the program is based on an applicant's demonstrated interest, aptitude and motivation to successfully undertake and complete master's-level studies. This will be determined by the following minimal requirements and indicators:

1. A bachelor's degree from an accredited college or university.
2. Official transcripts from all institutions of higher learning attended.
3. A cumulative undergraduate grade point ratio of at least 3.00 on a 4.00 scale.*
4. Performance on the Graduate Record Examination, which may be waived.*
5. Two letters of recommendation attesting to the applicant's interest and ability to undertake graduate-level studies.
6. Personalized interviews may be considered by the department's Admission Committee.
7. Applicants under consideration may be required to complete an abbreviated research paper that demonstrate their ability for effective writing.

Requirements for the Master of Arts Degree

The Master of Arts in political science requires satisfactory completion of 33 credits. This consists of 12 credits in required courses and 21 credits in pre-approved graduate electives.

The following four courses (12 credits) represent the core curriculum for the master's in political science and are required of all students in this program.

Required Courses

	Credits
CRIM6025	
Social Science Research Methods.....	3
POLS6800	
Graduate Independent Study.....	3
POLS7820	
Models of Political Systems.....	3
POLS7826	
Politics of Public Policy.....	3

Elective Courses

Students can choose from any of the following courses in fulfilling their remaining 21 credits. All elective-course selections must be made in consultation with an academic adviser. Courses are interdisciplinary, consisting of the political science, history and criminal justice fields respectively. Elective courses are also flexible to the students' particular interest(s) in international relations and the U.N., international justice studies and American government and politics.

	Credits
CRIM6010	
U.S. Constitution, Public Policy and Criminal Justice.....	3
CRIM6020	
Statistics and Data Analysis.....	3
CRIM7020	
Ethics, Politics and Justice.....	3
CRIM7025	
Comparative Criminal Justice Systems.....	3
CRIM7030	
Principles of Leadership.....	3
CRIM7080	
Politics and Policies of Criminal Justice.....	3
CRIM7085	
Advanced Internship in Criminal Justice.....	3
HIST6714	
U.S. and the Developing World.....	3
HIST7712	
Constitution: Transition.....	3
POLS6682	
Diplomatic History of the U.S.....	3
POLS6711	
Genocide: From an American Perspective.....	3
POLS6753	
American Culture in a Global Perspective.....	3
POLS6871	
U.S.-Latin American Relations.....	3
POLS7810	
Constitution Issues/U.S. Foreign Policy.....	3
POLS7815	
Nationalism and Its Discontents.....	3
POLS7820	
Models of Political Systems.....	3
POLS7821	
Modern Political Theory.....	3
POLS7822	
The Character of Revolutionary Movements.....	3
POLS7825	
Foreign Policy and Diplomacy.....	3

	Credits
POLS7830	
International Organizations.....	3
POLS7831	
International Law.....	3
POLS7832	
International Problems/Conflict Resolution.....	3
POLS7833	
Modern Warfare/Global Stability.....	3
POLS7834	
Politics of the Global Economy.....	3
POLS7835	
Geography and World Politics.....	3
POLS7851	
Forces and Issues: Middle East.....	3
POLS7853	
The New Europe.....	3
POLS7854	
Changing Eastern Europe.....	3
POLS7863	
Comparative Government: Middle East.....	3
POLS7867	
Political and Economic Challenges: Africa.....	3
POLS7868	
Terrorism and Insurgency.....	3
POLS7871	
The Modern Asian State.....	3
POLS7874	
Latin America: New Challenges.....	3
POLS7875	
Canada, Mexico and U.S.: Perspectives.....	3

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate department chair.

Political Science

School of Criminal Justice, Political Science and International Studies

CRIM6010

3 Credits

U.S. Constitution, Public Policy and Criminal Justice

This course examines emerging issues as they influence the United States Constitution, public policy and the criminal justice system. Topics such as criminal procedure, individual rights, gun control, decriminalization of drugs, social justice, crime prevention, juvenile justice, sentencing policies, incarceration and capital punishment will be addressed.

*Waivers for applicants who do not meet the grade point ratio or standardized test scores will be considered on an individual basis.

Political Science

CRIM6020

3 Credits

Statistics and Data Analysis

This course addresses the basic concepts and methods of statistics applied within criminal justice and social science research. Topics covered include basic statistical methodology; exploratory data techniques; experimental design; sample distributions; interval estimation; inference; comparative analysis by parametric, nonparametric and robust procedures; analysis of variance (one-way); linear and nonlinear regression; analysis of covariance; correlation and regression; and an introduction to statistical analysis using Statistical Package for the Social Sciences (SPSS).

CRIM6025

3 Credits

Social Science Research Methods

This course will emphasize the conceptual foundations and methodological approaches used in social science research. This course introduces tools of quantitative reasoning and statistics that can be used to address problems in basic research and policy within social sciences, particularly in the criminal justice field. The primary objectives of the course are to build familiarity with the fundamentals of probability and statistical analysis, central concepts of research design and norms of ethical behavior in research.

CRIM7020

3 Credits

Ethics, Politics and Justice

This course examines classical and contemporary theories and philosophies relevant to ethical thought and behavior in relationship to the administration of justice and navigating politics within the workplace. Ethical issues confronting criminal-justice practitioners, to include the role and influence of politics, are explored through the use of case studies and critical incidents, and examining appropriate and applicable strategies.

CRIM7025

3 Credits

Comparative Criminal Justice Systems

This course will conduct a comparative analysis between the criminal justice system of the United States with those of other major countries throughout the world. The similarities and differences between the policing, adjudication and penal systems will be discussed. Issues such as alternatives to incarceration, technologies utilized and legal mandates will be examined.

CRIM7030

3 Credits

Principles of Leadership

The objective of this course is to examine the principles, practices and complexities of effective leadership. The course will also

examine the skills and competencies needed to be an effective leader. The benefits of effective leadership and the consequences of ineffective leadership in an organization will be studied.

CRIM7085

3 Credits

Advanced Internship in Criminal Justice

The course provides individually designed internships within federal, state and local police/law enforcement agencies, courts and adjudication, corrections and probation, private security, juvenile justice, crime victims' advocacy and child protection. Students develop hands-on experience in all facets of the respective agency that they select. The internship provides the students with insight, experience and an available network of professional colleagues.

HIST6714

3 Credits

U.S. and the Developing World

An analysis of the political and economic relationship of the United States with selected developing regions of the world in the context of growing global interdependence.

HIST7712

3 Credits

Constitution: Transition

Analyzes the impact of and process of change resulting from political, economic and social challenges to constitutional thought over the last century.

POLS6682

3 Credits

Diplomatic History of the U.S.

The course will consider the various stages of U.S. diplomatic policies with an emphasis on the United States as a major world player.

POLS6711

3 Credits

Genocide: From an American Perspective

The course will examine the roots, methods and impact of genocide on the global community from an American perspective. It will include selected case studies from Armenia to Darfur.

POLS6753

3 Credits

American Culture in a Global Perspective

The course examines political, economic and social themes and will emphasize dynamic encounters with ideas from other societies.

POLS6800

1-6 Credits

Graduate Independent Study

Independent study in political science at the first-year graduate level.

POLS6871

3 Credits

U.S.-Latin-American Relations

This is a study of the modern relationship between the U.S. and specific Latin-American nations. It will stress the alliance for progress, NAFTA, etc.

POLS7810

3 Credits

Constitution Issues/U.S. Foreign Policy

Examines the modern roles of the president, the Congress and the Supreme Court in the conduct of foreign policy.

POLS7815

3 Credits

Nationalism and Its Discontents

The political and social bases of nationalism, its relation to culture identity, ethnicity, language and ideological narrative manifesting movements for change. Selected contemporary and historical examples are examined, as well as their subcultural and subnational disidentifications.

POLS7820

3 Credits

Models of Political Systems

Comparative analysis of modern democratic and totalitarian governments and institutions. With emphasis on the developing nations and their interpretations of these systems through a study of political culture, political parties and political crises.

POLS7821

3 Credits

Modern Political Theory

Traces the main developments in modern political thought from Hobbes to Mao. Emphasizes problems regarding liberty, political obligation, the common good, etc.

POLS7822

3 Credits

The Character of Revolutionary Movements

An examination of selected revolutionary movements with emphasis on cause, organization and outcome.

POLS7825

3 Credits

Foreign Policy and Diplomacy

Intensive analysis of the dynamics of world politics in the independent post-World War II era; the conceptions of world order among major actors, national and global interests, transnationalism, instrumentalities of foreign policy development and diplomatic processes.

Psychology

There are a variety of psychology programs offered at the Florham Campus, Madison, New Jersey, (see page 220) and the Metropolitan Campus, Teaneck, New Jersey (see page 222). These programs are listed on the following pages by campus.

POLS7826

3 Credits

Politics of Public Policy

Studies declared intentions and actions of elected officials in meeting human needs and resolving conflicts within society. Emphasizes agenda setting, policy-making models, policy formulation, implementation, evaluation and the role of ideology.

POLS7830

3 Credits

International Organizations

Typology of organizations: League of Nations to the United Nations, regional organizations, public and private international organizations and transnational organizations.

POLS7831

3 Credits

International Law

Origin of international law and its relationship to municipal law. Challenges and responses to current issues.

POLS7832

3 Credits

International Problems/Conflict Resolution

Causes and possible solutions to major international conflicts. Topics will include superpower relations and regional problems.

POLS7833

3 Credits

Modern Warfare/Global Stability

Impact of insurrection, nonconventional warfare and terrorism on the international community.

POLS7834

3 Credits

Politics of the Global Economy

A study of the relationship between political motivations and economic actions on the international economy. With emphasis on the interplay between the free market and planned economies.

POLS7835

3 Credits

Geography and World Politics

Examines the political ramifications of environmental decay, economic and environmental refugees and the utilization of finite resources.

POLS7851

3 Credits

Forces and Issues: Middle East

Examines the trends and political forces at work in the region, past struggles, current issues and future aspirations.

POLS7853

3 Credits

The New Europe

The state system of Europe: integration and consolidation since World War II and global implications for East-West relations.

POLS7854

3 Credits

Changing Eastern Europe

Examines the dissolution of the Communist Bloc and the movement toward new ideologies. Emphasizes nationalism, ethnicity and economic organization.

POLS7863

3 Credits

Comparative Government: Middle East

Examines diverse systems of government among selected Middle East states. Emphasizes historical development, current ideologies, institutions and practices.

POLS7867

3 Credits

Political and Economic Challenges: Africa

Examines contemporary issues in Africa. Project trends in political development, human rights and environmental programs.

POLS7868

3 Credits

Terrorism and Insurgency

Examines the conditions that encourage intervention, clandestine political action, demonstration of force, unconventional warfare and terrorism. Discusses impact on the global community.

POLS7871

3 Credits

The Modern Asian State

Examines the development of selected Asian states with an emphasis on historical influences, ideologies, institutions and economic philosophies.

POLS7874

3 Credits

Latin America: New Challenges

Political responses to the economic and social challenges of modernization. Focuses on democratization efforts and economic cooperation.

POLS7875

3 Credits

Canada, Mexico and U.S.: Perspectives

Examines the growing interdependence of the North American nations. Emphasizes political, diplomatic and economic interaction and identifies future trends.

Psychology

Florham Campus

These programs are offered under the auspices of the department of psychology and counseling, Maxwell Becton College of Arts and Sciences, Florham Campus, Madison, New Jersey.

Industrial/Organizational Psychology (M.A.)

See this page.

The programs and courses offered by the department of psychology and counseling are designed to meet the needs of students who wish to prepare for a career in various professional areas of psychology and counseling such as consulting, research, teaching and working in different organizational settings. In addition, programs and courses also may be taken by those students who wish to develop a background for subsequent work leading to a doctorate.

Requirements for Graduate Psychology Programs Leading to a Master of Arts Degree

1. Satisfactory completion of the core requirements. Students are required to complete core requirements before additional courses may be taken. However, during the semester in which core requirements are being completed, a maximum of one additional noncore course may be taken, subject to departmental approval.

2. Satisfactory completion of a minimum of 36 credits for graduate majors in industrial/organizational psychology. Students are required to maintain a minimum overall grade point ratio of 3.00 and must not earn more than one C-level grade (C or C+) throughout graduate course work. Students who earn two grades of less than B- or one F grade will be subject to dismissal.

3. A written comprehensive examination of the candidate's knowledge of his or her field of specialization is required at the end of the industrial/organizational graduate psychology program. Students are eligible to take this exam during the semester in which they are enrolled in their last graduate courses. The comprehensive examination may only be taken twice. Failure to pass the

comprehensive examination, either in part or in full, will result in dismissal from the program.

4. All graduate programs in psychology should be completed within a period of five years. Applications for extensions of this period are subject to departmental approval.

Industrial/Organizational Psychology (M.A.)

The graduate program in industrial/organizational psychology is designed to provide a comprehensive background in applied psychology that will enable participants to work in organizational settings, continue their education at the doctoral level or augment their professional development as managers and leaders in organizational positions. The orientation and experience in independent research (as reflected in the optional thesis) provides a solid background for enabling them to function more independently as professionals in organizational settings, as well as compete more successfully for admission to doctoral programs.

This program is offered under the auspices of the department of psychology and counseling, Maxwell Becton College of Arts and Sciences, Florham Campus, Madison, New Jersey.

Admission Requirements

1. Graduation from an accredited college or university with at least 24 credits in psychology, including at least one course each in statistics and experimental psychology.

2. A minimum grade point ratio of 3.00 in the major field of study.

3. Submission of undergraduate transcript(s).

4. Submission of an official score report for the Graduate Record Examinations (GRE) General Test taken within the last five years.

5. Students without an undergraduate major in psychology may be admitted upon successful completion of a general psychology course and an undergraduate psychology statistics course. (Neither of these carry credit toward the M.A. degree.)

6. Three letters of recommendation.

7. In some cases, a personal interview may be required.

Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a nonmatriculated or nondegree basis.

Psychology • Industrial/Organizational

Requirements for the Master of Arts Degree

Students in the M.A. in industrial/organizational psychology program must register for a minimum of two classes in the fall and spring semesters. Exceptions to this policy may be granted in unusual circumstances. Courses must be taken in the required sequence (see department for sequence list). A total of 36 credits is required.

	Credits
COUN7706	
Lifestyle and Career Counseling*.....	3
PSYC6300	
Psychological Statistics.....	3
PSYC6301	
Group Dynamics and Team Leadership.....	3
PSYC6302	
Organizational Psychology.....	3
PSYC6303	
Research Methods and Design.....	3
PSYC6304	
Personnel Selection.....	3
PSYC6305	
Psychometrics.....	3
PSYC6306	
Behavioral Consulting in Organizations.....	3
PSYC6308	
Human Resources Development.....	3
PSYC7700	
Industrial/Organizational Internship.....	3
<i>If a thesis option is selected:</i>	
PSYC7803	
Research and Thesis.....	3
PSYC7804	
Research and Thesis.....	3
<i>If a nonthesis option is selected:</i>	
PSYC6307	
Techniques of Interviewing.....	3
PSYC7745	
Leadership Studies.....	3

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate school director.

Psychology

Department of Psychology and Counseling

PSYC6300

3 Credits

Psychological Statistics

A comprehensive survey of the theoretical and practical aspects of descriptive and inferential statistical procedures — z tests, t tests, analysis of variance, correlation and regression analysis and nonparametrics. Emphasis is on why and when to use the various procedures as well as on the interpretation of statistical results. Prerequisite: undergraduate statistics or permission of instructor.

Fall

PSYC6301

3 Credits

Group Dynamics and Team Leadership

This course focuses on how individuals come together in work teams to accomplish mutual goals. The various roles of team members and team leaders are explored in depth. Topics include team leadership behavior; building effective teams; managing and resolving conflict; quality team management and other aspects of interpersonal relationships within the corporate/business structure. Students learn how to ensure team success as both team leaders and participants. Emphasis is placed on understanding and influencing group and team effectiveness.

Fall

PSYC6302

3 Credits

Organizational Psychology

A seminar on the effects of organizational variables upon individual and group behavior. Systematic theories of organizational culture, organizational structure and function will be examined and related to current organizations.

Fall

PSYC6303

3 Credits

Research Methods and Design

This course is designed to explore research design in industrial/organizational psychology. It includes experimental, quasi-experimental and correlational designs; measurement issues; and the ethics of conducting research, sampling and matching the appropriate statistics to various designs. Students will learn how to understand and carry out the entire research process.

Spring

PSYC6304

3 Credits

Personnel Selection

A comprehensive survey of current practices in employee recruitment, selection, evaluation, compensation and development. Special emphasis is placed on the use of psychological tests and interviewing techniques. Current topics such as fair employment testing are reviewed.

Spring

PSYC6305

3 Credits

Psychometrics

A critical survey of the philosophy and techniques of measurements or appraisal, with emphasis given to the administration, interpretation and evaluation of intelligence, achievement, interest, aptitude and objective personality instruments.

Fall

PSYC6306

3 Credits

Behavioral Consulting in Organizations

This course provides an overview of the role of the psychologist in organizational settings. Emphasis is on establishing relationships with organizational personnel, interpreting research results, the uses of the in-house psychologist vs. the outside consultant, the use of focus groups and surveys and the process of organizational change.

Fall

PSYC6307

3 Credits

Techniques of Interviewing

A comprehensive survey of the strategies and techniques necessary for conducting an effective interview. Emphasis is placed on developing an understanding of the factors that facilitate and debilitate communication in three basic types of interviewing situations: the counseling, selection and research interview.

Fall

PSYC6308

3 Credits

Human Resources Development

An overview of the processes and programs organizations use to train and develop employees and managers. Traditional methods such as role-playing and case studies are practiced and compared to techniques such as organization development practices. Students will experience the role of both trainer and trainee. Emphasis will focus on effective ways of changing actual behavior.

Spring

*See Clinical Mental Health Counseling course offerings pages 97–98.

Psychology

PSYC7700

3 Credits

Industrial/Organizational Internship

This blended course involves a semester-long internship placement related to industrial/organizational psychology in an approved local organization. Students work a minimum of 15 hours per week in either a paid or unpaid setting and participate in the course. An onsite supervisor will provide mentoring and evaluation of the student's work in addition to the course instructor's mentoring and evaluation. The purpose of the internship is to provide practical training within the field and an opportunity to apply knowledge gained through course work. The final academic paper will be a project culminating the semester-long experience.

Spring

PSYC7745

3 Credits

Leadership Studies

This course reviews and integrates the research and popular wisdom on leadership through readings, films, case studies and discussions on the elements of successful management and leadership. Students examine various theories of leadership and characteristics of prominent past and current leadership in politics, business, the arts and warfare. They learn to identify and refine their own leadership styles for maximum impact.

Spring

PSYC7803, PSYC7804

6 Credits (3 Credits Each Semester)

Research and Thesis

A program of selected research tailored to the interest and capability of the individual student under the guidance of a departmental faculty member.

Fall or Spring

Psychology

Metropolitan Campus

These programs are offered under the auspices of the School of Psychology, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Clinical Psychology (Ph.D.)

See page 223.

Clinical Psychopharmacology (M.S.) Postdoctoral

See page 227.

Forensic Psychology (M.A.)

See page 229.

General/Theoretical Psychology (M.A.)

See page 232.

Postbaccalaureate Respecialization Program in Psychology

See below.

School Psychology (Psy.D.)

See page 233.

School Psychology (M.A.)

See page 238.

Postbaccalaureate Respecialization Program in Psychology (18 credits)

The Postbaccalaureate Respecialization Program in Psychology is designed for individuals trained in other professions (e.g., law, business or natural sciences) who are interested in pursuing careers in mental health and/or applied areas of psychology. The program's goal is to provide the appropriate background necessary to seek admission to graduate programs in psychology. The course work includes undergraduate and graduate offerings and covers essential concepts and theories, psychopathology, statistics and research methods. The course content provides sufficient background to prepare for the psychology section of the Graduate Record Examinations (GRE).

Admission Requirements

1. Proof of an undergraduate baccalaureate degree (diploma or undergraduate transcript from an accredited college or university),
 2. An undergraduate cumulative grade point ratio of at least 3.00,
 3. Three letters of recommendation and
 4. A personal statement detailing the applicant's reason for respecialization and his/her interests in the field of psychology.
- Application materials are kept to a minimum so that students can apply at any time. GRE scores are not necessary for acceptance. Once application materials are complete, admission decisions typically occur within two weeks. Students may begin course work in the fall or spring semester or the summer session subsequent to their admission into the track.

Personalized Advisement

Upon acceptance, students will be assigned a faculty adviser who will monitor their progress and provide guidance as to specific areas of study and careers in psychology.

Upon completion of 18 credits of prescribed courses, students will be eligible to apply to a wide range of graduate programs in psychology. The adviser will assist in the application process by offering guidance as to the selection of appropriate graduate programs and will oversee the completion of application materials.

Although GREs are not necessary for application to the respecialization track, both the general and psychology GRE exams are required for most master's and doctoral programs in psychology.

Typical Course Sequence

If the typical course sequence is followed, students will be in a position to apply to master's and doctoral programs within one year of admission to the track. However, if students choose to enroll on a part-time basis, registration for at least one course per semester is required.

Fall Semester Courses

PSYC1103

General Psychology*

(Undergraduate)..... 3

Credits

*Students who have already taken PSYC1103 General Psychology can substitute a different undergraduate course.

	Credits
PSYC2201	
Statistics (Undergraduate).....	3
Graduate Elective*.....	3

Spring Semester Courses

PSYC3202	
Experimental Psychology	
(Undergraduate).....	3
Graduate Electives*.....	6

Transfer Credits

Upon acceptance to any of the School of Psychology's graduate-degree programs, students may transfer up to 9 graduate credits from the respecialization track. Transfer of credits to other universities may be possible, but will be at the discretion of the individual institution to which the student applies.

Clinical Psychology (Ph.D.)

This is a four-year plus internship, full-time program that follows the scientist-practitioner model in which both internship and dissertation are combined with individualized areas of specialization. The program's goal is to prepare skilled psychologists who are capable of appreciating and conducting sound research. The program has received full accreditation from the American Psychological Association (APA).

The scientist-practitioner orientation emphasizes academic content areas of psychology and views clinical training as growing directly out of such foundations in psychological theory and research. It reflects the school's belief that a competent and effective clinician is best described as a scientist-practitioner, well-versed not only in clinical techniques and methods but also in the theoretical and research-based underpinnings of these approaches.

As an expression of the scientist-practitioner model, the sequence of courses emphasizes a thorough preparation in theoretical psychology and methodology. The sequence becomes the matrix against which students receive applied training in clinical psychology. The first year of the program exposes students to basic psychological theory of measurement prior to the course work in clinical applications. For example, foundations of clinical psychology and psychopathology are explored prior to behavioral and personality assessment.

Concurrent with the work in assessment, students will begin study of the traditional psychotherapies. The third year of course work expands students' knowledge of treatment procedures, specialized populations and related medical topics. Finally, the student will have completed four semesters of statistics and research design by the end of the third year.

By the end of the third year, students are prepared to begin writing their dissertation. Each student selects a mentor from the faculty, and that mentor serves as chairperson of the dissertation committee. Adhering to certain guidelines, the chairperson and the student select the remaining three to four members of the

committee. All students will also have taught a three-credit course before they finish the program.

This program is offered under the auspices of the School of Psychology, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements and Information

To access an application to this program visit the School of Psychology website at <http://view2.fdu.edu/academics/university-college/school-of-psychology/ph-d-program-in-clinical-psychology/apply> or call (201) 692-2315.

1. This program is open to holders of undergraduate degrees in psychology or the required number of psychology credits. The requirement of 18 psychology credits includes statistics and 15 additional credits, preferably introductory psychology, developmental psychology, experimental psychology and social psychology.

2. Students are selected from a pool of academically qualified applicants who can contribute to the diversity of the student body.

3. Acceptance decisions are based on outstanding undergraduate and (where applicable) graduate academic performance, high scores on the General Test and Subject Test in Psychology of the Graduate Record Examinations, evidence of scholarly activity such as publications and paper presentations, prior clinical experience, a personal statement, letters of recommendation and an interview (preferably in person).

4. Tuition for full-time course work (at least 12 credits but no more than 16.5 credits per semester with practicum assignment) is on a flat-fee basis of \$41,698.00* per year as of 2019–2020. When students are on part-time status (less than 12 credits per semester), the fee is set at the regular graduate rate per credit. In addition, students authorized to begin their dissertation will be charged \$5,006.00* per semester for two semesters. Thereafter, students will be required to register for dissertation maintenance (\$510.00*) each semester until the dissertation is complete. Students are further charged \$260.00* per semester for two semesters of internship.

**This fee is a 2019–2020 fee. New tuition and fee charges for 2020–2021 will be announced in the spring of 2020. Please check with the Office of Enrollment Services for current charges.*

*M.A.-level courses such as PSYC6111 Theories of Personality, PSYC6114 Psychopathology and PSYC7125 Applied Social Psychology (this list is not exhaustive).

Psychology • Clinical (Ph.D.)

Requirements for the Ph.D. Degree

1st Semester

PSYC6112	Clinical Research Methods and Psychometrics
PSYC6114	Psychopathology
PSYC6116	History and Systems
PSYC6118	Computer Applications in Statistics Lab
PSYC6132	Developmental Issues in Clinical Psychology
PSYC6180	First-year Clinical Practicum I

2nd Semester

PSYC6122	Personality Assessment
PSYC6131	Behavioral Assessment
PSYC6133	Intellectual Assessment
PSYC6160	Teaching Seminar
PSYC6181	First-year Clinical Practicum II: Ethics
PSYC6624	Introduction to Psychotherapy

3rd Semester

PSYC7110	Research Design and Analysis I
PSYC7113	Psychodynamic Psychotherapy
PSYC7121	Cognitive and Behavioral Therapy
PSYC7180	Second-year Clinical Practicum I
PSYC	Advanced Special Topics (elective)

4th Semester

PSYC7111	Research Design and Analysis II
PSYC7125	Applied Social Psychology
PSYC7130	Biological Bases of Behavior
PSYC7181	Second-year Clinical Practicum II
PSYC	Advanced Special Topics (elective)

5th Semester

PSYC7120	Diversity Issues in Clinical Psychology
PSYC7133	Learning, Cognition and Emotion
PSYC8129	Psychopharmacology
PSYC8180	Third-year Clinical Practicum I
PSYC	Advanced Special Topics (elective)

6th Semester

PSYC8181	Third-year Clinical Practicum II
PSYC9124	Advanced Research Seminar
PSYC9138	Professional Development
PSYC	Advanced Special Topics (elective)
PSYC	Advanced Special Topics (elective)

7th Semester

PSYC9111	Dissertation (Clinical Psychology)
PSYC9180	Fourth Year Clinical Practicum I (suggested)

8th Semester

PSYC9111	Dissertation (Clinical Psychology)
PSYC9181	Fourth Year Clinical Practicum II (suggested)

9th Semester

PSYC9112	Dissertation Maintenance (Clinical Psychology)
PSYC9113	Internship (Clinical Psychology) — fall

10th Semester

PSYC9112	Dissertation Maintenance (Clinical Psychology)
PSYC9113	Internship (Clinical Psychology) — spring

Advanced Special Topics in Clinical Psychology

PSYC8114	Neuropsychology
PSYC8127	Clinical Child Psychology
PSYC8145	Advanced Cognitive Behavioral Therapy
PSYC9143	Advanced Psychodynamic Psychotherapy
PSYC9145	Seminar in Clinical Psychology
PSYC9160	Advanced Personality Assessment

Students will be required to participate in a full-time clinical internship approved by the program faculty. The internship may begin after the student has completed the courses listed under the first six semesters and submitted an approved dissertation proposal. Usually, the dissertation will be the focus in the fourth year and internship in the fifth year.

Students will be required to pass a qualifying exam in Ethics after their first year and a comprehensive exam after their third year. Those failing the exam will be given an opportunity to retake it. Those failing three times will be discharged from the program. Should they elect, those students will be evaluated for matriculation into the master's degree program in general/theoretical psychology and, upon completion of the requirements of that program, they will be awarded the master's degree.

Students who do not enter the program with a master's degree in which they completed a thesis must complete a review paper on an approved topic before they begin the third year or produce a publication

or presentation on which they are the first author.

Ongoing annual evaluations of students will be conducted by the faculty using information from practicum-site supervisors, course instructors and research mentors or his/her delegate. Students will meet with the program director to receive feedback concerning these evaluations.

Performance Requirements

1. Students receiving two or more grades of C+ or lower in any combination of courses will be dropped from the program.

2. Students with a cumulative grade point ratio (CGPR) below 3.20 at the end of any year will be placed on academic probation for one year. At the end of the probation year, the CGPR must be at least 3.20 or the student will be dropped from the program.

3. Students will be dropped from the program for a proven, serious, negligent breach of the American Psychological Association Ethical Guidelines. Students also will be dropped from the program for cheating or plagiarism.

4. Students encountering serious psychological adjustment problems will be advised to seek professional counseling. If the problems are not ameliorated, the student may be asked to leave the program.

Forensic Track

An optional, add-on forensic track is available to students in the Ph.D. program who fulfill the following additional requirements:

1. Completion of at least one of the required clinical practica in a forensic setting.

2. Completion of at least two additional courses: PSYC7230 Forensic Assessment and Prediction and PSYC7235 Criminal Responsibility and Competency (a third elective independent study is recommended).

3. Completion of a dissertation on a forensic topic.

Track courses may incur additional fees if they render a student's credit load for a given semester above the allowable, flat-fee of 16.5. Completion of the forensic track will be noted on the student's transcript.

Course Offerings

Clinical Psychology (Ph.D.)

School of Psychology

Students who are not in the Ph.D. program may take Ph.D. program courses with permission from the program director.

1st Semester

PSYC6112

3 Credits

Clinical Research Methods and Psychometrics

This course covers basic topics and issues in psychometrics and clinical psychology research. Topics will include scales of measurement, norms and standard scores, reliability (including interclinician reliability), psychometric validity (including diagnostic validity), experimental design validity (internal, external, statistical, construct), test and scale construction strategies (classical true score and item response theory), current clinical research objectives and designs, major threats to valid inferences in clinical research, experimental and statistical methods of control, the design of psychotherapy efficacy studies and the identification of clinically significant client changes.

PSYC6114

3 Credits

Psychopathology

Detailed consideration of psychopathology with respect to physiological, cognitive, motivational, affective and interpersonal variables and their roles in etiology, diagnosis, treatment and prognosis.

PSYC6116

3 Credits

History and Systems

Assessment of the historic development and current status of systematic paradigms in psychology. The influence of classical and contemporary philosophy will be considered in terms of paradigmatic development and the critical evaluation of psychological theory and psychology's place as a "special science" or as a natural science.

PSYC6118

1 Credit

Computer Applications in Statistics Lab

Introduces the student to software for statistical analysis, with an emphasis on SPSS.

PSYC6132

3 Credits

Developmental Issues in Clinical Psychology

Focuses on the importance and contribution of developmental factors to clinical issues: the role of cognitive, social and moral development; the

effect of early learning on later development, including caregiver and child characteristics as well as the subsequent interactions; development from a life-span perspective; and family and cultural influences.

PSYC6180

3 Credits

First-year Clinical Practicum I

Conduct intake assessments and participate in a variety of in-house clinical projects sponsored and supervised by the clinical faculty.

2nd Semester

PSYC6122

3 Credits

Personality Assessment

Introduces the student to the domain of personality assessment. This includes a discussion of basic concepts and issues in the field of assessment, such as actuarial versus clinical prediction, the clinical utility of testing and the consideration of diversity in the testing situation. The student is introduced to important measures of personality functioning, particularly the interpretation of MMPI profiles and the administration and scoring of Comprehensive System Rorschachs.

PSYC6131

1.5 Credits

Behavioral Assessment

Assumptions and principles of behavioral assessment are covered with a focus on behavioral-assessment methods and case formulation. Specific methods are taught such as interviewing, observation, self-monitoring, questionnaires, psychophysiological assessment.

PSYC6133

3 Credits

Intellectual Assessment

Expertise in administration, scoring and interpretation of WPPSI, WISC, WAIS. Integration of intellectual evaluation and neuropsychology — in particular, brain lateralization, minimal brain lateralization, minimal brain dysfunction and learning disabilities. Writing evaluations, including referral questions and describing and integrating behavioral observations.

PSYC6160

3 Credits

Teaching Seminar

Emphasis on pedagogical issues including undergraduate-course preparation, preparation of course content, evaluation of student achievement, multicultural issues and academic honesty. Students will learn to teach in both traditional classroom and online environments. They will gain experience in lecturing, leading discussions (both in-class and online), use of audiovisual aids, syllabus preparation and test construction. Videotaping

will be used to give students feedback and evaluate their progress.

PSYC6181

3 Credits

First-year Clinical Practicum II: Ethics

Participation in in-house clinical projects sponsored and supervised by the clinical faculty. Ethics and the APA ethical code of conduct is covered in depth. Students are required to pass an examination covering the most recent code of ethics.

PSYC6624

3 Credits

Introduction to Psychotherapy

This course provides for an understanding of the principal theories of counseling and psychotherapy, an understanding of the similarities and differences in the various major theories and techniques and for a development of the ability to evaluate the need for counseling and/or psychotherapy in problem areas. Prerequisite: PSYC6114 Psychopathology or PSYC6115 Child Psychopathology.

3rd Semester

PSYC7010

1 Credit

Psychoeducational Assessment

The primary goal of this course is to familiarize doctoral students in the clinical psychology program with background knowledge regarding conducting child psychoeducational testing, including expected child presentation during testing sessions (e.g., attention span, rapport with clinician); information regarding the home and school context; and interacting appropriately with parent, teachers and children. Students will be given opportunities to apply this knowledge through role play and case analysis.

PSYC7110

3 Credits

Research Design and Analysis I

Focuses on univariate models for the analysis of data of pure experiments, quasi-experiments and observational studies. Topics include univariate analysis of variance and covariance models for designs with between-subject and/or within-subject factors, predictive and explanatory applications of simple and multiple-regression analysis, path analysis. SPSS data analysis of archival data sets is demonstrated for most of the methods.

PSYC7113

3 Credits

Psychodynamic Psychotherapy

Theory and techniques of psychodynamic psychotherapy, emphasizing classical drive theory, relational/developmental and cognitive/representational perspectives. Classes

Psychology • Clinical (Ph.D.)

focus on clinical techniques, research on psychodynamic processes and technical applications to specific psychopathologies.

PSYC7121

3 Credits

Cognitive and Behavioral Therapy

Extends the principles and methods of empirically based behavioral assessment to behavioral treatment in clinical settings. Treatment literature as it applies to specific psychiatric disorders and application of behavioral principles in the context of complex clinical situations.

PSYC7180

3 Credits

Second-year Clinical Practicum I

Interviewing, objective and projective assessment, intellectual evaluations, etc. Some therapy experience may be included. Some supervision by clinical faculty or by off-campus supervisors.

4th Semester

PSYC7111

3 Credits

Research Design and Analysis II

Focuses primarily on multivariate methods that have been used extensively in clinical research and on some methods whose use in clinical research has rapidly increased in the past few years. The former methods include principal-components analysis, factor analysis, multivariate analysis of variance and covariance, discriminant function analysis and linear classification functions. The latter methods include canonical correlation analysis, logistic regression analysis, logistic classification models, Bayesian classification, log-linear models, confirmatory factor analysis and structural equation modeling. SPSS data analysis of archival data sets is demonstrated for most of the methods.

PSYC7125

3 Credits

Applied Social Psychology

Developing understanding of social underpinnings of psychological phenomena. Topics include attitude formation, attitude change, prejudice and discrimination, altruism, attribution theory, emotions, research techniques and application of social psychology to clinical practice. Research project included.

PSYC7130

3 Credits

Biological Bases of Behavior

Functional neuroanatomy, neurophysiology and neuropharmacology, emphasizing the relationship of brain mechanisms and synaptic chemistry to behavior. Special topics include techniques for studying brain-behavior

relationships; sensory and motor systems; homeostasis and regulation of internal states; emotions, aggression and stress; learning and memory; and the biological bases of mental illness.

PSYC7181

3 Credits

Second-year Clinical Practicum II

Interviewing, objective and projective assessment, intellectual evaluations, etc. Some therapy experience included.

5th Semester

PSYC7120

3 Credits

Diversity Issues in Clinical Psychology

Minority issues as they affect psychological testing and psychotherapy. Women's issues, issues of color, religion, ethnicity, sexual orientation, differing physical abilities and age.

PSYC7133

3 Credits

Learning, Cognition and Emotion

This course provides an introduction to the cognitive and affective bases of behavior. Topics to be addressed include basic principles of learning theory and alternative theoretical perspectives on the nature of emotion. The nature of cognitive processes such as memory and decision-making will also be addressed. The course is designed to be particularly relevant to the application of these topics to clinical psychology.

PSYC8129

3 Credits

Psychopharmacology

An overview of the pharmacologic actions and behavioral effects of psychotherapeutic medications. Special attention to chemical theories of mental illness and the use of psychotherapeutics in the treatment of mental disorders.

PSYC8180

3 Credits

Third-year Clinical Practicum I

Therapy, assessment and consultation at an advanced level.

Advanced Special Topics in Clinical Psychology

Choose one from Advanced Special Topics.

6th Semester

PSYC8181

3 Credits

Third-year Clinical Practicum II

Therapy, assessment and consultation at an advanced level.

PSYC9124

3 Credits

Advanced Research Seminar

This course reviews and expands on intermediate and advanced-level analytic methods including tests of mediation and moderation in linear and nonlinear regression models, factor analysis, structural equation modeling and various approaches for longitudinal data. The course also covers integration of such techniques in the overall research process. Specifically, students will gain experience in reviewing and synthesizing literature to derive hypotheses, formulating study procedures and analytic plans to test hypotheses and presenting results in written and oral format. Prerequisites: PSYC7110 Research Design and Analysis I and PSYC7111 Research Design and Analysis II.

PSYC9138

3 Credits

Professional Development

This course will focus on the professional challenges and issues facing the rising clinical psychologist through several phases of training and professional development (e.g., internship, postdoctoral fellowships, early employment).

Advanced Special Topics in Clinical Psychology

Choose one from Advanced Special Topics.

7th Semester

PSYC9111

3 Credits

Dissertation (Clinical Psychology)

An experimental research project required of all Ph.D. candidates in clinical psychology.

PSYC9180

0 Credits

Fourth Year Clinical Practicum I

Advanced therapy, assessment and consultation at an external practicum site.

8th Semester

PSYC9111

3 Credits

Dissertation (Clinical Psychology)

An experimental research project required of all Ph.D. candidates in clinical psychology.

PSYC9181

0 Credits

Fourth Year Clinical Practicum II

Advanced therapy, assessment and consultation at an external practicum site.

9th Semester

PSYC9112

0 Credits

Dissertation Maintenance (Clinical Psychology)

Continuation of the experimental research project required of all Ph.D. candidates in clinical psychology.

PSYC9113

0 Credits

Internship (Clinical Psychology)

Yearlong applied clinical experience at a psychological treatment agency or institution, required for Ph.D. candidates in clinical psychology.

10th Semester

PSYC9112

0 Credits

Dissertation Maintenance (Clinical Psychology)

Continuation of the experimental research project required of all Ph.D. candidates in clinical psychology.

PSYC9113

0 Credits

Internship (Clinical Psychology)

Yearlong applied clinical experience at a psychological treatment agency or institution, required for Ph.D. candidates in clinical psychology.

Advanced Special Topics in Clinical Psychology

PSYC8114

3 Credits

Neuropsychology

Introduction to clinical neuropsychology. Review of functional neuroanatomy, basic neurological disorders and the assessment of the cognitive sequence of those disorders. Includes introduction to basic neuropsychological assessment batteries.

PSYC8127

3 Credits

Clinical Child Psychology

This course focuses on the diagnosis and treatment of clinical disorders first manifested in children and adolescents. Multiple modalities of treatment are introduced.

PSYC8145

3 Credits

Advanced Cognitive Behavioral Therapy

This course will cover new modalities of cognitive-behavioral therapy including cognitive therapy, motivational interviewing, mindfulness meditation and acceptance and commitment therapy. Emphasis will be placed on the

theoretical underpinnings of these therapies, specific techniques, applied examples and practice through role-plays. Prerequisite: PSYC7121 Cognitive and Behavioral Therapy.

PSYC9123

3 Credits

Family Therapy

Interventions with couples and families. Assessment through genograms. Exploration of different theoretical models of family therapy, with emphasis on systems approaches.

PSYC9143

3 Credits

Advanced Psychodynamic Psychotherapy

This course will focus on the contemporary psychodynamic treatment approaches to the personality disorders. Object relations and ego-psychology perspectives will be emphasized.

PSYC9145

3 Credits

Seminar in Clinical Psychology

A seminar for advanced doctoral and clinical master's students using actual case material and devoted to diagnostic issues, treatment planning and treatment issues.

PSYC9160

3 Credits

Advanced Personality Assessment

Psychological assessment requires a synthesis of empiricism and art. This course is intended to increase understanding of the way in which this synthesis occurs. It combines discussion of topics of testing with case material as a means of enhancing skills in the field of psychological assessment.

Clinical Psychopharmacology (Postdoctoral M.S.)

The clinical psychopharmacology program in psychology is intended for psychologists who provide health care services and are interested in increasing their awareness of psychotropic medications. Topics covered include the anatomy and physiology of the nervous system, biological systems that may be impacted by psychotropic drugs and the practice of clinical psychopharmacology.

The program is designated as meeting the requirements for training in psychopharmacology as established by the American Psychological Association (APA). This model of training is also consistent with the APA model for didactic training in preparation for independent practice as a prescribing psychologist, should state legislatures choose to award such authority to the profession.

This program is offered online under the auspices of the School of Psychology, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

1. A doctoral degree in a discipline of psychology considered appropriate for the provision of health care services or a doctoral degree in another discipline of psychology plus evidence of completion of a respecialization program at a postdoctoral level relevant to status as a health care provider. Both the doctoral transcript and the respecialization certificate, if relevant, must come from an accredited college or university.

2. Candidates must be currently licensed as a psychologist in any state or be actively seeking licensure at the time of initiating the program.

3. Classes may only be taken on a nonmatriculated basis with the permission of the program's academic director.

4. Members of other health care professions may participate with completion of a terminal degree in their discipline, licensure as a health care provider and the permission of the program's academic director.

Clinical Psychopharmacology

Requirements for the Master of Science degree

1. Satisfactory completion of a minimum of 30 graduate credits in the courses approved for participants in this program.

Required Courses

	Credits
PSYC7910	
Biological Foundations of Clinical Psychopharmacology I.....	3
PSYC7915	
Biological Foundations of Clinical Psychopharmacology II.....	3
PSYC7920	
Neuroscience.....	3
PSYC7925	
Neuropharmacology.....	3
PSYC7930	
Clinical Pharmacology.....	3
PSYC7935	
Professional Issues and Practice Management.....	3
PSYC7940	
Treatment Issues in Clinical Psychopharmacology: Affective Disorders.....	3
PSYC7945	
Treatment Issues in Clinical Psychopharmacology: Psychotic Disorders.....	3
PSYC7950	
Treatment Issues in Clinical Psychopharmacology: Anxiety Disorders.....	3
PSYC7955	
Treatment Issues in Clinical Psychopharmacology: Other Disorders.....	3

Elective

PSYC7960	
Clinical Psychopharmacology Practicum.....	0

2. Based on prior academic experience, students may waive some courses. However, the final four courses cannot be waived.

3. Students receiving two or more grades below B– will be terminated from the program.

4. Upon completion of the 10-course sequence, students must complete an exit examination and achieve a passing score to receive the master's degree. This exam may be taken a maximum of three times.

5. The entire degree program must be completed within a three-year period.

6. After completion of their course work, students are eligible to participate in an elective supervised clinical experience.

Course Offerings

Clinical Psychopharmacology

School of Psychology

Required

PSYC7910

3 Credits

Biological Foundations of Clinical Psychopharmacology I

This course presents an integrated approach to the study of primary body systems as it relates to psychopharmacological practice (respiratory, cardiovascular and genitourinary) that includes anatomy, physiology and pathophysiology of a specific body system with the clinical applications (health assessment, physical examination, laboratory assessment) pertaining to that system.

PSYC7915

3 Credits

Biological Foundations of Clinical Psychopharmacology II

This course presents an integrated approach to the study of primary body systems as it relates to psychopharmacological practice (hematologic, immunologic, gastrointestinal, endocrine, reproductive, musculoskeletal and dermatologic) that includes anatomy, physiology and pathophysiology of a specific body system with the clinical applications (health assessment, physical examination, laboratory assessment) pertaining to that system.

PSYC7920

3 Credits

Neuroscience

This course focuses on the anatomy and physiology of the nervous system, beginning at the cellular level. Knowledge of principles or neurochemistry, neuroendocrinology and neuropathology will serve as a foundation for the understanding of neurotransmitter systems and their role in the etiology and treatment of mental disorders.

PSYC7925

3 Credits

Neuropharmacology

This course introduces the knowledge bases pertaining to pharmacology and psychopharmacology. It includes advanced study of neurotransmitter systems and other factors in the psychopharmacological treatment of mental disorders, as well as an introduction to classes of psychotropic medications.

PSYC7930

3 Credits

Clinical Pharmacology

This course presents major classes of drugs (excluding psychotropics) and their uses in clinical settings. It includes an examination of the social, cultural and behavioral aspects of prescribing medications.

PSYC7935

3 Credits

Professional Issues and Practice Management

This course reviews issues in prescribing from the perspective of a professional health care provider. Legal and ethical issues as well as standards of care ranging from informed consent to documentation are addressed. Interprofessional relationships and aspects of collaborative practice, as well as enhancement strategies such as computer-based aids, will provide learners with a solid foundation for the continued integration of psychopharmacology into their practices.

PSYC7940

3 Credits

Treatment Issues in Clinical Psychopharmacology: Affective Disorders

This course addresses issues of diagnosis/differential diagnosis; etiology/biological basis of affective disorders; and psychopharmacological treatment options, including mechanism of action, side effects, adverse reactions, polypharmacy, drug interaction and patient education. Disorders covered include major depression and the affective elements of bipolar disorder. Issues of diversity and development are considered.

PSYC7945

3 Credits

Treatment Issues in Clinical Psychopharmacology: Psychotic Disorders

This course addresses issues of diagnosis/differential diagnosis; etiology/biological basis of psychotic disorders; and psychopharmacological treatment options, including mechanism of action, side effects, adverse reactions, polypharmacy, drug interaction and patient education. Disorders covered include schizophrenia and the psychotic elements of bipolar disorder. Issues of diversity and development are considered.

PSYC7950

3 Credits

Treatment Issues in Clinical Psychopharmacology: Anxiety Disorders

This course addresses issues of diagnosis/differential diagnosis; etiology/biological basis of anxiety disorders; and psychopharmacological

treatment options, including mechanism of action, side effects, adverse reactions, polypharmacy, drug interaction and patient education. Disorders covered include panic, phobias and generalized anxiety disorder. Issues of diversity and development are considered.

PSYC7955

3 Credits

Treatment Issues in Clinical Psychopharmacology: Other Disorders

This course addresses issues of diagnosis/differential diagnosis; etiology/biological basis of a variety of disorders; and psychopharmacological treatment options, including mechanism of action, side effects, adverse reactions, polypharmacy, drug interaction and patient education. Disorders covered include eating disorders, chronic pain, sleep disorders, substance abuse and childhood disorders.

Electives

PSYC7960

0 Credits

Clinical Psychopharmacology Practicum

Field training in psychopharmacological prescriptive practice for licensed psychologists under the supervision of a licensed physician.

PSYC7961

4 Credits

Emergency Medicine Rotation

Full-time practicum experience in emergency medicine. This practicum lasts a minimum of 1.5 months, for a total practicum experience of 14 months.

PSYC7962

4 Credits

Family Medicine Rotation

Full-time practicum experience in family medicine. This practicum lasts a minimum of 1.5 months, for a total practicum experience of 14 months.

PSYC7963

4 Credits

Geriatrics Rotation

Full-time practicum experience in geriatrics. This practicum lasts a minimum of 1.5 months, for a total practicum experience of 14 months.

PSYC7964

4 Credits

Internal Medicine Rotation

Full-time practicum experience in internal medicine. This practicum lasts a minimum of 1.5 months, for a total practicum experience of 14 months.

PSYC7965

4 Credits

Obstetrics and Gynecology Rotation

Full-time practicum experience in obstetrics and gynecology. This practicum lasts a minimum of 1.5 months, for a total practicum experience of 14 months.

PSYC7966

4 Credits

Pediatrics Rotation

Full-time practicum experience in pediatrics. This practicum lasts a minimum of 1.5 months, for a total practicum experience of 14 months.

PSYC7967

4 Credits

Psychiatric Rotation

Full-time practicum experience in psychiatry. This practicum lasts a minimum of 1.5 months, for a total practicum experience of 14 months.

PSYC7968

4 Credits

Surgery Rotation

Full-time practicum experience in surgery. This practicum lasts a minimum of 1.5 months, for a total practicum experience of 14 months.

PSYC7969

4 Credits

Elective Rotation

Full-time practicum experience in an elective topic in medicine not covered in courses PSYC7961 through PSYC7968. This practicum lasts a minimum of 1.5 months, for a total practicum experience of 14 months.

Forensic Psychology (M.A.)

The program is a one-and-a-half-year, full-time graduate program designed to provide students with the skills necessary to provide treatment interventions and assessment in a forensic setting and conduct forensic research.

The specific program objectives are to:

- Prepare students to provide specialized treatment and intervention in a forensic setting.
- Provide students with training in psychopathology, interviewing, forensic assessment and evaluation, clinical forensic practice and ethics.
- Provide students with knowledge and practical experiences designed to promote the development of professional skills required in multiple areas of forensic psychology.

The program will prepare students for careers as master's-level forensic specialists in civil and criminal-justice settings, and provide students with exposure to multiple areas of forensic psychology, such as forensic assessment, criminal responsibility, interviewing and risk assessment. Secondly, the program will prepare students to pursue doctoral-level training in clinical psychology by providing numerous opportunities to participate in ongoing research projects.

This program is offered under the auspices of the School of Psychology, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

1. A bachelor's degree from an accredited college or university.
2. Applicants must submit an official report for the General Test of the Graduate Record Examinations (GRE). The psychology subtest is **not** required. The schedule of testing dates can be obtained from Educational Testing Service, Princeton, New Jersey 08540.
3. Applicants must have taken introductory psychology, statistics and abnormal psychology.
4. Two letters of recommendation.
5. Students enrolling with prior graduate-level course work relevant to the curriculum may petition for waiver of up to 6 credits.

Psychology • Forensic

Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a nonmatriculated or nondegree basis.

Requirements for the Master of Arts Degree

1. The program is a 36-credit program, including a 3-credit externship, and encompasses three content areas of study: concepts of psychology, foundations of forensic psychology and applied knowledge/practical skills in forensic psychology. Students complete courses in graduate-level statistics and psychopathology before taking core courses. The courses in each content area are noted below.

2. Students receiving a grade below B in any graduate course will be placed on academic probation with the possibility of a reduced course load for the next regular semester. Students receiving a concurrent or subsequent grade below B will not be permitted to continue in the program. A grade point ratio of at least 3.00 must be maintained at all times to continue in the program.

Curriculum

First Trimester (Fall)	Credits
PSYC6114	
Psychopathology.....	3
PSYC6121	
Statistics and Research Methods.....	3
PSYC6230	
Introduction to Forensic Psychology.....	3
PSYC6231	
Psychological Bases of Criminal Behavior.....	3
Second Trimester (Spring)	
PSYC6130	
Interviewing Techniques.....	3
PSYC7230	
Forensic Assessment and Prediction.....	3
PSYC7235	
Criminal Responsibility and Competency.....	3
Forensic Psychology Elective.....	3
Third Trimester (Summer Session)	
PSYC6227	
Clinical Practice in Forensic Context.....	3
PSYC7243	
Special Topics in Forensic Psychology...	3

Fourth Trimester (Fall)

	Credits
PSYC7234	
Ethical Issues in Forensic Practice.....	3
PSYC7240	
Externship in Forensic Psychology.....	3
All students are required to take and pass two comprehensive examinations (psychopathology and forensic psychology) at the conclusion of their course work, and only students who pass the comprehensive examinations will be admitted to the degree.	

Interested students may elect to complete a master's thesis and must take PSYC7810 I.S. Master's Thesis (3 credits). These 3 credits may be substituted for one elective.

Note: PSYC7810 I.S. Master's Thesis may be taken as an elective in lieu of the comprehensive examinations.

Course Offerings

Other psychology courses are described on pages 225–227, 232–233 and 236–238.

Forensic Psychology (M.A.)

School of Psychology

Required

PSYC6130	
3 Credits	
Interviewing Techniques	
Survey of interviewing principles and techniques as they relate to various counseling theories, with an emphasis on the clinical interview as a means for gathering pertinent information about a client in the context of conducting a forensic evaluation. Focuses on unique issues encountered within forensic contexts. Prerequisite: PSYC6114 Psychopathology.	

PSYC6227	
3 Credits	
Clinical Practice in Forensic Context	
This course focuses on two main areas of clinical practice with forensic clients in secure settings and in the community. The two areas of focus are <i>treatment</i> (therapy, management and medication) with general offenders, sex offenders, juvenile offenders and offenders with major mental illness; and <i>testing</i> (structured personality tests, cognitive and neuropsychological tests, deception/malingering, diagnostic tests and trauma). Prerequisites: PSYC6114 Psychopathology and PSYC6230 Introduction to Forensic Psychology. Note: Instructor approval required for students who are not in the M.A. in forensic psychology program or the B.A./M.A. accelerated program.	

PSYC6230

3 Credits

Introduction to Forensic Psychology

Introduction to the application of psychological principles to legal (civil and criminal) problems. Review of historical and contemporary issues such as the interface of the mental health system and the criminal system, civil commitment, the insanity defense, diminished capacity, sentencing, capital punishment, competency to stand trial and use of research in court. Note: Instructor approval required for students who are not in the M.A. in forensic psychology program or the B.A./M.A. accelerated program.

PSYC6231

3 Credits

Psychological Bases of Criminal Behavior

An in-depth analysis of research on the psychological bases and dynamics of criminal, aggressive and antisocial behavior. Review of multiple theoretical and explanatory aspects of criminal behavior, with emphasis on the relationships between psychopathological states, personality disorders, psychodiagnostics and antisocial behavior. Note: Instructor approval required for students who are not in the M.A. in forensic psychology program or the B.A./M.A. accelerated program.

PSYC7230

3 Credits

Forensic Assessment and Prediction

Review of relevant measurements used in forensic assessment — assessment of risk of violence, psychopathology, malingering, personal injury, competency, disability and child custody. A focus of the course is on the heuristics/biases of risk-related decision-making under uncertainty. Note: Instructor approval required for students who are not in the M.A. in forensic psychology program, the forensic B.A./M.A. accelerated program or the clinical psychology Ph.D. forensic track.

PSYC7234

3 Credits

Ethical Issues in Forensic Practice

This course focuses on ethical conflicts and dilemmas facing forensic psychologists when working within the legal system as evaluators, consultants or expert witnesses. Topics include standards of practice in forensic psychology, role of the expert witness, protection of rights of defendants, evaluating competency of defendants, confidentiality and duty to protect, refusal and consent to treat and more. Note: Instructor approval required for students who are not in the M.A. in forensic psychology program or the B.A./M.A. accelerated program.

PSYC7235

3 Credits

Criminal Responsibility and Competency

This course focuses on the history of the insanity defense, procedures for assessing mental state, mental conditions that diminish capacity for “requisite intent,” the complex structure and assessment of malingering and assessment of mitigation. Prerequisite: PSYC6114 Psychopathology and PSYC6230 Introduction to Forensic Psychology. Note: Instructor approval required for students who are not in the M.A. in forensic psychology program, the forensic B.A./M.A. accelerated program or the clinical psychology Ph.D. forensic track.

PSYC7240

3 Credits

Externship in Forensic Psychology

A supervised field experience in the assessment, management and treatment of patients. Students obtain an approved externship at forensic sites including prisons, special treatment facilities, hospitals or rehabilitation centers. Students have the opportunity to specialize in their externship, working with populations such as juvenile offenders or with other special populations such as criminals with alcohol or substance-abuse disorders or with sex offenders. Course is pass/fail.

PSYC7242

3 Credits

Externship in Pro-Seminar

The pro-seminar provides group supervision around clinical, treatment, ethical and other general-practice issues that arise during externship.

PSYC7243

3 Credits

Special Topics in Forensic Psychology

This course provides focused coverage of special populations and issues in the area of forensic psychology. Examples of topics include assessment and treatment to gain an understanding of issues specific to particular populations (e.g., juvenile offenders, female offenders, offenders with psychopathic traits), contexts (e.g., assessment of law enforcement personnel) and areas of forensic practice (e.g., criminal profiling). Note: Instructor approval required for students who are not in the M.A. in forensic psychology program.

Electives

PSYC6228

3 Credits

Mental Health Law

This course provides a general overview of mental health issues in the forensic context, including privileged communications, confidentiality, mental disorders in involuntary commitment, civil liability and competencies,

diminished capacity and criminal responsibility, guardianships and conservatorships.

PSYC6229

3 Credits

Psycholegal Analysis of Forensic Cases

The course will introduce actual cases and facts and will probe, in depth, the presumptive underpinnings of the psychological, legal and ethical issues raised by the case. One case will be presented each week and active discussion of the psycholegal issues raised by the case will be expected. Cases have been selected to cover a broad range of challenging issues raised for forensic psychologists. Prerequisite: PSYC6230 Introduction to Forensic Psychology. Note: Instructor approval required for students who are not in the M.A. in forensic psychology program or the B.A./M.A. accelerated program.

PSYC6232

3 Credits

Juvenile Offenders

This course focuses on the etiology, assessment, classification and treatment of the juvenile offender. Emphasis is placed on developmental, cognitive-behavioral and psychodynamic explanations and treatment approaches. The use of case studies is also emphasized in this course, and part of the course is devoted to reviewing and critiquing legal and institutional responses to juvenile crime.

PSYC6234

3 Credits

Evaluation and Treatment of Sex Offenders

This course focuses on the diagnosis, classification and treatment of sex offenders as well as issues confronting psychologists when working with this population, such as the interpersonal and intrapsychic dynamics of sex offenders. Presentation of case material is utilized in this course.

PSYC7232

3 Credits

Psychological Profiling

Examines crime and the criminal mind from the perspective of psychological profiles, with an emphasis on phenomenology and psychopathology, as well as prognostication of criminal behavior. A major focus is placed on profiling through the presentation of case material and findings, with an emphasis on the homicidal offender.

PSYC7233

3 Credits

Evaluation and Treatment of Alcohol and Substance Abuse Disorders

This course presents theory and research on the development, assessment and treatment of alcohol and substance-abuse disorders (drug abuse and gambling), particularly as they relate to criminal behavior.

PSYC7236

3 Credits

Forensic Scientific Evidence

This course delves into the nature of scientific evidence, validity, reliability and admissibility of evidence in court and the role of science in the courtroom, including the use of science to bias, prejudice or mislead.

PSYC7237

3 Credits

Forensic Issues in Family Court

This course addresses the role of the mental health practitioner in family court as an expert, special master, mediator and custody evaluator. This course will focus on the impact of such complex issues as abuse, mental illness, medical problems, sexual preference and substance abuse on divorce, custody, placement and domestic-law issues.

PSYC7238

3 Credits

Women and Crime

This course explores the role of women as criminals, the capacity of women to engage in a wide range of criminal acts, including crimes that are “uniquely” committed by women and the response of the criminal justice system to women. Well-known cases are included for illustrative purposes. The etiologic role of victimization will also be addressed.

PSYC7239

3 Credits

Abuse in Intimate Relationships

The focus of this course is on domestic violence and the response of the criminal justice system to managing spouse abuse, parent abuse and child abuse.

PSYC7241

3 Credits

Psychology and Law Enforcement

This course covers a range of topics concerned with the interface of law enforcement and psychology, including fitness-for-duty evaluations, pre-employment screening, special ethical issues, interviewing techniques, assessment of dangerousness, behavioral pattern analysis and threat analysis.

General/ Theoretical Psychology (M.A.)

The general/theoretical program in psychology is designed to meet the needs of students who wish to prepare for service in various scientific and professional areas of psychology and related fields or who are looking to strengthen their background in preparation for applying to doctoral programs. The program is expected to take two years to complete for full-time students, but can be completed on a part-time basis for those working full time.

This program is offered under the auspices of the School of Psychology, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements

1. A bachelor's degree from an accredited college or university.
2. Applicants must submit an official score report for the Graduate Record Examinations (GRE). (The Subject Test in Psychology is not required.) The schedule of testing dates can be obtained from Educational Testing Service, Princeton, New Jersey 08540.

3. Applicants must have taken general/introductory psychology, statistics and experimental psychology/research methods on either the undergraduate or graduate level.

4. Three letters of recommendation.
Applicants who have not completed all requirements for admission to the degree program may be permitted to enroll in classes for credit on a provisional, nonmatriculated or nondegree basis.

Requirements for the Master of Arts Degree

1. Satisfactory completion of a minimum of 36 credits in the courses approved for a graduate major in psychology. Of the 36 credits, 6 may be allowed for a thesis, but the writing of a thesis is at the option of the student.

2. The following courses comprise the core curriculum: PSYC6121 Statistics and Research Methods and PSYC6129 Research Methods and Psychometrics. Students should complete core

requirements before progressing to other courses.

3. Students receiving two or more grades below B– in any graduate course will be placed on academic probation with the possibility of a reduced course load for the next regular semester. Students receiving a concurrent or subsequent third grade below B– will not be permitted to continue in the program. A grade point ratio of at least 2.75 must be maintained at all times to continue in the program.

Basic Requirements (6 credits)

	Credits
PSYC6121 Statistics and Research Methods.....	3
PSYC6129 Research Methods and Psychometrics.....	3

Specialization Requirements (15 credits)

Students will elect a minimum of 15 credits from the following list of courses.

PSYC6109 Social Psychological Applications.....	3
PSYC6111 Theories of Personality.....	3
PSYC6114 Psychopathology.....	3
PSYC6128 Computer Applications and Scientific Report Writing.....	3
PSYC7114 Learning, Motivation and Emotion.....	3
PSYC7122 Developmental Psychology.....	3
PSYC7130 Biological Bases of Behavior.....	3

Electives (15 credits)

Students, with an adviser's approval, will elect an additional 15 credits to complete the required 36 credits. Up to 6 of these credits may consist of a master's thesis. Several courses are offered jointly with the Ph.D. program.

In addition to the course requirements, candidates for the master's degree must meet the following requirements:

1. All students are required to take and pass a comprehensive examination at the conclusion of their course work, and only students who pass the comprehensive examination will be admitted to the degree. If a student completes a master's thesis, the comprehensive examination will be waived.

2. The graduate program of studies should be completed within a period of five years.

Course Offerings

Other psychology courses are described on pages 225–227.

A wide range of electives for the M.A. in general/theoretical psychology are available in consultation with the program director.

General/Theoretical Psychology (M.A.)

School of Psychology

PSYC6100

3 Credits

Psychological Research in Substance Use and Abuse

This course will review major psychology theories and recent empirical findings regarding the use and abuse of various illicit and licit substances, with an emphasis on alcohol use. These models will provide a framework for understanding the posited antecedent and vulnerability factors that contribute to the development of normative and maladaptive substance abuse. Special emphasis is given to periods of high-risk such as young adulthood. Prevention and treatment approaches will also be covered, focusing on empirical evidence for their efficacy.

PSYC6109

3 Credits

Social Psychological Applications

This course focuses on applications of social psychological theory and research techniques in understanding and alleviating problems encountered in legal, business, community and mental health domains. Topics include, but are not limited to, attitude formation, attitude change, prejudice and discrimination, altruism and attribution theory.

PSYC6111

3 Credits

Theories of Personality

Overview of nature of personality theory; summaries of theories of personality selected because of influence on clinical practice; psychological research. Freud, Adler, Jung, Murray, G.W. Allport, Rogers, Maslow, Fromm; some existentialists and some social, behavioral or learning approaches are included.

PSYC6114

3 Credits

Psychopathology

Detailed consideration of psychopathology with respect to physiological cognitive, motivational, affective and interpersonal variables and their roles in etiology, diagnosis, treatment and prognosis.

PSYC6115

3 Credits

Child Psychopathology

Examination of behavior disorders most likely to have childhood onsets or variants. Variables such as effects of age onset, treatment modalities that are age specific, approaches or techniques, recovery rates and adult correlates are considered.

PSYC6121

3 Credits

Statistics and Research Methods

Review of issues related to research design, psychometrics and descriptive and inferential statistics. Statistical topics include, but are not limited to, parametric techniques such as t-tests, analysis of variance and simple and multiple regression analysis. Heavy emphasis will be placed on application of techniques using statistical software and interpretation of results. Prerequisite: PSYC2201 Statistics.

PSYC6128

3 Credits

Computer Applications and Scientific Report Writing

This course will cover the use of SPSS (Statistical Package for Social Sciences) statistical software and related programs (e.g., Excel) for data management, analysis and graphing. Emphasis will be placed on using the graphical interface of SPSS software, but the program syntax for various applications also will be covered. This course will also cover scientific report writing (i.e., summarizing SPSS output) with emphasis placed on APA (American Psychological Association) style. Prerequisite: PSYC6121 Statistics and Research Methods.

PSYC6129

3 Credits

Research Methods and Psychometrics

This course covers basic topics and issues in psychometrics and research design. In addition to a review of basic statistical concepts, topics include: classical true score theory and scale creation; scale reliability and validity assessment; experimental design validity (internal, external, statistical, construct); major threats to valid inferences in research; and ethical issues in behavioral research. Prerequisite: PSYC6121 Statistics and Research Methods.

PSYC7114

3 Credits

Learning, Motivation and Emotion

Survey of the experimental literature relating to these constructs. Emphasis placed on integrative theory involving brain function, reward and incentive as well as human cognitive process.

PSYC7122

3 Credits

Developmental Psychology

Childhood, adolescence and early to mid-adulthood, including major theories of development (Piaget, Freud and social learning theories), research and application. Special emphasis on research concerning the development of prosocial behavior, internalization and sex typing.

PSYC7125

3 Credits

Applied Social Psychology

Developing understanding of social underpinnings of psychological phenomena. Topics include attitude formation, attitude change, prejudice and discrimination, altruism, attribution theory, emotions, research techniques and application of social psychology to clinical practice. Research project included.

PSYC7810

0-3 Credits

I.S. Master's Thesis

An experimental research project. Can be used in place of the master's comprehensive examination.

PSYC7811

3-6 Credits

I.S. Master's Clinical Practicum

Interviewing and assessment experience. Some therapy experience may be included.

PSYC7812

0-3 Credits

I.S. Master's Thesis II

The continuation of an independent research project (chapters 3 and 4 of Thesis: Results and Discussion sections). Thesis can be used in place of master's comprehensive examination.

School Psychology (Psy.D.)

The School of Psychology offers two tracks for the school psychology doctoral degree: a five-year full-time program (see this page) for applicants with a bachelor's degree in psychology or a related field and an advanced program (see page 235) for those who already have a master's degree and certification in school psychology. All classes for both programs are held late afternoon or evening.

School Psychology (Five-year Psy.D.)

The five-year school psychology doctoral program is an integration of theoretical and foundational knowledge and applied professional training for those committed to working with children and adolescents in schools and school-related settings. The program's goal is to prepare individuals to assume leadership positions within schools, school-related and academic settings. The program prepares students for certification in school psychology and eligibility for licensure as a psychologist.

The program is a full-time program. Classroom experiences are integrated with field-based experiences in a multitude of settings, beginning in the first semester of study. Classes are held in late afternoon and evening, providing ample opportunity for practicum and research. The program's eclectic orientation and wide range of course work provide education in research, consultation, assessment, prevention, program evaluation, neuropsychology and psychopharmacology. There are opportunities for students to work closely with program faculty to develop specialized areas of interest and research. During their fourth year of study, students are expected to complete a doctoral dissertation in the form of an original clinical investigation, a program evaluation, case study or meta-analysis. Students are also expected to successfully complete a comprehensive examination and the PRAXIS exam in school psychology.

The program culminates (fifth year) in a yearlong internship in a school or related clinical setting. Students are encouraged to apply for APA-approved internships. Stipends supporting half tuition are

Psychology • School (Five-year Psy.D.)

available for highly qualified students. The granting of a tuition stipend requires a commitment of 12 hours per week as a research assistant.

This program is offered under the auspices of the School of Psychology, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements and Information

To apply for the five-year Psy.D. in school psychology program, check the FDU website (www.fdu.edu), call or write to the School of Psychology, Fairleigh Dickinson University, 1000 River Road, Teaneck, N.J. 07666-1914, (201) 692-2301.

Applications for admission to the five-year program should be submitted no later than February 15. Applications received after that date will be considered on a space-available basis only. Should an individual not yet be qualified for the Psy.D. program, that application will automatically be reviewed for the M.A. plus certification program.

Applicants to the five-year Psy.D. program should hold an undergraduate degree in psychology or related field with at least 18 credits in psychology beyond general psychology.

Applicants to the program must submit:

1. A completed FDU Psy.D. Application for Admission.
2. Transcripts from all academic institutions previously attended.
3. Official report of Graduate Record Examinations (GRE) scores for the General Test and the Subject Test in Psychology.
4. Three letters of recommendation from academic and/or professional references.
5. A typed statement of professional interests and goals.
6. Applicants will be selected, based on credential review, for a personal interview.
7. Transfer credits will be handled individually by the Program Committee.

Requirements for the Psy.D. Degree

First Semester

	Credits
PSYC6111	
Theories of Personality.....	3
PSYC6121	
Statistics and Research Methods.....	3

	Credits
PSYC6651	
Ethics and Professional Practice in Schools and School Psychology.....	3
PSYC7819	
Introduction to School Learning Problems I.....	3
PSYC9171	
Practicum in School Psychology I.....	3

Second Semester

PSYC6115	
Child Psychopathology.....	3
PSYC6129	
Research Methods and Psychometrics.....	3
PSYC7124	
Developmental Child and Adolescent Psychology.....	3
PSYC7820	
Introduction to School Learning Problems II.....	3
PSYC9172	
Practicum in School Psychology II.....	3

Third Semester

EDUC6743	
Introduction to Students with Disabilities in School and Community.....	3
PSYC7615	
Child Assessment I with Practicum.....	3
PSYC7815	
Child Assessment II with Practicum.....	3
PSYC8910	
School-based Consultation with Practicum.....	3
PSYC9173	
Practicum in School Psychology III.....	3

Fourth Semester

PSYC7125	
Applied Social Psychology.....	3
PSYC7825	
Child Neuropsychology.....	3
PSYC8725	
Prevention and Intervention with Children and Adolescents.....	3
PSYC8815	
Child Assessment III with Practicum.....	3
PSYC9174	
Practicum in School Psychology IV.....	3

Summer

PSYC8128	
Child and Adolescent Psychopharmacology.....	3

Fifth Semester

	Credits
PSYC6116	
History and Systems.....	3
PSYC8110	
Dissertation Seminar (School Psychology).....	3
PSYC8130	
Pediatric Psychology.....	3
PSYC8720	
Seminar in Child/Adolescent Assessment.....	3
PSYC9175	
Practicum in School Psychology V.....	3

Sixth Semester

PSYC8112	
Dissertation Seminar (School Psychology).....	3
PSYC8721	
Seminar in Child/Adolescent Intervention.....	3
PSYC8930	
Advanced Consultation for School Psychologists.....	3
PSYC8951	
Administration and Supervision in School Psychology.....	3
PSYC9176	
Practicum in School Psychology VI.....	3

Summer

PSYC8132	
Special Topics in School Psychology.....	3

Seventh Semester

PSYC9110	
School-Community Mental Health.....	3
PSYC9150	
Internship (School Psychology)*.....	3

Eighth Semester

EDUC6702	
Curriculum and Instruction: Theory and Practice.....	3
PSYC9150	
Internship (School Psychology)*.....	3

Note: PRAXIS Exam must be taken prior to graduation.

Course Descriptions

See "Course Offerings," pages 236–238.

**Students may choose to postpone PSYC9150 Internship (School Psychology) until the fifth year. The fourth year may be used for dissertation. The goal would be dissertation completion prior to or in conjunction with internship.*

Psychology • School (Advanced Psy.D.)

School Psychology (Advanced Psy.D.)

The doctoral program in school psychology is an innovative, applied professional psychology program. The program builds on the master's degree training and experiences of each student. Its goal is to prepare professionals who will be leaders in the design, evaluation, provision and supervision of comprehensive mental health and psychoeducational services to children, youths and families.

The program prepares students for eligibility for licensure as psychologists. Course work can be completed in two years, including summer sessions. Classes are held in the late afternoons and evenings. Therefore, students are able to work while in the program. Upon completion of their course work, students engage in research culminating in a doctoral dissertation. The research project may be in the form of an original applied clinical investigation, program evaluation, case study, meta-analysis or validation of a test or clinical procedure.

This program is offered under the auspices of the School of Psychology, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Admission Requirements and Information

To apply for the Psy.D. in school psychology program, write to the School of Psychology, Fairleigh Dickinson University, Metropolitan Campus, 1000 River Road, Teaneck, N.J. 07666-1914, or call (201) 692-2301 for an application. Applications for admission should be submitted no later than March 1. Applications received after that date will be considered only on a space-available basis.

Applicants to the advanced Psy.D. in school psychology program should hold a master's degree and certification in school psychology. Candidates who are not certified school psychologists will be required to take the necessary course work and field experience to obtain certification prior to admittance into the doctoral program.

Applicants to the program must submit:

1. A completed FDU Psy.D. Application for Admission.

2. Transcripts from all academic institutions previously attended.
3. Official report of Graduate Record Examinations (GRE) scores for the General Test and Subject Test in Psychology.
4. Three letters of recommendation from academic and/or professional references.
5. A typed statement of professional goals.
6. A representative work sample of current professional skills (e.g., psychological testing report, consultation or therapy summary, etc.).
7. Applicants will be required to complete a personal interview.
8. Transfer of graduate credits to this program is handled individually by the program director.

Requirements for the Advanced Psy.D. Degree

First Year

<i>Fall Semester</i>	Credits
PSYC7145	
Issues and Techniques in Research and Evaluation I.....	3
PSYC7651	
Seminar in Professional School Psychology Practice and Ethics.....	3
PSYC8720	
Seminar in Child/Adolescent Assessment.....	3

Spring Semester

PSYC7146	
Issues and Techniques in Research and Evaluation II.....	3
PSYC8721	
Seminar in Child/Adolescent Intervention.....	3
PSYC8930	
Advanced Consultation for School Psychologists.....	3

Summer Semester

PSYC8128	
Child and Adolescent Psychopharmacology.....	3
PSYC8132	
Special Topics in School Psychology.....	3

Second Year

Fall Semester

PSYC8110	
Dissertation Seminar (School Psychology).....	3

Credits

PSYC8130	
Pediatric Psychology.....	3
PSYC9125	
Advanced Practicum I (School Psychology).....	3

Spring Semester

PSYC8112	
Dissertation Seminar (School Psychology).....	3
PSYC8951	
Administration and Supervision in School Psychology.....	3
PSYC9126	
Advanced Practicum II (School Psychology).....	3

Summer Semester

PSYC6116	
History and Systems.....	3
PSYC8140	
Seminar in School Change.....	3

Third Year

Fall Semester

PSYC9115	
Dissertation Maintenance (School Psychology).....	0
PSYC9150	
Internship (School Psychology).....	3

Spring Semester

PSYC9115	
Dissertation Maintenance (School Psychology).....	0
PSYC9150	
Internship (School Psychology).....	3

Summer Semester

PSYC9152	
Internship Maintenance (School Psychology).....	0

The comprehensive examination is taken during the summer of the second year. Dissertation defense is scheduled for the fall or spring semester of the third year.

Note: For individuals pursuing Supervisor Certification, enrollment in EDUC6702 Curriculum and Instruction: Theory and Practice is required. For descriptions of education courses, refer to Peter Sammartino School of Education program, pages 141–154.

Psychology • School

Course Offerings

School Psychology

School of Psychology

The following courses were developed specifically for the school psychology programs. Other psychology courses are described on pages 225–227 and 232–233. Other listed education (EDUC) courses are described under Education in the catalog.

PSYC6651

3 Credits

Ethics and Professional Practice in Schools and School Psychology

Ethical issues, professional problems and legislation affecting the practice of school psychology are examined. American Psychological Association (APA) and National Association of School Psychologists (NASP) ethical practice guidelines are discussed. The role and function of the school psychologist as a mental health professional and educational specialist are reviewed.

PSYC7124

3 Credits

Developmental Child and Adolescent Psychology

Childhood through adolescence, including major theories of development (Piaget, Freud and social learning theories), research and application. Special emphasis on research concerning the development of prosocial behavior, internationalization and sex typing.

PSYC7145

3 Credits

Issues and Techniques in Research and Evaluation I

The first of a two-semester course that introduces the doctoral student to research methodology and exemplary research in school psychology and related fields of child mental health and special education. Students will be exposed to topics including data collection and analysis, meta-analysis methods, statistical packages (e.g., SPSS and SYSTAT), program evaluation and outcome-based school psychological services, qualitative research, case study and single-subject design.

Fall

PSYC7146

3 Credits

Issues and Techniques in Research and Evaluation II

The second of a two-semester course that introduces the doctoral student to research methodology and exemplary research in school psychology and related fields of child mental health and special education. Students will be exposed to topics including data collection and analysis, meta-analysis methods, statistical packages (e.g., SPSS and SYSTAT), program evaluation and outcome-based school

psychological services, qualitative research, case study and single-subject design. Prerequisite: PSYC7145 Issues and Techniques in Research and Evaluation I.

Spring

PSYC7615

3 Credits

Child Assessment I with Practicum

Development of skills in objective testing and intellectual assessment, focusing on the WJIV, DAS-2 and Wechsler batteries. Translation of findings into reports relevant to treatment outcomes will be emphasized. Assessment of culturally diverse populations will be discussed. Practicum experience is required.

PSYC7651

3 Credits

Seminar in Professional School Psychology Practice and Ethics

This course provides an overview of the critical issues and emerging perspectives in professional school psychology. Students are reacquainted with historical, sociocultural, philosophical and fiscal issues facing the profession. Attention to role and function, with emphasis on the school psychologist in a leadership role in orchestrating a full range of prevention and intervention services to children, youth and families.

PSYC7815

3 Credits

Child Assessment II with Practicum

Development of skills in personality assessment with children and adolescents. Objective assessment of personality will be considered.

PSYC7819

3 Credits

Introduction to School Learning Problems I

The focus of this course is early identification of learning problems and their assessment with an emphasis on Curriculum-based Assessment (CBA), Functional Behavioral Assessment (FBA), Response to Intervention (RTI) and standardized measures of achievement.

PSYC7820

3 Credits

Introduction to School Learning Problems II

Theories of teaching and learning, research and methods of assessing effectiveness as related to the classroom experience. Issues of learner diversity as it affects the process are examined along with Functional Behavioral Assessment (FBA).

PSYC7825

3 Credits

Child Neuropsychology

Neuropsychology provides important underpinnings for effective assessment and planning interventions. Developmental

neuropsychological approaches as they relate to child development and education will be presented together with appropriate assessment strategies. Educational and curriculum implications will be reviewed.

PSYC8110, PSYC8112

3 Credits Each Semester

Dissertation Seminar (School Psychology)

This two-semester seminar will guide students through the often difficult process of conceptualizing a dissertation topic, writing proposals and defending both the proposal and the final project. Areas covered will include, but not be limited to, the development of a research statement, review of relevant literature, the writing process, Institutional Review Board (IRB) approval and data collection and analysis.

Fall, Spring

PSYC8128

3 Credits

Child and Adolescent Psychopharmacology

This course focuses on up-to-date and practical information pertaining to the use of psychopharmacological agents in the treatment of childhood and adolescent disorders. Topics covered include general and cellular neuroanatomy, physiology and function; basic pharmacology; general principles of psychopharmacotherapy; and the use of sympathomimetic amines, central nervous system stimulants, antipsychotics, antidepressants, lithium carbonate, anxiolytics and other medications in children and adolescents.

Summer

PSYC8130

3 Credits

Pediatric Psychology

This course focuses on the relationship between physical and mental health in children and adolescents, from a biopsychosocial approach. Developmental disabilities, pervasive developmental disorders, chronic illnesses, failure to thrive and delayed development are among the topics covered. Assessment and treatment will be emphasized along with the mental-health impact of physical, developmental and medical disorders on the child, the family and schooling.

Fall

PSYC8132

3 Credits

Special Topics in School Psychology

This course focuses on contemporary and critical topics in the school psychology field. Topics may vary from semester to semester.

PSYC8140

3 Credits

Seminar in School Change

This advanced-level course focuses on synthesizing theoretical formulations and

evidence-based research findings in order to facilitate significant changes in the educational environment. Issues focusing on barriers and resistance to change as well as contributors to resilient environments will be examined.

PSYC8720

3 Credits

Seminar in Child/Adolescent Assessment

Builds upon the students' training and experience with various child and adolescent diagnostic and assessment procedures and techniques. Introduces new assessment strategies and critically reviews the strengths and limitations of commonly used assessment instruments and techniques. Students are provided an opportunity to apply advanced assessment techniques in either their work settings or at a practicum site.

Fall

PSYC8721

3 Credits

Seminar in Child/Adolescent Intervention

The practice and application of empirically supported psychoeducational and psychotherapeutic interventions with children in preschool through high school. Takes a developmental and transactional perspective on children's learning and behavior problems. Students will be expected to bring case material from their field/work placement to complement lectures and discussions.

Spring

PSYC8725

3 Credits

Prevention and Intervention with Children and Adolescents

Methods of child and adolescent therapy are examined with an emphasis on evaluation of the appropriate treatment for children and adolescents at different stages of cognitive and emotional development. Research focusing on treatment outcome as well as clinical case material will be reviewed.

PSYC8815

3 Credits

Child Assessment III with Practicum

New directions in assessment are examined. The focus will be integration of intellectual, personality and cognitive information, resulting in meaningful data sharing. Students will be expected to complete two comprehensive psychological assessments.

PSYC8910

3 Credits

School-based Consultation with Practicum

Indirect methods of intervention are explored through different approaches to consultation which include mental health consultation,

behavioral consultation and instructional consultation. Students are required to complete a project at an assigned site.

PSYC8922

3 Credits

Externship in School Psychology I

This is the culminating educational experience for students in the M.A./certification program in school psychology. Students are engaged in a planned sequence of field experiences in a school or other approved educational setting under the supervision of a certified school psychologist for a minimum of 1,200 hours over the course of two semesters in order to meet school psychology certification requirements.

PSYC8923

3 Credits

Externship in School Psychology II

Continuation of PSYC8922 Externship in School Psychology I.

Fall, Spring

PSYC8930

3 Credits

Advanced Consultation for School Psychologists

This course will cover the major models of school-based consultation (e.g., mental health, behavioral, instructional and ecological). Students will develop strong background knowledge in various models of psychological consultation, strengthen their problem-solving skills as applied to indirect service provision, master specific techniques used in various consultative models and practice applying their consultative skills to sample cases. Special attention will be paid to ethical issues as well as to issues pertaining to diversity and equity in psychological practice.

Spring

PSYC8951

3 Credits

Administration and Supervision in School Psychology

This doctoral-level seminar introduces the student to the theory and practice of administration and supervision of psychological services. Topics will include strategic planning, budget, human resources, marketing and staff development. Students are required to supervise a master's-level school psychology student.

PSYC9110

3 Credits

School-Community Mental Health

Preventive science focusing on mental health services in the schools and communities is the primary focus of the course. Interdisciplinary courses in a sociocultural context are examined and model programs preventing mental illness and promoting mental health for children, adolescents and their families are reviewed and analyzed.

PSYC9115

0 Credits

Dissertation Maintenance (School Psychology)

Continuation of the research project required of all doctoral candidates in school psychology.

Fall, Spring

PSYC9123

3 Credits

Family Therapy

Interventions with couples and families. Assessment through genograms. Exploration of different theoretical models of family therapy, with emphasis on systems approaches.

PSYC9125

3 Credits

Advanced Practicum I (School Psychology)

Supervised training experiences at FDU's Center for Psychological Services. Doctoral students are supervised by faculty on two or more child, adolescent or adult treatments and/or testing cases during the course. Practicum encompasses approximately 100 hours of training.

Fall

PSYC9126

3 Credits

Advanced Practicum II (School Psychology)

Supervised training experiences at FDU's Center for Psychological Services. Doctoral students are supervised by faculty on two or more child, adolescent or adult treatments and/or testing cases during the course. Practicum encompasses approximately 100 hours of training.

Prerequisite: PSYC9125 Advanced Practicum I (School Psychology).

Spring

PSYC9140

3 Credits

Internship (School Psychology)

This course consists of a full-time internship in school psychology for students in the Psy.D. in school psychology program.

PSYC9150

3 Credits

Internship (School Psychology)

Yearlong applied field experience in a school system, educational agency and/or mental health facility, required for Psy.D. candidates in school psychology.

Fall, Spring, Summer

PSYC9152

0 Credits

Internship Maintenance (School Psychology)

Continuation of applied field experience in a school system, educational agency and/or mental health facility.

Fall, Spring, Summer

Psychology • School (M.A. Plus Certification)

PSYC9171

3 Credits

Practicum in School Psychology I

The primary goal of the practicum sequence is to provide students with incremental opportunities to acquire an understanding of the skills to implement school-related practice under supervision.

PSYC9172

3 Credits

Practicum in School Psychology II

The primary goal of the practicum sequence is to provide students with incremental opportunities to acquire an understanding of the skills to implement school-related practice under supervision.

PSYC9173

3 Credits

Practicum in School Psychology III

The primary goal of the practicum sequence is to provide students with incremental opportunities to acquire an understanding of the skills to implement school-related practice under supervision.

PSYC9174

3 Credits

Practicum in School Psychology IV

The primary goal of the practicum sequence is to provide students with incremental opportunities to acquire an understanding of the skills to implement school-related practice under supervision.

PSYC9175

3 Credits

Practicum in School Psychology V

The primary goal of the practicum sequence is to provide students with incremental opportunities to acquire an understanding of the skills to implement school-related practice under supervision.

PSYC9176

3 Credits

Practicum in School Psychology VI

The primary goal of the practicum sequence is to provide students with incremental opportunities to acquire an understanding of the skills to implement school-related practice under supervision.

PSYC9801

3 Credits

Independent Study in Psychology (Psy.D.)

Topic to be chosen by student and faculty mentor. Prerequisite: completion of required courses.

Note: For descriptions of education (EDUC) courses, refer to Peter Sammartino School of Education programs, pages 141–154.

School Psychology (M.A.) Plus Certification

The school psychology program provides the education to become a professional school psychologist at the master's plus certification level (60 credits). The program emphasizes the development of skills to provide direct service to school-age children and the development of competencies necessary for maximizing the educational potential of all children. Students are expected to apply the knowledge and skills acquired to foster learning and social development. The program features opportunities to develop special competencies in areas such as assessment, identifying and treating behavior problems in children and adolescents, utilizing curriculum-based measurement tools to assess school health and student progress and assisting students on the autism spectrum in strengthening academic and life skills. Offered at Fairleigh Dickinson University's Metropolitan Campus in Teaneck, New Jersey, the School Psychology program is recognized by and registered with the State Department of Education. The program holds full National Association of School Psychologists (NASP) accreditation, and graduates are able to become Nationally Certified School Psychologists upon successful completion of the PRAXIS examination and externship requirements.

This program is offered under the auspices of the School of Psychology, University College: Arts • Sciences • Professional Studies, Metropolitan Campus, Teaneck, New Jersey.

Professional Accreditation

The Master of Arts in school psychology is accredited by the National Association of School Psychologists (NASP).

Admission Requirements

1. Completed applications for admissions are due by March 1 for September admission.

2. Applicants must hold a bachelor's degree from an accredited college or university.

3. Applicants for the Master of Arts and certification in school psychology must

submit Graduate Record Examinations (GRE) scores for the General Test. (The GRE General Test requirement is waived for applicants who have completed a master's degree.) The schedule of testing dates can be obtained from Educational Testing Service, Princeton, N.J. 08540.

4. Applicants must have taken general psychology and statistics, and either child development, experimental psychology, abnormal psychology or theories of personality on either the undergraduate or graduate level.

5. Applicants must submit three letters of recommendation.

6. Applications are carefully reviewed, and group interviews are conducted for those applicants who meet the school's criteria.

Students are admitted either full time or part time, both requiring the completion of a minimum of two courses per semester.

Applications also will be considered from individuals holding a master's degree in psychology, education or related fields and/or certification in an allied educational area and who wish to obtain certification as a school psychologist. If such applicants meet the academic requirements of the school, a course of study will be determined on an individual basis to meet certification requirements.

Requirements for the Master of Arts Degree and Certification in School Psychology

1. Satisfactory completion of 60 credits in the courses approved for the school psychology program.

2. Students receiving two or more grades below B– in any graduate course will be placed on academic probation with the possibility of a reduced course load for the next regular semester. Students receiving a concurrent or subsequent third grade below B– will not be permitted to continue in the program. A grade point ratio of at least 2.75 must be maintained at all times to continue in the program.

3. All students are required to take and pass a comprehensive examination at the conclusion of their course work, and only students who pass the comprehensive examination will be admitted to the degree.

4. Students must complete a total of 300 hours of practicum experiences (through course work and school-based experiences) before beginning the externship.

Psychology • School (M.A. Plus Certification)

5. All students must take the school psychology Praxis examination before completion of the program.

6. Students must complete a 1,200-hour externship in a school or school-related setting under the supervision of a certified school psychologist.

7. Students will be dropped from the program for a proven, serious, negligent breach of the American Psychological Association Ethical Guidelines. Students also will be dropped from the program for violation of the Academic Integrity Policy.

8. Students encountering serious psychological adjustment problems will be advised to seek professional counseling. If the problems are not ameliorated, the student may be asked to leave the program.

Curriculum

First Semester

	Credits
PSYC6111	
Theories of Personality.....	3
PSYC6121	
Statistics and Research Methods.....	3
PSYC6651	
Ethics and Professional Practice in Schools and School Psychology.....	3
PSYC7819	
Introduction to School Learning Problems I.....	3

Second Semester

PSYC6115	
Child Psychopathology.....	3
PSYC6129	
Research Methods and Psychometrics.....	3
PSYC7122	
Developmental Psychology.....	3
PSYC7820	
Introduction to School Learning Problems II.....	3

Third Semester

EDUC6743	
Introduction to Students with Disabilities in School and Community.....	3
PSYC7615	
Child Assessment I with Practicum.....	3
PSYC7815	
Child Assessment II with Practicum.....	3
PSYC8910	
School-based Consultation with Practicum.....	3

Fourth Semester

EDUC6702	
Curriculum and Instruction: Theory and Practice.....	3
PSYC7825	
Child Neuropsychology.....	3
PSYC8725	
Prevention and Intervention with Children and Adolescents.....	3
PSYC8815	
Child Assessment III with Practicum.....	3

Fifth Semester

EDUC7721	
Philosophy of Education.....	3
PSYC8922	
Externship in School Psychology I (600 hours).....	3
PSYC9110	
School-Community Mental Health.....	3

Sixth Semester

PSYC8923	
Externship in School Psychology II (600 hours).....	3

Course Offerings

School Psychology

School of Psychology

The following courses were developed specifically for the M.A. in school psychology programs. Other psychology courses are described on pages 225–227 and 252–253. Other listed education (EDUC) courses are described under Education in the catalog.

PSYC6651

3 Credits

Ethics and Professional Practice in Schools and School Psychology

Ethical issues, professional problems and legislation affecting the practice of school psychology are examined. American Psychological Association (APA) and National Association of School Psychologists (NASP) ethical practice guidelines are discussed. The role and function of the school psychologist as a mental health professional and educational specialist are reviewed.

PSYC7615

3 Credits

Child Assessment I with Practicum

Development of skills in objective testing and intellectual assessment, focusing on the WPPSI, K-ABC and Weschler batteries. Translation of findings into reports relevant to treatment outcomes will be emphasized. Assessment of culturally diverse populations will be discussed. Practicum experience is required.

PSYC7651

3 Credits

Seminar in Professional School Psychology Practice and Ethics

For first-year doctoral students in school psychology, the course provides an overview of the critical issues and emerging perspectives in professional school psychology. Students are reacquainted with historical, sociocultural, philosophical and fiscal issues facing the profession. Attention to role and function, with emphasis on the school psychologist in a leadership role in orchestrating a full range of prevention and intervention services to children, youth and families.

PSYC7815

3 Credits

Child Assessment II with Practicum

Development of skills in personality assessment with children and adolescents. Objective assessment of personality will be considered.

PSYC7819

3 Credits

Introduction to School Learning Problems

The focus of this course is early identification of learning problems and their assessment with an emphasis on Curriculum-based Assessment (CBA), Response to Intervention (RTI) and standardized measures of achievement.

PSYC7820

3 Credits

Introduction to School Learning Problems II

Theories of teaching and learning, research and methods of assessing effectiveness as related to the classroom experience. Issues of learner diversity as it affects the process are examined along with Functional Behavioral Assessment (FBA).

PSYC7825

3 Credits

Child Neuropsychology

Neuropsychology provides important underpinnings for effective assessment and planning interventions. Developmental neuropsychological approaches as they relate to child development and education will be presented together with appropriate assessment strategies. Educational and curriculum implications will be reviewed.

PSYC8725

3 Credits

Prevention and Intervention with Children and Adolescents

Methods of child and adolescent therapy are examined with an emphasis on evaluation of the appropriate treatment for children and adolescents at different stages of cognitive and

Public Administration

emotional development. Research focusing on treatment outcome as well as clinical case material will be reviewed.

PSYC8815

3 Credits

Child Assessment III with Practicum

New directions in assessment are examined. The focus will be integration of intellectual, personality and cognitive information, resulting in meaningful data sharing. Students will be expected to complete two comprehensive psychological assessments.

PSYC8910

3 Credits

School-based Consultation with Practicum

Indirect methods of intervention are explored through different approaches to consultation which include mental health consultation, behavioral consultation and instructional consultation. Students are required to complete a project at an assigned site.

PSYC8922

3 Credits

Externship in School Psychology I

This is the culminating educational experience for students in the M.A./certification program in school psychology. Students are engaged in a planned sequence of field experiences in a school or other approved educational setting under the supervision of a certified school psychologist for a minimum of 1,200 hours over the course of two semesters in order to meet school psychology certification requirements.

PSYC8925

3 Credits

Externship in School Psychology II

Continuation of PSYC8922 Externship in School Psychology I.
Fall, Spring

PSYC9110

3 Credits

School-Community Mental Health

Preventive science focusing on mental health services in the schools and communities is the primary focus of the course. Interdisciplinary courses in a sociocultural context are examined and model programs preventing mental illness and promoting mental health for children, adolescents and their families are reviewed and analyzed.

Note: For descriptions of education (EDUC) courses, refer to Peter Sammartino School of Education programs, pages 141–154.

Public Administration (M.P.A.)

The School of Public and Global Affairs offers a curriculum leading to the degree of Master of Public Administration (M.P.A.).

The school is a member of the National Association of Schools of Public Affairs and Administration (NASPAA). Part of the University's efforts to meet its public service obligations, the school seeks to provide well-trained recruits for public and nonprofit agencies and to improve the knowledge and credentials of administrators already employed in these organizations.

The curriculum is designed to provide graduates with conceptual, analytic and managerial skills for dealing with a variety of public services administration situations. Experienced administrators should be able to exchange perspectives with each other, apply job knowledge and anticipate the process of coping with ongoing change. Students new to the field will acquire a wide knowledge of public management and concept issues common to public administrators.

In an effort to broaden the educational experience of its students, the school offers specialized course work at the University's Wroton College in England in such fields as health, emergency management and urban development.

This program is offered at the Florham Campus, Madison, New Jersey, and the Metropolitan Campus, Teaneck, New Jersey; at the Bethune Center in Jersey City, New Jersey; at Newark Liberty International Airport in Newark, New Jersey; at the Port Authority Transportation Center in Jersey City, New Jersey; at the Port Authority George Washington Bridge Training Center in Fort Lee, New Jersey; in Neptune, New Jersey; and at other locations in New Jersey.

Honor Society

Students are eligible for membership in the National Public Administration Honor Society, Phi Alpha Alpha, upon the completion of 18 credits with a cumulative grade point ratio of at least 3.70.

Certificates

The School of Public and Global Affairs offers two certificates within the Master of

Public Administration program: **certificate in global transportation management** and **certificate in public management**.

Certificates require the completion of 18 credits in the M.P.A. program, and credits may be applied toward the final M.P.A. degree. Completed certificates appear on the student's transcript.

Specializations

The M.P.A. program offers various specializations: global affairs, global transportation management, health care management, public finance, public management and public policy.

Global Affairs

This specialization concentrates on the administrative structure and issues in the areas of international and diplomatic relations and activities. Courses stress communication, leadership and administrative interaction in the international arena, as well as cultural perspectives. Courses include PADM7780 Diplomatic Communication for Administrators and PADM7796 International Dimensions of Public Administration.

Global Transportation Management

This specialization concentrates on the background, administrative structure and issues, environmental components and operational aspects in the context of international transportation and commerce. Courses include PADM7749 Development of Global Transportation System and PADM7753 Issues of Security and Transportation Systems.

Health Care Management

The specialization in health care management consists of a series of courses that are designed, in combination with the M.P.A. core curriculum, to meet the accreditation standards of the Association of University Programs in Health Administration. Students in the health care management concentration take course work such as PADM7731 Introduction to Health Systems and Policy, PADM7732 Health Finance and Control Systems, PADM7734 Managing the Continuum of Care and PADM7791 Global Health Issues.

Public Finance

This specialization concentrates on the tools necessary to understand, run and supervise finance operations in public and nonprofit organizations. Courses include PADM7741 Financial Management in State and Local Government, PADM7762 Public Purchasing, PADM7795 Finance and Accounting for Public Administration and PADM7797 Corporate Finance for Public Administrators.

Public Management

Students choosing this specialization take 15 credits of course work selected from among a series of specially designated elective courses such as PADM7713 Organizational Performance Assessment, PADM7714 Law and Administration, PADM7715 Employee Relations and PADM7716 Delivery of Public Services.

Public Policy

Leaders are called on to analyze, evaluate and devise policy for others to implement. This specialization cuts across a variety of subject matter to assess problems and devise solutions.

Admission Requirements

The credentials required for admission to the Master of Public Administration degree program as a matriculated student include the following:

1. A graduate application for admission and nonrefundable application fee.
2. A bachelor's degree from an accredited college or university with a minimum cumulative grade point ratio (CGPR) of 2.70. (Applicants with a CGPR of less than 2.70 may be admitted as matriculated students on probation.)
3. Official transcripts from all colleges and universities previously attended.

Applicants who are unable to provide official documents at the time of enrollment may register as nonmatriculated or nondegree students with the approval of a graduate faculty adviser.

B.A./M.P.A. Combined Degree Program

Undergraduate students admitted to the B.A./M.P.A. combined degree program enter as matriculated students and must comply with all academic program requirements. (See *Undergraduate Studies Bulletin*.)

Dual Degree Option: M.P.A. and Pharm.D.

Students enrolled in the University's Doctor of Pharmacy program can enhance their career trajectory by mastering nonprofit and public sector administration. Pharm.D. students can complete the M.P.A. with a specialization in health care management and graduate on time with both degrees.

Requirements for the Master of Public Administration Degree

The M.P.A. degree is granted for a minimum of 39 credits, of which at least 30 credits must be taken at Fairleigh Dickinson University. The 39-credit total must contain:

1. Twenty-one credits of required foundation courses:

PADM6600	Public and Nonprofit Management
PADM6601	Organization Theory
PADM6602	Budgeting and Finance
PADM6603	Public Policy Administration
PADM6604	Human Resources Management
PADM6610	Quantitative Methods for Administrators

2. Electives:

The M.P.A. elective course offerings are designed to offer students the opportunity to pursue in-depth study in global affairs, global transportation management, health care management, public finance, public management and public policy.

3. PADM6801 Seminar in Strategic Management or PADM6802 Strategic Health Services Management Seminar. This course may be taken after completion of 27 credits, including the core curriculum.

4. An accepted M.P.A. Project Report (3 credits) or M.P.A. Thesis (3 credits).

5. A cumulative grade point ratio of 3.00 (on a 4.00 scale) is required for graduation. Students who receive more than two grades of C or lower will be dismissed from the program.

6. In addition to the 39-credit requirement indicated, an internship (3 credits) is required for students having little or no background in public service. Students will be informed of their need to complete an internship upon admission to the program.

7. Students are required to meet with their assigned academic adviser each

semester to assess overall academic performance and plan for their next semester's program of study.

Students with weak backgrounds in government, communication skills, computer literacy or other critical areas may be required to take additional work beyond the 39-credit minimum.

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with the Institute director.

Public Administration

School of Public and Global Affairs

PADM6015

1 Credit

CPT (Curricular Practical Training) Independent Study

This course fulfills the credit requirement and complements students' enrollment in a Curricular Practical Training (CPT) experience.

PADM6600

3 Credits

Public and Nonprofit Management

This course provides an overview of the macro and micro forces that influence public and nonprofit management. These factors include fiscal and resource scarcity, rapid technological change and obsolescence, organizational downsizing/ restructuring, information management technology and shifting employee demographics. The course focuses on the methods and strategies for efficiently and effectively managing public organizations in the face of the endemic internal and external problems and challenges.

PADM6601

3 Credits

Organization Theory

An analysis of the role of organizational theory, discussion of the major orientations in explaining organizational and administrative activities and their impact upon those who work within or are affected by organizational action. *Fall, Spring*

PADM6602

3 Credits

Budgeting and Finance

This course presents an overview of the major principles and concepts associated with public-expenditure budgeting and the resource allocation decision-making process. The first part of the course focuses on the centrality of the budget process and examines the logic and process of budgeting, including various approaches to budgeting, fund accounting and financial statement analysis. The second part of the course focuses on revenue structures and

Public Administration

examines the basic principles of taxation and the nature and diversity of public sector revenues.

PADM6603

3 Credits

Public Policy Administration

The goal of this course is to introduce managers to the public policy-making process. This introduction exposes students to the economic and moral justifications for public policies and teaches the policy-analytic tools that support informed policy. The course addresses policy-making at all levels of government with an emphasis on skills that can be used by managers on a daily basis. Prerequisite: PADM6610 Quantitative Methods for Administrators.

PADM6604

3 Credits

Human Resources Management

This course presents students with an overview of tools and techniques of human resources management and major personnel policy issues. The course emphasizes the application of specific knowledge, skills and abilities to solve management problems. Topics covered include recruitment, examination, job classification, salary and wage administration, performance management, employee development, supervision, equal employment opportunity and affirmative action.

PADM6606

3 Credits

Analytic Methods/Managerial Decision Making

The course provides an overview of the decision-making tools employed in program management and evaluation. The course begins with an overview of the principles of research design focusing on the basic methods of problem diagnosis and measurement (interviews, surveys, focus groups, archival analysis). The second part of the course emphasizes the principles and tools of program evaluation. The course develops the analytical and critical-thinking skills of students to solve common management problems.

PADM6610

3 Credits

Quantitative Methods for Administrators

This course provides students with the computer and interpretation skills needed to answer quantitative questions that confront managers and policymakers. Topics covered include statistical inference, forecasting and other forms of prediction.

PADM6680

3 Credits

Information Technology Management

This course is an overview of the various tools and technologies of information management. The fundamentals of information systems are presented, including the future impact of the

technology on society with emphasis on understanding emerging policy and ethical and managerial issues. Focus will be on the use of management information systems in decision making and performance management.

PADM6686

3 Credits

Women in Leadership

A seminar exploring the breadth and depth of women's political, economic and cultural roles, deprivations, contributions and leadership in all corners of the globe.

PADM6801

3 Credits

Seminar in Strategic Management

This seminar is designed to involve the integration of the concepts and techniques covered in previous courses. Through use of case studies and simulations, the students will analyze the problem situations in order to identify the most strategic issues, the leverage points of action and appropriate action plans. An emphasis will be placed on collaborative problem solving and team work. The case studies will be drawn from the public and nonprofit sectors and will vary from semester to semester. Prerequisites: must have completed 27 credits of course work and have approval of the academic adviser.

Fall, Spring

PADM6802

3 Credits

Strategic Health Services Management Seminar

An advanced-level course oriented toward an overall view of strategy formulation and implementation from the perspective of senior management. The course is designed to serve as the capstone of the health services administration curriculum, offering students an opportunity to integrate what they have learned in their functional and specialty course work and to apply this knowledge to the analysis and resolution of general management problems. Didactic emphasis will be placed on contemporary approaches to environmental assessment, strategic planning and competitive positioning of organizations in the health care marketplace. A combination of lectures, case studies and supplemental research activities will be used in conjunction with oral presentations and class discussions. Prerequisite: completion of at least 27 credits.

Spring

PADM6803

3 Credits

Elder Care: Legal Issues

Examines recent legal trends in the health-care environments of the elderly and the impact of those legal trends on policy and public administration.

PADM6810

3 Credits

Public Management Internship

Participation in the activities of an administrative agency, either public or quasi-public, local, state, federal or special or civic organization. Completion of a project or specific work assignment under the joint supervision of a faculty member and an agency supervisor. Prerequisites: must have completed all required courses and have permission of both the course instructor and the academic adviser. (Required for students with little or no background in public or nonprofit service. [NOTE: for those students who are required to complete an internship — the 3-credit internship is in addition to the 39-credit requirement.] This requirement may be waived through petition to the Institute for those students having sufficient professional experience.)

Fall, Spring and/or Summer

PADM6811

3 Credits

Independent Study in Public Administration

Independent study in a specialized aspect of administration selected by the student, academic adviser and instructor. Prerequisites: PADM6600 Public and Nonprofit Management and prior approval of academic adviser and instructor.

PADM6812

3 Credits

The Political Environment of Public Administration

Public administration is part of the overall governmental process. This course explores the relationship between public administration and other branches of the political system. It covers such topics as the Constitution and public administration; relations between the executive and public administration; legislative oversight; and the influence of interest groups on public administration. Prerequisite: PADM6600 Public and Nonprofit Management.

Fall, Spring

PADM6815

3 Credits

Public Policy Research

Students engage collectively in a substantive research project focused on a current social and political problem, identifying both causal and contributing factors and producing a publishable report and a press release. This interactive course requires research, demands individual contributions and interactive exchange and facilitates collaboration in the analysis of a current issue while offering recommendations for improving the quality of policy and administration in the public and nonprofit sectors.

PADM6816

3 Credits

World Heritage Law and Policy

Practical thinking about ideas of “World Heritage” and sustainable development including religion, environment, warfare, destruction and ruins and rebuilding initiatives. Topics include: conversation law; case studies from the Arabian Peninsula, Asia and East Africa; heritage as sites for tourism; transportation; trade; pilgrimages; moveable collections; museums; parks; fixed relics; foods; and sounds, sights and smells in the natural landscape. A field project challenges participants to match theory with project-based goals to contribute to a digital archive or drafted policies to conserve and preserve UNESCO world heritage sites.

PADM6821

3 Credits

M.P.A. Project Report

An analytic, written report detailing action-oriented research accomplished for a public agency. Prerequisite: must have completed 33 credits and have approval of the academic adviser. (PADM6821 M.P.A. Project Report or PADM6822 M.P.A. Thesis is required.)
Fall, Spring

PADM6822

3 Credits

M.P.A. Thesis

A major piece of written work based on research applicable to administration. Prerequisites: must have completed 30 credits and have approval of the academic adviser. (PADM6821 M.P.A. Project Report or PADM6822 M.P.A. Thesis is required.)
Fall, Spring

PADM7711

3 Credits

Accounting for Managerial Decision Making

This course centers on the use of accounting data in the management decision-making process in public and nonprofit organizations. Particular attention is given to evaluation of the underlying financial stability and the operating efficiency and effectiveness of public and not-for-profit organizations. The management implications of using several bases of accounting is considered. A review of financial statements is undertaken to illustrate the early warning signs of underlying fiscal distress. Prerequisites: PADM6600 Public and Nonprofit Management and PADM6602 Budgeting and Finance.

PADM7712

3 Credits

Managing Organizational Change

This course provides a conceptual framework for analyzing the dynamics and process of planned organizational change in public and nonprofit organizations. The focus is on

effective techniques for diagnosing organization problems, identifying intervention strategies and implementing planned change efforts. Each student is given an opportunity to prepare an action plan to implement a significant change in his or her organization. Prerequisites: PADM6600 Public and Nonprofit Management and PADM6604 Human Resources Management.

PADM7713

3 Credits

Organizational Performance Assessment

This course, directed to public and nonprofit organizations, assesses organizational effectiveness, examining it in terms of different levels of the organization, from the individual, to the programmatic, to the institutional. The focus is on the identification of criteria assessing organizational effectiveness and on techniques available to measure effectiveness in terms of operational efficiency, outcome effectiveness and consumer/client satisfaction. Prerequisite: PADM6600 Public and Nonprofit Management.

PADM7714

3 Credits

Law and Administration

This course focuses on the constitutional-legal basis in which American public administration is set, including fundamental concepts such as separation of powers, checks and balances, federalism, regulation, delegation and discretionary authority and common law and equity. The course also seeks to familiarize students with legal reasoning, judicial process and the role of lawyers. The course introduces students to administrative agency rule making and adjudicative practice; law defining and constraining public official action and responsibility, including investigative powers, openness and public disclosure, public official tort liability and political activity; and the “basics” of primary legal research, especially in tracing the evolution of public policy. Prerequisite: PADM6600 Public and Nonprofit Management.

PADM7715

3 Credits

Employee Relations

The management of employee labor relations in both the public and nonprofit sectors is surveyed in this course. Collective bargaining practices are examined, with emphasis on the art of successful labor negotiations and contract administration. Included are discussions of the legal framework, the dynamics and effects of unionization, current issues in employee relations and the role of the grievance procedure and other workplace-dispute resolution mechanisms. Prerequisites: PADM6600 Public and Nonprofit Management and PADM6604 Human Resources Management.

PADM7716

3 Credits

Delivery of Public Services

This course examines the traditional organizational and institutional structures for delivering public services, including regional entities, public authorities and “mixed” approaches. In addition, more recent developments are examined, including competitive contracting; transfer of functions between sectors; and “privatization.” The course covers domestic and international developments in “mixed” economies and enterprises. Prerequisite: PADM6600 Public and Nonprofit Management.

PADM7717

3 Credits

Planning and Marketing for Managers

An integrated overview of the theory and processes of modern strategic planning and marketing as they apply to the delivery of public and not-for-profit services. Contemporary strategies and techniques will be examined through formal lectures and group discussions focusing on the applications of theory to practice. This course is designed to develop the conceptual skills that will help the student understand the role of marketing within the broader scope of institutional planning. Prerequisite: PADM6600 Public and Nonprofit Management.

PADM7718

3 Credits

Contemporary Management Issues

An analysis of current issues and approaches to enhancing the quality of administration in the public and nonprofit sectors. Topics change; may be repeated for credit. Prerequisites: PADM6600 Public and Nonprofit Management and permission of instructor.

PADM7721

3 Credits

Environmental and Sociologic Aspects of Global Transportation

The course provides an in-depth analysis of the environmental and ecological aspects of the extent of global transportation in the contemporary era. Changes in consumption, sustainability, mobility and distribution are presented in conjunction with transitions in societal paradigms and constructs.

PADM7724

3 Credits

Comparative Governmental and Administrative Systems

The course takes a global view of comparative governmental and administrative systems by introducing students to their background development and their essential institutional and political components. The wide diversity of such systems is highlighted by a study of such systems in six or seven nations through comparative

Public Administration

analyses of their various approaches to policy and relative problematic issues.

PADM7726

3 Credits

Development of Political and Administrative Theory

Through primary sources and materials, the course traces the development of individualism, rationalism, utilitarianism, positivism, feminism, liberalism, social Darwinism and other concepts and movements that have contributed to the evolution of modern political and administrative theory. Applications to the administrative area are made by an analysis of the writings of Hobbes, Locke, Montesquieu, Beccaria, Burke, Paine, Bentham, Mill, Marx, Spencer, Weber and others. Comparative aspects of these works are also discussed.

PADM7730

3 Credits

Health Care Project Management

Integration of the essential components of project planning and management with health care information systems for health care leaders. The course outlines the process for developing, implementing and evaluating project plans as well as integrates communication and project life-cycle theory.

PADM7731

3 Credits

Introduction to Health Systems and Policy

This course presents an integrated overview of traditional and contemporary approaches to financing and organizing the provision of health services in the United States. The course traces the evolution of the health care delivery system, with special attention given to the interplay between political, legal and socioethical dynamics in the formation of health policy at the federal and state levels of government.

Fall

PADM7732

3 Credits

Health Finance and Control Systems

This course focuses on the unique characteristics of the health care marketplace in relation to the challenge of financing care and controlling utilization at both the macro and micro levels of the delivery system. Topics include prospective rate-setting and reimbursement systems, capital financing, regulatory processes and utilization-management techniques.

Fall

PADM7733

3 Credits

Quantitative Methods for Health Administration

This course introduces the student to a variety of quantitative analytic tools and their

application to planning, decision making and program evaluation. Areas covered include research design, sample survey techniques, biostatistics and cost/benefit analysis. Special attention is given to applying the concepts and methods of epidemiology to health services management.

Fall, Spring

PADM7734

3 Credits

Managing the Continuum of Care

This course focuses on the administrative challenges of designing and managing organizational arrangements for delivering a comprehensive array of health services spanning the continuum from wellness to extended care. Course content concentrates on the structural and integrative mechanisms required to meet the medical, mental health and social support needs of patients on an ongoing basis. Financial, marketing, human resources and legal/ethical issues also are addressed. Prerequisites: PADM6600 Public and Nonprofit Management and PADM7731 Introduction to Health Systems and Policy or permission of instructor.

Spring

PADM7735

3 Credits

Comparative Health Systems

This is a two-week intensive course studying the British health system, with particular reference to the National Health Service. The course analyzes the historical background, institutional framework, governing policies, financing, organization and staffing, services and operations and the roles of public and private sector services. Topics are presented through lecture, discussion and field visit methods, accompanied by selected readings. Prerequisites: PADM6600 Public and Nonprofit Management and PADM7731 Introduction to Health Systems and Policy or permission of instructor.

Spring

PADM7736

3 Credits

Integrated Health Care Systems

The concept of system integration has emerged as a unifying theme for the health care industry as it prepares to respond to market demands for cost containment, quality assurance and accountability. The purpose of this course is to present a comprehensive overview of contemporary strategies for achieving collaboration and coordination of hospital and physician services within the context of managed care. Alternative models for organizing and financing integrated delivery of health care will be discussed. Legal, regulatory and operational implications of health-system integration also will be addressed.

Spring

PADM7737

3 Credits

Ethical and Legal Issues in Health Care

The legal content of this course will focus on major elements in professional liability, risk management, patient rights, quality-of-life outcomes and rationing of care. The ethical content will address the moral foundation of the profession, ethical decision making, critical thinking and the development of an ethical perspective throughout the life span. An ongoing theme of this course is the emphasis on humanizing health care. (May be taken as an alternative to PADM7735 Comparative Health Systems.)

Spring

PADM7738

3 Credits

Contemporary Health Administration Issues

Course content concentrates on the technical, integrative and administrative aspects essential to the medical, social service and related services and to the needs of patients and clients in those areas.

PADM7739

3 Credits

Clinical Trials

Principles of clinical trial design, including determination and evaluation of study objectives, commonly used methodologies of study design, and the ethical, legal, statistical and sociological and epidemiological considerations that play a role in design of clinical protocols.

PADM7740

3 Credits

State Local Government Organization and Management

This course provides an overview of the basic functions of state and local government in conjunction with a detailed discussion of the tools and techniques of effective state and local government management and administration. A number of topics will be covered including the challenges posed by fiscal and resource scarcity, effective service delivery, privatization, downsizing organizational productivity and conflict management, among others.

PADM7741

3 Credits

Financial Management in State and Local Government

This course is an overview of the principles of financial management in state and local government. Subjects include the principles of taxation, revenue sources and forecasting, capital budgeting, debt management, cash management, public purchasing and pension fund management, among others.

PADM7742**3 Credits****Government Personnel Administration**

The course presents an overview of the management of human resources in state and local government. The course will present an overview of the tools and techniques of personnel management (job analysis, job evaluation, recruitment, selection, affirmative action) along with the basics of performance management and employee development.

PADM7743**3 Credits****Collective Bargaining**

This course is a comprehensive overview of the principles and practice of collective bargaining. Subjects covered include contract-negotiation techniques, contract administration, grievance procedures, dispute-resolution techniques and state and national labor laws. Special emphasis will be placed on New Jersey and the critical issues and problems that affect labor management relations.

PADM7744**3 Credits****Legal Environ State/Local Government**

The course takes a global view of comparative governmental and administrative systems by introducing students to their background development and their essential institutional and political components. The wide diversity of such systems is highlighted by a study of such systems in six or seven nations through comparative analyses of their various approaches to policy and relative problematic issues.

PADM7745**3 Credits****Ethical Issues in State and Local Government**

This course presents an overview of the diverse ethical issues and challenges that state and local government administrators frequently face. A framework for the identification and resolution of ethical conflicts and issues is presented. Ethical issues explored include financial and non-pecuniary conflicts of interest, whistle-blowing, unlawful discharge and sexual harassment, among others.

PADM7747**3 Credits****Public Sector Communications**

This seminar focuses on students' lifelong professional development, including the design of a five-year plan for the individual student's personal and career development. Topics include identification of long- and short-term personal and career objectives, analysis of professional competencies and skills and development of an individual action plan.

PADM7749**3 Credits****Development of Global Transportation System**

The course analyzes the various venues of transportation systems (air, land, water) in terms of the human component and materials. In particular, emphasis will be given to the effect of these systems on various international, cultural, economic and technological developments. Also, case studies will be presented which highlight each system's administrative and organizational elements.

PADM7753**3 Credits****Issues of Security and Transportation Systems**

The course is a study of the aspects of security issues as they relate to the various components of modern international transportation systems. Issues of security and transportation administration in the 21st century will be emphasized, along with national and international governmental policies and responses.

PADM7762**3 Credits****Public Purchasing**

The course traces the background and role of purchasing in the public sector, with emphasis on centralized purchasing, local and state contracts, cooperative purchasing in municipalities and the creation of bid specifications. Case studies and analyses will highlight each of the issues presented.

PADM7763**3 Credits****Developing Modern International Relations**

The course presents the background and development of modern international relations, with an emphasis on its administrative, political and bureaucratic aspects. Selected cases from the 19th, 20th and 21st centuries will be analyzed, particularly in terms of governmental structures. The evolution of contemporary concepts and practices will also be traced.

PADM7769**3 Credits****Aviation Management and Operations**

With an introduction and historical overview, the course presents and analyzes the components of transportation centers, classifications and regulations and safety. The economic role and environmental responsibility of such center management are also emphasized. Future projections for such centers summarize the course components.

PADM7770**3 Credits****Global Administrative Skills**

The course will analyze the changing and interactive aspects of global administrative skills, communication and policies in the modern world. The international factors of administration in the public and nonprofit as well as the private sectors will be presented with the goal of making students aware and conversant in these areas.

PADM7771**3 Credits****U.S. Transportation Systems**

This seminar examines land, sea, air and space as modes for logistical displacement from the late 18th century to the present. All major modalities are surveyed: vehicle, aircraft, ship and rail as well as all major transportation organizations with an emphasis on why these companies were started, who started them, how they were financed and marketed and the cause of their eventual failure.

PADM7772**3 Credits****Public Policy and Transportation Issues**

Demand for better transportation modalities have been impacted by population changes. As the population moves from urban to suburban areas, controversy develops as individuals desire better systems to allow for faster commutes. Public policy issues arise as governments attempt to please the interests of those who want better transportation with those who want to preserve open spaces. Additionally, issues arise with air traffic and trains that impact and are impacted by public policy. This course will investigate the area of transportation and public policy making, and explore how both the needs of the public and those of the public officials are impacted by the processes.

PADM7773**3 Credits****Physical Distribution Systems**

The course is a study of the aspects of security as they relate to the various components of modern international transportation systems. Issues of security and transportation administration in the 21st century will be emphasized, along with national and international governmental policies and responses.

PADM7780**3 Credits****Diplomatic Communication for Administrators**

The course will give students a working knowledge of French terminology and phrasing, applicable to public service and/or health care administration. The course seeks to meet the communicative needs of a linguistic group in the U.S., Canada and the Caribbean, as

Public Health

well as elsewhere globally. In that regard, the course reinforces the University's global educational mission.

PADM7789

3 Credits

Global Energy System

The course provides an in-depth presentation of the global energy resources and consumption issues. The format will be a scientific overview of diverse energy issues such as needs, fossil fuels, grown fuels, nuclear technology and natural fuels (wind, solar, etc.). Future forecasts will also be discussed and analyzed.

PADM7791

3 Credits

Global Health Issues

The course will study the effects of globalization on contemporary health care, especially in the public sector. Worldwide health organizations (WHO, NGOs) in particular will be discussed and analyzed.

PADM7795

3 Credits

Finance and Accounting for Public Administration

This course will start with a review of key terms and concepts and introduce generally accepted accounting and auditing principles. Case studies and real-world examples will be used so students can learn how to: read financial statements (i.e., balance sheet, income statement, cash flow analysis); conduct breakeven analysis; calculate cost of capital and return on investments (ROI); recognize trends and evaluate organizational performance; and use financial measures for strategic planning.

PADM7796

3 Credits

International Dimensions of Public Administration

The course addresses the essential dimensions of the international and cross-cultural aspects of public administration. Social and cultural comparisons are employed with analysis of various select global models with an understanding of the varied international dimensions of administration being presented as a primary objective.

PADM7797

3 Credits

Corporate Finance for Public Administrators

An introduction to the financial management of a corporation. Students study the following broad questions: How should a firm decide whether to invest in a new project? How much debt and equity should a firm use to finance its activities? How should a firm pay its investors? How do taxes affect a firm's investment and financing decisions? What determines the value of a firm? The emphasis throughout the course is on the economic principles that underlie answers to these questions.

PADM7810

3 Credits

Airport Operations Management

The course presents and analyzes the various aspects and components of airport management and planning, which include background, legal aspects, governmental relations, as well as the financial and economic dimensions of commercial aviation. The environmental components of modern transportation are also delineated.

PADM7811

3 Credits

Grant Writing and Evaluation

The major objective of this course is to prepare students who are planning careers in public and nonprofit organizations to attain grants for their organizations' projects. For success in this area, students will learn planning attractive proposals, attaining research funding, actual proposal writing and management of the final grant. The course combines theory and practice, with emphasis on the practical.

PADM7812

3 Credits

Ethics in Public Administration

The course presents and analyzes the foundational and essential aspect of ethics and ethical principles in the realm of public administration. Applicable ethical concepts are identified and related to the various components of the public sector, with their significance and implication being related especially to contemporary institutions.

PADM7814

3 Credits

Health Policy and the Public

The course presents the various policy and administrative issues related to health care and the public, military bureaucratic structure, organization and policy-related issues.

Public Health (M.P.H.)

The Master of Public Health (M.P.H.) is a 45-credit online degree program. The M.P.H. curriculum consists of a didactic core with practicum and capstone (30 credits) and specialization track electives (15 credits). Students may select a **generalist track** and pursue elective courses in any combination from the specialization track areas: **health analytics**, **health policy** or **population health in addiction and recovery**. The courses are offered as accelerated eight-week online modules, and the program can be completed in 18 months.

Core courses include PUBH6001 Foundations and Issues of Public Health, PUBH6002 Introduction to Biostatistics and Data Analysis, PUBH6003 Public Health Management and Policy, PUBH6004 Fundamentals of Epidemiology, PUBH6005 Principles of Environmental Health, PUBH6006 Social and Behavioral Determinants of Public Health, PUBH6101 Public Health Leadership 101 and PUBH6102 Ethics in Health Care Research, with capstone and practicum as culminating experience.

Following completion of the core courses, students will have an option of pursuing one of the four specialization tracks: **generalist**, **health analytics**, **health policy** or **population health in addiction and recovery**.

Generalist Track: This specialization equips public health professionals with the general knowledge and skills for effective and productive public-health practice at the professional graduate level. In addition to core courses, students will select any combination of five elective courses (15 credits) from the additional three tracks.

Health Analytics Track: Upon completion of the core courses, students will focus on the advanced biostatistics, data management, health informatics, predictive analytics, with specialized practicum and capstone seminar.*

Health Policy Track: Upon completion of the core courses, students will study the politics and practice of public health and health policy, economic and social determinants of health policy, health disparities and culture, comparative health

*Under development. For more information go to <https://view2.fdu.edu/academics/pharmacy/academics/mpmh/>.

care systems, with specialized practicum and capstone seminar.*

Population Health in Addiction and Recovery Track: Upon completion of the core courses students will study the issues of addiction and recovery, focusing on tobacco, alcohol and drug use, on mental-health advocacy, issues of treatment and recovery, with specialized practicum and capstone seminar.*

Regardless of the concentration, the M.P.H. curriculum focuses on the inclusion of active-learning pedagogies by placing the student in the center of learning through small group activities, case-study analyses, flipped classroom and social constructivism methodologies and integrated care groups that are focused on interprofessional education alongside students in pharmacy, nursing, psychology and other health-profession programs in the future. The goal is to educate current and future health professionals who are focused on collaboration, interprofessional communication, respect for other professions and ethical delivery of patient centered, team-based decision-making practice.

Summary

With the changing and unstable climate of health-care delivery, the great increase in health disparities and access to care, and the increase of technology and data analytics as a part of the health care decision-making process, there is perhaps no greater time of need for graduates trained in public health disciplines. The Centers for Disease Control cites a significant shortage of public health workers over the next several years, with many of its estimates projecting that shortage to exceed 250,000 by 2020. Overall, the Bureau of Labor Statistics projects significant growth and increased demand for all health profession areas, including a projected 16-percent increase in demand for health educators, a 20-percent increase for health service managers and a 14-percent increase in demand for biostatisticians. There is also a projection of a significant exodus of the workforce from this field, as many workers trained in public health are nearing retirement age. In fact, several studies indicate that schools of public health will need to train greater than three times the

current number of graduates to keep up with the demand for jobs and avoid a public health crisis.

The Master of Public Health program provides an opportunity for students in other health-profession programs to pursue a concurrent degree in public health. There is tremendous opportunity for pharmacists, nurses and other health-care professionals to enter into new scopes of practice through the additional knowledge and credentialing. As the School of Pharmacy and Health Sciences continues to promote the role of many different health professionals as advocates for and implementers of many public health initiatives, creating specialists who obtain both degrees and bear both skill sets will provide both a powerful differentiator for students and an opportunity for the advancement of the profession.

There is a great opportunity for significant synergy with the School of Public and Global Affairs, leveraging strengths of both subject-matter experts and its relationships with global partners, including the United Nations and the World Health Organization. Furthermore, the United Nations Pathways, organized by the Office of Global Learning, provides multiple U.N. programs for the FDU community. In addition, focused public-health programming and experiences would provide a meaningful learning opportunity for students pursuing their degree within this program. Similarly, the M.P.H. program also effectively complements the existing offerings within the School of Pharmacy and Health Sciences, specifically its Master of Health Science offerings in health informatics, clinical research administration and regulatory sciences, each of which have significant public health components that would provide strength of expertise and economy of scale.

This public health program is offered online by the School of Pharmacy and Health Sciences, Florham Campus, Madison, New Jersey.

Admissions Criteria

The credentials required for admission to the Master of Public Health degree program as a matriculated student include the following:

1. A bachelor's degree from an accredited college or university with a minimum

cumulative grade point ratio (GPR) of 3.00. (Applicants with a GPR of less than 3.00 may be admitted as matriculated students on probation.)

2. The GRE is recommended, but not required.

The application package must include:

1. A completed FDU Graduate Admissions Application.
2. Official undergraduate and graduate transcripts from all colleges and universities attended (official transcripts must be evaluated for grade equivalency, if international applicant).
3. Two letters of recommendation (from a professor, employer or professional in the field familiar with the student's strengths and abilities).
4. Official test scores (GRE, TOEFL or other, if international applicant).
5. Personal statement.
6. Résumé or curriculum vitae.

M.P.H. Program Mission, Goals and Student Learning Objectives

The program's mission is to educate future public health leaders to promote, enhance and improve the health and wellness of individuals and populations in local, national and global settings. In alignment with the University's global mission of training world citizens, the M.P.H. program will focus on approaches that improve health, increase access to health care as ethical and social responsibility and minimize and eliminate health disparities through evidence-based interventions and policy efforts.

Instructional Goals

1. Create and maintain a high-quality, best-in-class online program that attracts both high-achieving students and excellent faculty with diverse interests, backgrounds and expertise to educate current and future health professionals with a focus on collaboration, respect and ethics through student-centered, interprofessional, experiential and self-reflective pedagogies.
2. Provide students with a variety of learning opportunities in order to develop public-health practitioners with a global perspective who lead and advocate both globally and locally.

*Under development. For more information go to <https://view2.fdu.edu/academics/pharmacy/academics/mp/h/>.

Public Health

Service Goals

1. Address the key topic areas of public health by bringing together educators, researchers and experts from within the University and across the state to build relationships, facilitate discussions and develop best-practice approaches for innovative and evidence-based interventions to improve local and global public health.
2. Work to reduce health disparities and inequalities to improve the health of the populations served.

Research Goal

Provide opportunities for faculty and students to engage in scholarly research, dissemination and communication, and evidence-based practices to advance public health knowledge locally and globally.

Student Learning Objectives

Upon completion of the program, regardless of the specialization track, students will be able to:

1. Explain public health history, philosophy and values.
2. Identify the core functions of public health and its 10 Essential Services.
3. Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health.
4. List major causes and trends of morbidity and mortality in the U.S. or other communities relevant to the school or program.
5. Discuss the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc.
6. Explain the critical importance of evidence in advancing public health knowledge.
7. Explain the effects of environmental factors on a population's health.
8. Explain biological and genetic factors that affect a population's health.
9. Explain behavioral and psychological factors that affect a population's health.
10. Explain the social, political and economic determinants of health and how they contribute to population health and health inequities.

11. Explain how globalization affects global burdens of disease.
12. Explain an ecological perspective on the connections among human health, animal health and ecosystem health (e.g., One Health).

Requirements for the Master of Public Health Degree

1. All students enrolled in the M.P.H. program are required to graduate within five years. Application for extension is subject to program/school approval.
2. The students are required to maintain a minimum overall grade point ratio (GPR) of 3.00 and must not earn more than one "C" grade (C or C+), throughout the course work. Students who receive two or more "C" grades will be subject to dismissal.

Core Courses (30 credits)

	Credits
PUBH6001 Foundations and Issues of Public Health.....	3
PUBH6002 Introduction to Biostatistics and Data Analysis.....	3
PUBH6003 Public Health Management and Policy.....	3
PUBH6004 Fundamentals of Epidemiology.....	3
PUBH6005 Principles of Environmental Health.....	3
PUBH6006 Social and Behavioral Determinants of Public Health.....	3
PUBH6101 Elective 1 – Public Health Leadership 101.....	3
PUBH7501 Public Health Practice and Leadership.....	3
PUBH7505 Elective 2 – Interprofessional Education and Practice (IPE and IPP).....	3
PUBH7901 Public Health Capstone.....	3

Specialization Courses (15 credits)

Specialization Tracks

Generalist (45 credits)

Core courses (30 credits) plus five courses from any listed within the below tracks (15 credits)

Health Analytics (45 credits)*

Core courses (30 credits) plus specialization courses (15 credits)

	Credits
PUBH7201 Advanced Biostatistics, Data Management and Analysis*.....	3
PUBH7202 Population Health Research Methods....	3
PUBH7203 Data Management in Public Health Systems.....	3
PUBH7204 Predictive Analytics and Determinants of Health*.....	3
PUBH7205 Health Analytics Practice and Leadership*.....	3

Health Policy (45 credits)*

Core courses (30 credits) plus specialization courses (15 credits)

PUBH7301 Politics and Practice of Public Health and Health Policy.....	3
PUBH7302 Economic and Social Determinants of Health Policy*.....	3
PUBH7303 Health Disparities and Cultural Issues*...3	
PUBH7304 Comparative Health Care Systems.....	3
PUBH7305 Health Policy Practice and Leadership*...3	

Population Health in Addiction and Recovery (45 credits)*

Core courses (30 credits) plus specialization courses (15 credits)

PUBH7101 Issues of Addiction and Recovery*.....	3
PUBH7102 Alcohol, Tobacco and Drug Use: Populations and Issues*.....	3
PUBH7103 Mental Health Advocacy.....	3
PUBH7104 Issues of Treatment and Recovery*.....	3
PUBH7105 Addiction and Recovery Practice and Leadership*.....	3

*Under development. For more information go to <https://view2.fdu.edu/academics/pharmacy/academics/ MPH/>.

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with appropriate school director.

Public Health

School of Pharmacy and Health Sciences

PUBH6001

3 Credits

Foundations and Issues of Public Health

This introductory course into the program guides students through the history, philosophy, scientific and ethical issues and practices of public health. The course broadly covers the core disciplines, function, infrastructure and essential services in public health. Students will explore how the principles and practices of public health are applied in the local, state, national and global context.

PUBH6002

3 Credits

Introduction to Biostatistics and Data Analysis

This course presents an introduction to the theory and most commonly used statistical methods in public health, epidemiological and experimental research. Students will learn how to select the most appropriate methods, how to apply selected methods to actual data and how to analyze and interpret computer output from a commonly used statistical package. Students will apply this knowledge to critique and interpret statistical concepts in the literature.

PUBH6003

3 Credits

Public Health Management and Policy

This course is designed to provide students with knowledge and skills for better understanding of the U.S. health care system organization, financing and policy. It provides introduction to health policy and management, a multidisciplinary field of inquiry and practice concerned with the delivery, quality and costs of health care for individuals and populations. Students will engage in discussion about multiple dimensions of the policy-making process, including the roles of ethics and evidence. They will learn how to analyze and advocate for political, social or economic policies and programs that will improve health in diverse populations and be able to evaluate policies for their impact on public health and health equity. This foundational course is designed for anyone working or interested in working in government agencies, nonprofits, private health-care organizations or any entity focused on public health. Prerequisite: PUBH6001 Foundations and Issues of Public Health.

PUBH6004

3 Credits

Fundamentals of Epidemiology

This course introduces the descriptive and analytic epidemiologic methods in studying disease outbreaks, distribution and determinants of health and disease in populations. It focuses on the application of knowledge and skills necessary to research, interpret and utilize epidemiologic literature in public-health practice. Students learn the history of public health, how to describe outbreaks and what the uses of epidemiology in public health are. Prerequisite: PUBH6001 Foundations and Issues of Public Health.

PUBH6005

3 Credits

Principles of Environmental Health

The course is designed to provide graduate students with an introduction and overview of the key areas of environmental health. Using the perspectives of the individual, population and community, this course will examine factors associated with the development of environmental health problems while providing an opportunity for students to think critically about solutions to the complex issues, considering environment as one of the determinants of health and/or diseases. Prerequisite: PUBH6001 Foundations and Issues of Public Health.

PUBH6006

3 Credits

Social and Behavioral Determinants of Public Health

The aim of this course is to introduce the core concepts of social and behavioral determinants and how they influence the health of individuals, communities and populations. Students will analyze and compare theories and relevant research to develop understanding of those as they contribute to disease prevention and health promotion. Prerequisite: PUBH6001 Foundations and Issues of Public Health.

PUBH6101

3 Credits

Elective 1 – Public Health Leadership 101

The course introduces students to major theories and concepts of leadership, and ways of applying those to public-health issues and contexts. Students will explore models of leadership within current public health contexts at the individual, team, organizational and community levels with an emphasis on case studies and real-world analysis. The course develops leadership skills and planning for each student's ongoing development as a leader in health care.

PUBH7101

3 Credits

Issues of Addiction and Recovery*

PUBH7102

3 Credits

Alcohol, Tobacco and Drug Use: Populations and Issues*

PUBH7103

3 Credits

Mental Health Advocacy

This course addresses the role of public policies in influencing the public's health; frameworks for analyzing public health policies; the role(s) and limitations of public health worker in influencing public policy for health; advocacy as a strategy for achieving social change; strategies to promote and sustain policies through legislative processes; and public health leadership principles and practices. Prerequisites: PUBH6001 Foundations and Issues of Public Health and PUBH6004 Fundamentals of Epidemiology.

PUBH7104

3 Credits

Issues of Treatment and Recovery*

PUBH7105

3 Credits

Addiction and Recovery Practice and Leadership*

PUBH7201

3 Credits

Advanced Biostatistics, Data Management and Analysis*

PUBH7202

3 Credits

Population Health Research Methods

This course provides the fundamentals of research design, methods and data collection. It serves as an introduction to quantitative, qualitative, mixed methods and community-based participatory approaches to public health research. Students will discuss the strengths and weaknesses of each design and have hands-on experience with a number of designs. The emphasis is on the critical review of published research, to prepare students to evaluate all aspects of a research study in order to be confident and careful consumers of research and build skills for conducting independent research. Prerequisite: PUBH6001 Foundations and Issues of Public Health.

PUBH7203

3 Credits

Data Management in Public Health Systems

In this course students will learn about the information systems most commonly used by

*Course under development. For more information go to <https://view2.fdu.edu/academics/pharmacy/academics/mp/h/>.

School Psychology

public health agencies, such as health registries, health information exchange platforms, regulatory submission systems, surveillance and adverse event reporting and the types of data they contain. Benefits and challenges of these systems, as well as data-integration techniques will be covered. Prerequisites: PUBH6001 Foundations and Issues of Public Health and PUBH7202 Population Health Research Methods.

PUBH7204

3 Credits

Predictive Analysis and Determinants of Health*

PUBH7205

3 Credits

Health Analysis Practice and Leadership*

PUBH7301

3 Credits

Politics and Practice of Public Health and Health Policy

Successful implementation of public health programs has a foundation in understanding policy, including how it is made, influenced and shaped. Whether it is vaccinations, curbing obesity or even increasing funding, any public health issue always has politics around it. It is thus essential for a public health practitioner to understand how such topics can be influenced, and by whom. This course will focus on policy strategy, formulation and implementation both in the United States and at a global level abroad. Prerequisites: PUBH6001 Foundations and Issues of Public Health and PUBH6003 Public Health Management and Policy.

PUBH7302

3 Credits

Economic and Social Determinants of Health Policy*

PUBH7303

3 Credits

Health Disparities and Cultural Issues*

PUBH7304

3 Credits

Comparative Health Care Systems

This course provides a comprehensive overview of the structure and operations of the United States health-care delivery system in comparison to health-care systems in other countries. Major forces and trends that are likely to shape the external environment and linkages among industry stakeholders are identified and examined both locally and in a global context. Fundamentals of health-care economics, financing, reimbursement, quality assurance and

political policymaking are discussed with due regard for social and ethical implications. The spectrum of life sciences is considered in relation to the continuum of health-care delivery. Prerequisites: PUBH6001 Foundations and Issues of Public Health and PUBH6003 Public Health Management and Policy.

PUBH7305

3 Credits

Health Policy Practice and Leadership*

PUBH7501

3 Credits

Public Health Practice and Leadership

As a part of the culminating experience in the program, this 200-hour field practicum/ placement at a local/global public health organization should be a service-learning practical experience involving health promotion, health advocacy, health communication skills and competencies and the collection and analysis of data, as appropriate under the supervision of a public health professional to determine or assess a response to an actual public health challenge. A practicum report is completed and presented in the form of an oral presentation and scientific poster.

PUBH7505

3 Credits

Elective 2 – Interprofessional Education and Practice (IPE and IPP)

In this course the public health students will engage in interprofessional educational experience with students from at least one other health profession. All students will be learning with and from each other about ethics and values, roles and responsibilities, teamwork and communications in the health-care setting. The case studies will be examined, and the decision-making process that providers and patients engage in are analyzed in this interdisciplinary, interprofessional context.

PUBH7901

3 Credits

Public Health Capstone

This capstone course is part of the culminating academic experience in the M.P.H. program. Students are expected to synthesize, integrate and apply skills and competencies acquired through the program of study to a public health problem that approximates a professional practice experience. The project has two components: written paper/proposal and oral presentation. The course is typically completed in the last semester of the program, usually in conjunction with the completion of a fieldwork practicum experience. Prerequisite/Corequisite: PUBH7501 Public Health Practice and Leadership.

School Psychology (Psy.D.)

See Psychology, School Psychology, page 233.

School Psychology (M.A.)

See Psychology, School Psychology, page 238.

*Course under development. For more information go to <https://view2.fdu.edu/academics/pharmacy/academics/mph/>.

*Course under development. For more information go to <https://view2.fdu.edu/academics/pharmacy/academics/mph/>.

Service Innovation and Leadership

Service Innovation and Leadership (M.S.)

The degree is designed to provide master's-level studies for traditional and nontraditional students in preparation for or advancement in the hospitality management field with a unique focus on service innovation and leadership. It has a strong foundation in the core areas of leadership, service strategies, financial systems, organizational communication and conflict management, human resource administration and marketing as they pertain to service innovation and leadership.

The 30-credit, nonthesis program consists of 27 credits of core courses and 3 credits of electives. The required courses include: MSSIL7001 Introduction to Graduate Studies and Research; MSSIL7003 Current Concepts of Leadership in the Service Industry; MSSIL7004 Service Management; MSSIL7005 Managing Service Industry Financial Systems; MSSIL7006 Human Resource Management and Development in the Service Industry; MSSIL7007 Global Marketing for the Service Industry; MSSIL7008 Organizational Communication and Conflict Management; MSSIL7009 Capstone for Service, Innovation and Leadership; and MSSIL7010 Technology in the Service Industry. There is a required master's project.

Classes are offered in-person at the Metropolitan Campus, Teaneck, New Jersey; at the Florham Campus, Madison, New Jersey; and at Wyndham Worldwide in Parsippany, N.J., where the University has a partnership to offer graduate degrees online and in-person.

The program is offered through the School of Administrative Science of the Anthony J. Petrocelli College of Continuing Studies.

Admission Requirements

1. Must have completed a bachelor's degree program with a minimum cumulative grade point ratio of 3.00 from an accredited undergraduate institution. (No GMAT or GRE test score is required.)

2. Transcripts from all undergraduate, graduate and postgraduate studies.
3. A résumé, which includes goals for a career in service leadership.
4. A completed application.

Requirements for the Master of Science Degree

The M.S. in service innovation and leadership is a 30-credit, nonthesis program requiring completion of 27 credits of core courses, plus 3 credits of electives. A Master's Research Project is required.

Curriculum

Whether taken in-person, blended or fully online, the M.S. in service innovation and leadership prepares students for leadership positions in the service sector. The curriculum draws upon the work experience of students to integrate theory and practice as it prepares them for positions in service leadership. The proposed required courses were developed based on need and potential demand. Students will be required to complete a noncredit Master's Research Project during the last term of study in the program as a capstone requirement. This paper and its requirements will be introduced during the early part of the degree program when the students are enrolled in the MSSIL7001 Introduction to Graduate Studies and Research course.

Required Courses (27 credits)

All students enrolled in the M.S. in service innovation and leadership must complete the following:

	Credits
MSSIL7001	
Introduction to Graduate Studies and Research*.....	3
MSSIL7003	
Current Concepts of Leadership in the Service Industry.....	3
MSSIL7004	
Service Management.....	3
MSSIL7005	
Managing Service Industry Financial Systems.....	3
MSSIL7006	
Human Resource Management and Development in the Service Industry.....	3

	Credits
MSSIL7007	
Global Marketing for the Service Industry.....	3
MSSIL7008	
Organizational Communication and Conflict Management.....	3
MSSIL7009	
Capstone in Service, Innovation and Leadership*.....	3
MSSIL7010	
Technology in the Service Industry.....	3
Total.....	27

Electives (3 credits)

Electives may be chosen from the list below or from courses offered by the Anthony J. Petrocelli College of Continuing Studies and the International School of Hospitality and Tourism Management. Electives must be approved in advance and students must meet all prerequisite requirements. Additional electives will be developed with guidance from the school's industry advisory board.

MSSIL6001	
Civil Law and the Service Industry.....	3
MSSIL6002	
Accounting for Service-industry Administrators.....	3
MSSIL6003	
Distribution Systems Management.....	3
MSSIL6004	
Global Service Industry Business Management.....	3
MSSIL6005	
Organizational Behavior.....	3
MSSIL6006	
Strategic Processes in Service Firms.....	3
MSSIL6007	
Curriculum and Instruction for Service-industry Professionals.....	3
Total.....	3
Total Program.....	30

Master's Research Project (Noncredit)

Students will be required to complete a Master's Research Project during the last term of study in the program as a capstone requirement. This project is a requirement for graduation. The requirements for the Master's Research Project will be introduced during the early part of the student's degree when they take MSSIL7001 Introduction to Graduate Studies and Research. Guidelines introduced in that class will include the

*Must be taken in the first semester.

*Must be taken in the last semester.

Service Innovation and Leadership

parameters for the final project as well as specific benchmarks in the process that need to be met by the students. In addition, the research project will demonstrate understanding of competencies regarding service innovation and leadership that are developed throughout the course. This project will be evaluated by full-time faculty to determine whether it meets the requirements, and a pass/fail grade will be used.

Course Offerings

Courses offered fall, spring and/or summer are so noted. To determine availability of courses not so designated, please check with the school.

Service Innovation and Leadership School of Administrative Science

Core Course Requirements

MSSIL6100

0 Credits

Master's Research Project

The research project is an interactive, culminating learning project that focuses on an area chosen by the student related to the service industry in line with the student's professional area of interest. This qualitative research paper should present the nature of the problem or subject investigated, its significance to the profession or larger field of study, a discussion of the relevant literature, a clearly defined method for answering or exploring the question of interest and specific conclusions or evaluations based on investigation. The length of the project depends on the subject. However, 25–40 pages are appropriate, plus appendices such as tables, charts, questionnaires, interview schedules, etc. Documentation and the bibliography must meet the standards for academic research set forth by the American Psychological Association (APA). Notes and bibliography should be consistent and follow the style of the latest edition of the APA.

MSSIL7001

3 Credits

Introduction to Graduate Studies and Research

This course provides an introduction to graduate studies with heavy emphasis on referencing and citations in APA style. Quantitative and qualitative research studies are explored for structure, discussed in depth and critiqued. A comprehensive research proposal is the goal of this course. The Master's Research Project (MSSIL6100) and its requirements will be introduced in this course. The research paper will then be completed in the last term of study in the program as a capstone requirement.

MSSIL7003

3 Credits

Current Concepts of Leadership in the Service Industry

This course examines key theories of leadership and motivation as applied to various service-industry contexts, with an emphasis on analysis of leadership behaviors, managerial action and servant leadership.

MSSIL7004

3 Credits

Service Management

This course offers a review of current service theories and strategies used to provide total customer satisfaction, including methods for measuring customer satisfaction and total quality management applications.

MSSIL7005

3 Credits

Managing Service Industry Financial Systems

This course focuses on the analysis, interpretation and application of financial information derived from the four major financial statements. Moreover, students will develop an understanding of the time value of money and various valuation techniques. This course also focuses on providing students with an understanding of the ways in which service-industry enterprises access the capital markets.

MSSIL7006

3 Credits

Human Resource Management and Development in the Service Industry

This course provides an in-depth review of human-resource management practices, with case-study reviews of best practices across the service-industry context. Students will be introduced to essential functions including performance and evaluation systems, training and development, staffing and succession, compensation and rewards, workplace diversity, teamwork and communication.

MSSIL7007

3 Credits

Global Marketing for the Service Industry

This course provides an overview of advanced marketing strategies and tactics. Global contexts will be explored to the extent of their impact and best practices will be reviewed. The following topics will be studied: strategic planning, pricing practices, international marketing, global distribution systems and advertising.

MSSIL7008

3 Credits

Organizational Communication and Conflict Management

This course provides an overview of theories and models of communication and examination of barriers to effective communication. Techniques for improving conflict management and resolution are considered through interpersonal, group and organizational communication.

MSSIL7009

3 Credits

Capstone for Service, Innovation and Leadership

This course is designed to be a capstone experience. Students will draw on all previously taken courses in a "real-world" application toward their particular area of interest. Service-industry partners will pose real-world consulting dilemmas for the students to solve in teams. To be taken after 30 credits have been completed.

MSSIL7010

3 Credits

Technology in the Service Industry

The technical and organizational dimensions and foundations of management information systems will be studied with a focus on the management of information, technology and systems development. This class is oriented to the end-user.

Electives

All candidates must take 3 credits of electives. The elective may be chosen from the M.S. in service innovation and leadership courses with the approval of the student's adviser.

MSSIL6001

3 Credits

Civil Law and the Service Industry

This course provides an overview of tort and civil law oriented to service-industry contexts.

MSSIL6002

3 Credits

Accounting for Service-industry Administrators

This course emphasizes the interpretation and usage of accounting information and procedures necessary for decision making in service-industry enterprises. Topics include Uniform System of Accounts, budgeting and the interpretation of balance sheets, income, cash flow and retained-earnings statements.

MSSIL6003

3 Credits

Distribution System Management

This course reviews the essential elements of supply-chain management. The learning experience is focused on forecasting, planning, strategy, production, distribution procurement, quality control and process frameworks.

MSSIL6004

3 Credits

Global Service Industry Business Management

This course examines global service business strategies with a focus on the following key issues: management process, labor, legal, finance, service delivery, marketing and government affairs.

MSSIL6005

3 Credits

Organizational Behavior

This course examines systems-level behavior in a number of service industry contexts with an emphasis on understanding and developing the individual, team and organizational capacity for change and improvement.

MSSIL6006

3 Credits

Strategic Processes in Service Firms

This course examines a variety of strategic constructs and processes utilized by leading global service-industry firms. The course focuses on strategic thinking and learning in relation to strategic planning.

MSSIL6007

3 Credits

Curriculum and Instruction for Service-industry Professionals

The emphasis of this course will be on the relationship between models in all phases of the curriculum in service innovations and leadership. Curriculum design, content and integration incorporated with technology will be the focus for the individual who will have a career in the service industry as a trainer, workshop planner or instructor in the industry or academia.

Sports Administration (M.S.A.)

The Master of Sports Administration (M.S.A.) degree was offered beginning in January 2009. It is the first graduate degree in sports administration offered in the state of New Jersey.

This 36-credit program includes 15 credits of required courses, 15 credits in a specialization and 6 credits of electives. The two areas of **specialization** are **sports administration** and **coaching theory and strategies**.

In its Occupational Employment Projections to 2012, the United States Bureau of Labor Standards provides information on projected growth in occupational groups. There is a 6.1-percent increase projected for the broad category of self-employed professionals and related occupations. Athletes, coaches, umpires and related workers are found within this group. Projected growth specifically for these occupations is 18.3 percent for the period in review.

The M.S.A. program focuses on practical and theoretical aspects of the various components relative to the administration and management of sports personnel and facilities, businesses, health facilities and coaching and recreational activities in both volunteer and paid positions. There is also a strong emphasis on leadership throughout the program.

The program provides master's-level studies for the traditional and nontraditional student involved in sports and health facilities, including program planning and development. The M.S.A. program focuses on the broad view of the sports administration function by including issues such as business, marketing, recruitment and support services. The program promotes the understanding of issues that impact the success of activities such as legal, health and safety standards in sports administration. The degree also encourages the development of high-quality, applied research for practitioners in the field of sports administration.

Classes are offered at convenient off-campus locations and will also be offered in a blended model, combining the traditional classroom setting with online

work, and through completely online delivery.

This program is offered under the auspices of the School of Administrative Science, Anthony J. Petrocelli College of Continuing Studies, at the Florham Campus, Madison, New Jersey; at the Metropolitan Campus, Teaneck, New Jersey; at locations throughout New Jersey; and online.

Admission Requirements

Candidates for admission to the Master of Sports Administration degree program must be highly motivated individuals who have work experience in the area or wish to pursue a career in sports administration. A bachelor's degree from an accredited institution with a cumulative grade point ratio of at least 3.00 is required. Care will be taken to ensure a diversity of philosophies and academic backgrounds in the classes.

Students seeking admission to the program will have to submit:

1. A completed application;
2. Transcripts from all previous undergraduate, graduate and postgraduate studies;
3. A written statement of 1,000 words on current job responsibilities, duties and management philosophy or on the applicant's career goals; and
4. Three letters of recommendation, including at least two from former instructors/professors.

There is no Graduate Record Examinations (GRE) or Graduate Management Admission Test (GMAT) requirement although there is a requirement for Test of English as a Foreign Language (TOEFL) scores for international students.

Requirements for the Master of Sports Administration Degree

1. Completion of a minimum of 36 graduate credits.
 2. Cumulative grade point ratio of 3.00 for the degree program of study.
 3. Cumulative grade point ratio of 3.00 in the core curriculum.
 4. Minimum of 30 credits completed at Fairleigh Dickinson University.
 5. Maximum of six years to complete the master's degree requirements.
- Up to six credits of graduate course work may be transferred from another

Sports Administration

college or university if completed within the six-year period. Courses submitted for transfer credit will be reviewed and evaluated by the director of the Master of Sports Administration program. In assessing requests for transfer credits, the M.S.A. faculty may require students to complete additional course work to update knowledge and skills to meet master's degree requirements.

The following are the specific program requirements for the master's degree. These curriculum areas and credit-distribution requirements are designed to provide students with flexibility in planning a program of study within a focused framework of professional development.

It is important to note that since sports administration is such a broad area with many different components, a number of areas of specialization are being proposed. The five required courses (MSA6701 Legal Issues in the Domestic and International Sports Industry; MSA6702 Sports Administration Research and Policy Analysis; MSA6703 Financial Administration in Sports; MSA6704 Internship I or Individual Job-related Project; and MSA6705 Strategic Planning, Implementation and Evaluation [capstone course]) are M.S.A. courses and account for 15 credits of the 36-credit program. To satisfactorily complete an area of specialization, students must complete an additional 15 credits of the program in the area of specialization. The remaining six credits for the degree requirements can be chosen as electives taken from other M.S.A. courses. No more than six credits will be waived for previous experience that is equivalent to any course offering.

Each course will have a standardized syllabus with specific learning outcomes. Textbooks will be selected for each class — based on content relative to the topics — by the faculty in concert with the administrators of the program. Each course will have at least one required textbook. The nature of the courses also mandates the use of case studies that will link the practical application with theory.

A. Required Courses

All students enrolled in the M.S.A. program must complete the following:

MSA6701	Legal Issues in the Domestic and International Sports Industry
MSA6702	Sports Administration Research and Policy Analysis
MSA6703	Financial Administration in Sports
MSA6704	Internship I or Individual Job-related Project
MSA6705	Strategic Planning, Implementation and Evaluation (Capstone Course)

B. Areas of Specialization

Sports administration includes many components that range from administering professional sports teams and their facilities to fitness centers and processes to recreational facilities and operations. In addition to the required courses, the M.S.A. program will include areas of specialization as well as general electives. The initial program offerings are as follows:

Sports Administration (any five courses)

MSA6601	Organizational Leadership and Team Development
MSA6602	Facility Development, Administration and Programming
MSA6603	Sports Marketing and Promotions
MSA6604	Sports in a Social Context
MSA6605	Legal and Professional Ethics in Sports
MSA6606	Group Dynamics
MSA6607	Human Resource Administration in Sports Organizations
MSA6608	Sports Risk Assessment
MSA6609	Communications and Media Relations
MSA6610	Strategies in Fundraising and Development

Coaching Theory and Strategies (any five courses)

MSA6605	Legal and Professional Ethics in Sports
MSA6608	Sports Risk Assessment

MSA6611	Coaching Leadership
MSA6612	Coaching Theory, Methods and Issues
MSA6613	Coaching Psychology
MSA6614	Assessing Human Performance
MSA6615	Effective Team Administration
MSA6633	Weight Training and Conditioning

Electives

MSA6624	Organization and Administration of Sports
MSA6625	Physiological Basis of Physical Fitness
MSA6626	Nutrition for Sports and Fitness
MSA6628	Valuing Diversity
MSA6629	Motivation and Performance
MSA6630	Global Sports
MSA6634	Sports Security
MSA6635	Events Planning and Administration
MSA6636	Internship II

Graduate Certificate Programs

Students who successfully complete an area of specialization will also receive a graduate certificate in the appropriate program.

Coaching Theory and Strategies

This 18-credit, six-course certificate is designed to provide students with skills and knowledge to address coaching at all levels of sports. Coaching methodology, nutrition, conditioning, human performance and team administration are areas studied in the program.

Sports Administration

This 18-credit, six-course certificate focuses on the skills required for a career in the administration of professional and amateur sports. This course of study can lead to employment in areas such as sports organizations, regulatory agencies, private and/or public facilities and athletic departments at the college and university level, as well as related areas.

Course Offerings

Sports Administration

School of Administrative Science

Required Courses

MSA6701

3 Credits

Legal Issues in the Domestic and International Sports Industry

This course will study current issues within various areas of the domestic and international sports industry including legal liability of coaches, administrators and players; potential issues for facilities and sponsored events; regulations of amateur sports; legal relationships in professional sports; antitrust aspects of sports activities; and risk management.

MSA6702

3 Credits

Sports Administration Research and Policy Analysis

This course will explore current issues and trends relative to the administration and operation of various types of sports and recreation programs. Research into leadership models that have led to productive programs as well as the implication of policy on sports and recreation will also be studied.

MSA6703

3 Credits

Financial Administration in Sports

This course is designed to provide an understanding of different financial decisions that confront the sports industry. In addition to basic accounting skills, the course will explore financial-statement analysis, working capital and budgeting.

MSA6704

3 Credits

Internship I or Individual Job-related Project

This is a practical experience of previously learned skills and knowledge. The internship assignment will depend on the student's background and specific goals. Although efforts will be made to match students with appropriate opportunities to enhance their learning, some students may not be able to perform such an internship due to work or family responsibilities. In those cases, a specific job-related project can be approved by the program director.

MSA6705

3 Credits

Strategic Planning, Implementation and Evaluation

This course is the capstone course of the program. Students will be expected to develop either an operational or strategic plan, an implementation schedule and plan and an

evaluation process for the plans. This course can be taken once the student satisfactorily completes 27 credits in the program.

Sports Administration

MSA6601

3 Credits

Organizational Leadership and Team Development

This course will study how teams are organized and the role of leadership in motivating team performance. Topics to be covered include sports leadership in the sport and community, group and team development and the role of the leader in moving the organization to their vision of success.

MSA6602

3 Credits

Facility Development, Administration and Programming

Principles and applications of planning, designing, financing, budgeting and construction in the sports field, as well as the use of facilities for sports and non-sport activities, will be explored. Facility operations, event management and planning and equipment purchasing, maintenance and inventory will be included in the course.

MSA6603

3 Credits

Sports Marketing and Promotions

This course will explore the concepts of marketing, promotions and public relations for various components of the sports industry. At the foundation of marketing and promotion are strategic planning and coordination of efforts. Marketing strategies and varying consumer behaviors in different sports venues will be analyzed as social and economic issues related to buying and selling of sports. The inclusion of sponsorships and endorsements into the marketing efforts will also be included.

MSA6604

3 Credits

Sports in a Social Context

This course will explore the concepts of sports and their sociological impact on a nation or state as well as the impact of the role of sports organizations as well as a social institution.

MSA6605

3 Credits

Legal and Professional Ethics in Sports

This course will investigate the moral and legal framework for those in sports. Ethical dilemmas and how personal traps may affect the individual's career will be discussed. The course will also explore the differences between law and ethics, the concept of moral theory and issues of perception as well as ethical behavior. Case studies will be included.

MSA6606

3 Credits

Group Dynamics

This course will explore the basic nature of groups and how productive groups develop. Topics will include the various models of group development, the stages of development, informal and formal groups, team building and changing informal work groups or team norms.

MSA6607

3 Credits

Human Resource Administration in Sports Organizations

This course will explore administrative regulations; techniques, procedures and policies for effective personnel administration; and legal and ethical parameters that guide personnel in organizations. Additional topics include communication, compensation, negotiation, appraisal processes, training and development and decision making.

MSA6608

3 Credits

Sports Risk Assessment

This course will investigate the costs of sporting accidents, which can be a significant financial and emotional burden for an organization. Although organizations look at legal liabilities, there are other costs that organizations need to consider. Case studies and scenarios will be utilized in the class.

MSA6609

3 Credits

Communications and Media Relations

This course will explore practical techniques in understanding the media, how to build relationships with journalists, how to communicate messages effectively and what steps to take when faced with a crisis. The course aims to equip students with common-sense tools to properly manage their message while handling a variety of media that range from newspapers to radio and TV to the internet.

MSA6610

3 Credits

Strategies in Fundraising and Development

This course will explore ways organizations can capitalize on fundraising activities to improve market share and visibility. Examples from private and volunteer organizations will be used in the course.

Coaching Theory and Strategies

MSA6611

3 Credits

Coaching Leadership

This course will explore leadership skills needed for those entering into coaching positions.

Sports Administration

MSA6612

3 Credits

Coaching Theory, Methods and Issues

This course will explore the foundations for coaching as a profession and how coaching has influenced society and been influenced by society. Topic areas will include the psychology of coaching, coaching players and the relationship between players and coaches as well as coaches and colleagues.

MSA6613

3 Credits

Coaching Psychology

This course will investigate the foundations of the psychological factors related to coaching. The course will review the concepts of sports psychology and how coaches can encourage optimum performance from the players.

MSA6614

3 Credits

Assessing Human Performance

This course will explore the concepts of human performance for sports and appropriate assessment processes. As organizations seek to attain a certain performance goal, there is a need to ensure the individuals involved meet the requisite standards of performance or have the ability to do so. Various assessment tools will be reviewed as will case studies that demonstrate standards in use.

MSA6615

3 Credits

Effective Team Administration

This course will investigate how effective teams are developed. There are a number of essential concepts that will be studied, including assessing a current team, defining team objectives and criteria of success, establishing team capabilities, defining ground rules, assessing the team culture and behavior, developing effective personal collaboration processes, conducting effective meetings and conducting good team-decision processes.

Electives

MSA6624

3 Credits

Organization and Administration of Sports

This course will study the fundamental skills of sports administration including planning, organizing, staffing, coordinating and budgeting in public, not-for-profit and for-profit sectors.

MSA6625

3 Credits

Physiological Basis of Physical Fitness

This course will explore the physiological basis for testing physical fitness, the range of methods for assessing power, muscular strength and

endurance and flexibility. Different tests will be studied as well as methods for improving fitness in participants.

MSA6626

3 Credits

Nutrition for Sports and Fitness

This course will study fundamental principles of nutrition and physical training for sports and exercise. The role of nutrition and physiology will be investigated as they relate to performance. Nutritional needs for specific sports and appropriate preparation for competition, the use of performance-enhancement supplements, screening procedures for various substances and legal issues will also be explored.

MSA6628

3 Credits

Valuing Diversity

This course will explore the concepts of diversity in teams. Diversity includes various categories such as gender, age, education and nationality. As individuals work together, there is a need to understand individual differences that may influence the operations. The course will use case studies in addition to lectures.

MSA6629

3 Credits

Motivation and Performance

This course will examine the impact of motivation on performance in the area of sports administration. Various motivational theories, concepts of positive reinforcement and recognition programs and maximization of performance relative to individual and group will be studied.

MSA6630

3 Credits

Global Sports

Sports extend beyond national boundaries. This course will explore sports from a global perspective by examining the similarities and differences among various national sports cultures. The course will also investigate the types of sports activities found in specific cultures in order to determine the potential for expansion of activities into other international venues.

MSA6633

3 Credits

Weight Training and Conditioning

This course will explore the theory and practice behind weight training and conditioning of sports participants. Included will be assessments and exercises designed to increase strength and endurance. Assessments will range from novices to professional-level athletes.

MSA6634

3 Credits

Sports Security

This course will investigate the various strategies employed for major sports events. Ensuring a safe and secure environment for the players and spectators is necessary for organizational survival. The course will employ case studies and scenarios to develop potential strategies.

MSA6635

3 Credits

Events Planning and Administration

This course will explore choosing the appropriate venue, presentations and exhibits; selecting and managing vendors; and providing onsite coordination. In addition, establishing priorities, building alliances and defining duties and responsibilities for various functional areas will be investigated.

MSA6636

3 Credits

Internship II

This is a practical experience of previously learned skills and knowledge. The internship assignment will depend on the student's background and specific goals and must be approved by the program director.

MSA6638

3 Credits

Community Relations in Sports Organizations

This course will explore how community relations departments make a significant positive impact on both a sports team and in the community in which it resides. Course content focuses on customer/fan relations, working with nonprofit organizations, event planning, player appearances and social media. The course aims to prepare students with every aspect involved in the field and gives an inside look into one of the smallest yet most important departments in sports.

Student Services Administration (M.A.)

The Master of Arts (M.A.) in student services administration was offered beginning in January 2011. This degree is designed for individuals pursuing careers in administrative and support positions in higher education. The relationship of universities to the federal government, to states and to local communities has taken on entirely new dimensions. Until now, the only educational leadership program available at FDU focused on grades K–12.

The 36-credit, nonthesis program consists of 18 credits of core courses, which include a three-credit course in college student personnel internship and 18 credits of electives. The required courses include: MSSA6601 Research Methods; MSSA6602 College Student Development; MSSA6603 Social Issues in Higher Education; MSSA6604 Governance, Planning and Finance in Higher Education; MSSA6605 The Law and Student Affairs; and MSSA6606 Student Services Internship. There is a required master's project.

Classes will be offered online, in-person at the Metropolitan Campus, Teaneck, New Jersey; at the Florham Campus, Madison, New Jersey; at other offsite locations where the University has a partnership to offer graduate degrees; and online.

Students can **specialize** in one of four areas including: **admission and financial-aid administration, institutional risks administration, intercollegiate sports administration and on-campus student administration.** The program is offered through the School of Administrative Science of the Anthony J. Petrocelli College of Continuing Studies.

Admission Requirements

1. Must have completed a bachelor's degree program with a minimum cumulative grade point ratio of 3.00. (No GMAT or GRE test score is required.)
2. International students must take the Test of English as a Foreign Language.

Requirements for the Master of Arts Degree

The M.A. in student services administration is a 36-credit, nonthesis program requiring completion of 18 credits of core courses, including a 3-credit MSSA6606 Student Services Internship plus 18 credits of electives.

Curriculum

Whether taken in-person, blended or fully online, the M.A. in student services administration offers an outstanding degree that will prepare students for leadership positions in higher education. The curriculum integrates theory and practice with hands-on learning to provide a thorough understanding of current issues facing colleges and universities.

Required Courses (18 credits)

All students enrolled in the M.A. in student services administration must complete the following:

- MSSA6601 Research Methods
- MSSA6602 College Student Development
- MSSA6603 Social Issues in Higher Education
- MSSA6604 Governance, Planning and Finance in Higher Education
- MSSA6605 The Law and Student Affairs
- MSSA6606 Student Services Internship

Areas of Specialization and Certificates (18 credits)

The specialization in college student services administration encompasses many different components that range from recruitment and admissions to administering financial aid, on-campus institutional risk, on-campus student administration and intercollegiate sports. Students in the M.A. in student services administration will be able to complete work in an area of specialization that will lead to a certificate. There are four certificates for the program and their order of implementation are:

On-campus Student Administration

Students must complete the following three required courses:

- MSSA6602 College Student Development
- MSSA6604 Governance, Planning and Finance in Higher Education
- MSSA6605 The Law and Student Affairs

Students must select three of the following to complete the certificate:

- MSSA6611 Program Design and Instructional Strategies for Adults in Higher Education
- MSSA6612 Program Design and Strategies for Special Populations in Higher Education
- MSSA6613 Post-secondary Student Affairs Issues and Management
- MSSA6626 Mentoring Students for Success

Admissions and Financial Aid Administration

Students must complete the following course:

- MSSA6604 Governance, Planning and Finance in Higher Education

Students must select the following to complete the certificate:

- MSSA6602 College Student Development
- MSSA6608 Technology Foundations in Higher Education
- MSSA6610 Multiculturalism, Diversity and Difference: Theory, Research and Practice in Student Affairs
- MSSA6614 Administration of College Financial Aid
- MSSA6619 Grant Writing and Administration in Higher Education

Intercollegiate Sports Administration

Students must complete the following two courses:

- MSSA6604 Governance, Planning and Finance in Higher Education
- MSSA6623 Legal Issues in Domestic College Sports

Students must select the following to complete the certificate:

- MSSA6602 College Student Development
- MSSA6620 Marketing and Promotion for College Sports
- MSSA6622 Financial Administration in College Sports
- Elective Master of Sports Administration course approved by adviser

Institutional Risks Administration

Students must complete the following six courses:

- MSSA6604 Governance, Planning and Finance in Higher Education

Student Services Administration

- MSSA6605 The Law and Student Affairs
MSSA6608 Technology Foundations in Higher Education
MSSA6616 Threat Assessment and Risk Analysis in Higher Education
MSSA6617 Crisis Management for Higher-education Administrators
MSSA6618 Impact of Terrorism on College Safety

If students already have a graduate degree and would like to earn a post-master's certificate, 24 credits (8 three-credit courses) must be successfully completed.

Electives (18 credits)

Students can select any six courses from Areas of Specialization and Certificates.

Master's Capstone Project

Aspiring M.A. candidates will find the graduate capstone project to be the ultimate challenge. It requires the ability to apply the skills, methods and knowledge gained through their study of student services administration.

Students will be required to complete MSSA6100 Master Project during their last term of study in the student services administration program. Although it is required for graduation, no credit is awarded for the project. Requirements — including parameters for the final project and specific benchmarks that must be met — will be introduced early in the program during the MSSA6601 Research Methods course. Full-time faculty will evaluate the project to determine whether it meets graduation requirements.

Course Offerings

Student Services Administration

School of Administrative Science

Core Course Requirements

MSSA6100

3 Credits

Master Project

This noncredit course is part of the degree requirements and must be completed in order to graduate from the program.

MSSA6601

3 Credits

Research Methods

This course provides an introduction to quantitative methods and procedures through the study of the logic and procedures of

educational and social research. Information about the various stages of the research process with attention to measurement, sampling, design, data analysis and application will be included in the course.

MSSA6602

3 Credits

College Student Development

This course provides an introduction to the theory and practice of college student development and focuses on the variety of non-instructional services that impact the student's growth as an individual and as a member of the campus community.

MSSA6603

3 Credits

Social Issues in Higher Education

This course provides an analysis of the historical and current social issues that shape the experience of a college student. Topics include gender/sexual identity, ageism, racism, ethnocentrism and religious intolerance, among others.

MSSA6604

3 Credits

Governance, Planning and Finance in Higher Education

This course provides an overview of college governance and explores the relationship between program development, planning and budgeting to management in higher-education settings, resource acquisition and alumni/trustee relations.

MSSA6605

3 Credits

The Law and Student Affairs

This course provides an overview of relevant state/federal statutes (FERPA, ADA, etc.). In addition, the development and implementation of campus judicial models are reviewed with a focus on best practices.

MSSA6606

3 Credits

Student Services Internship

All students will be required to complete the graduate course MSSA6606 Student Services Internship. To describe and analyze the internship experience, students will complete a portfolio, which must document what was done and explain how the student achieved the objectives. This is a practical experience of previously learned skills and knowledge. The internship assignment will depend on the student's background and specific goals and the opportunities will be in higher education. Although efforts will be made to match students with appropriate opportunities to enhance their learning, some students may not be able to perform such an internship due to work or family responsibilities. In those cases, a specific

job-related project can be approved by the program director.

Specializations and Electives

All candidates must take 18 credits of electives. The electives may be chosen from the M.A. in student services administration with the approval of the student's adviser.

MSSA6608

3 Credits

Technology Foundations in Higher Education

This course provides an overview of the following topics related to planning and using technology: instructional technology models; internet resources; web design; networking and database fundamentals; technology standards; technology-integration strategies; assessment and evaluation; societal, legal and ethical issues; social media and related strategies; and collaborative planning of technology programs.

MSSA6610

3 Credits

Multiculturalism, Diversity and Difference: Theory, Research and Practice in Student Affairs

This course explores issues of multiculturalism, diversity and differences as they relate to work in student personnel through assignments, exercises, discussions, readings and reflection.

MSSA6611

3 Credits

Program Design and Instructional Strategies for Adults in Higher Education

This course explores program planning, development and evaluation for adult and continuing-education programs. The course will include diagnosis of client needs; effective system of planning, development and evaluation for adult-education programs; program scheduling; and budget and resource planning.

MSSA6612

3 Credits

Program Design and Strategies for Special Populations in Higher Education

This course explores designing programs for the wide range of populations attending colleges. This includes students with disabilities, bilingual populations and other targeted groups that add to the diversity of institutions.

MSSA6613

3 Credits

Post-secondary Student Affairs Issues and Management

This course is intended for higher-education professionals in leadership positions and includes topics such as student-affairs issues, co-curricular programming, residence life,

Taxation • Teaching • Teaching English as a Second/Foreign Language

substance abuse, judicial issues and related public relations.

MSSA6614

3 Credits

Administration of College Financial Aid

This course explores the current laws, rules and regulations relative to financial aid at the federal and state levels as well as the processes needed to ensure students receive the appropriate funds. Included in the course are scholarship design, work-study programs and supplemental financial-aid programs.

MSSA6616

3 Credits

Threat Assessment and Risk Analysis in Higher Education

This course investigates approaches for maintaining a safe and secure facility through planning for possible threats. The topics include vulnerability assessments, hazard mitigation and physical-security assessments. Students will conduct a vulnerability assessment for their organization and will develop a comprehensive response plan.

MSSA6617

3 Credits

Crisis Management for Higher-education Administrators

This course explores the assessment and preparation of plans for addressing crises that may occur within a college setting. The components will include crisis-management planning, response and recovery efforts. In addition to safeguarding the students and facility, there is a need to consider the psychological impact on the students and faculty. This course focuses on the broad range of issues such as natural disasters, terrorist activity, violent students and active-shooter issues on college property.

MSSA6618

3 Credits

Impact of Terrorism on College Safety

This course investigates the latest school-violence trends, including fatal and non-fatal shootings and gang activity and the threat of terrorist attacks on American schools. Case studies of incidents from throughout the world are studied and assessed to determine best practices.

MSSA6619

3 Credits

Grant Writing and Administration in Higher Education

This course provides students with an understanding of the process of writing successful grant proposals, including responding to the Request for Proposal, letter proposals, defining needs, methodology, timelines and the

budget. The essential elements of preparing a winning proposal that can secure funding for major initiatives are reviewed, and students will prepare and submit a full grant proposal relevant to their organizations.

MSSA6620

3 Credits

Marketing and Promotion for College Sports

The concepts of marketing, promotions and public relations for intercollegiate sports are explored. Strategic planning and coordination of efforts are also included in the course. Marketing strategies, varying consumer behaviors and different sports venues will be analyzed as social and economic issues related to marketing sports and their related activities.

MSSA6622

3 Credits

Financial Administration in College Sports

This course provides an understanding of different financial decisions that confront the intercollegiate sports industry. In addition to basic accounting skills, the course explores financial-statement analysis, working capital and budgeting.

MSSA6623

3 Credits

Legal Issues in Domestic College Sports

This course studies current issues within various areas of domestic sports including legal liability of coaches, administrators and players; potential issues for facilities and sponsored events; regulations of amateur sports; legal relationships in professional sports; antitrust aspects of sports activities; and risk management.

MSSA6626

3 Credits

Mentoring Students for Success

The role of individuals involved in the area of student affairs is broad, and it involves counseling for academic success and future achievements. This course explores the mentoring processes as well as concepts of counseling. Case studies will be used to supplement lectures and research.

Taxation (M.S.)

See Business, Taxation, pages 77–78.

Teaching (M.A.T.)

See Education, Teaching, pages 137–140.

Teaching English as a Second/Foreign Language (TESL/TEFL) (M.A.)

See Education, Teaching, pages 140–141.