



COLLEGE OF HEALTH SCIENCES

GRADUATE PROGRAMS

- **Biomechanics and Movement Science (MS, PhD)**
(Interdisciplinary Program, see page 269)
- **Exercise Science (MS)**
- **Health Promotion (MS)**

The College of Health Sciences offers graduate degrees through the Departments of Health, Nutrition, and Exercise Sciences, and the School of Nursing.

Students have the opportunity for clinical experiences in a variety of student- and faculty-supported settings, including teaching assistantships with the Nursing Center, which provides older adults with a variety of health promotion and disease management services, and the Employee Wellness Center, offering programs encouraging University employees to make lifestyle decisions promoting optimal health. For more information, please see <http://www.udel.edu/health>

HEALTH, NUTRITION, AND EXERCISE SCIENCES

The department offers graduate programs leading to Master of Science degrees in Exercise Science (thesis required,) Health Promotion (non-thesis,) and Human Nutrition (thesis and non-thesis options.) Students in the Exercise Science program select a major area of study in Biomechanics, Exercise Physiology, or Motor Control. Students in each master of science program may complete degree requirements on a full-or part-time basis. The department also offers a post-baccalaureate dietetic internship certificate program.

To ensure consideration for admission to one of these degree programs, a completed Admission Application should be submitted no later than January 15 for the fall semester and September 15 for the spring semester. Admission application forms are available from the Graduate Office, from the department, and online at:

(<http://www.udel.edu/admissions/appinfo.html>).

International student applicants must demonstrate a satisfactory level of proficiency in the English language if English is not their first language. The University requires departments to use an official paper-based TOEFL score of 550 or better or 213 or better on the computer-based TOEFL or 79 on the IBET TOEFL for an applicant to be considered for admission.

A limited number of teaching assistantships/tuition scholarships are available on a competitive basis. To be eligible the student must complete an application file and must be qualified for admission in regular status. Funding decisions are made separately from admission decisions. First priority is given to thesis students. Please refer to the chapter "Graduate Fellowships and Assistantships" in this catalog for more information.

- **Health Services Administration (MS)**
- **Human Nutrition (MS)**
- **Nursing (MSN)**
Dual Degree: BSN/MSN

MS IN EXERCISE SCIENCE

Telephone: (302) 831-8006

<http://www.udel.edu/HNES>

Faculty Listing: <http://www.udel.edu/HNES/gradFaculty.htm>

PROGRAM OVERVIEW

The MS program in Exercise Science is supported with well-equipped research facilities, including three-dimensional video capabilities, electromyography, and force platforms, as well as equipment for measurement of cardiopulmonary function, bone mineral density, body composition, functional muscular capacity, blood lactate, and motor unit discharge. Graduate students in this program are expected to participate in ongoing faculty-directed research programs.

ADMISSION REQUIREMENTS

1. A bachelor's degree based on a four-year curriculum in an accredited college or university.
2. Acceptable undergraduate transcripts.
3. The equivalent of an undergraduate major in kinesiology, exercise science or related discipline.
4. Three letters of recommendation indicating the capability, interest, maturity, and scholarly potential of the candidate for graduate study.
5. Acceptable GRE scores (over 1050 combined math and verbal scores).

Recommended prerequisites for **Biomechanics** include:

- Math through calculus
- Anatomy
- One year of physics
- Computer programming experience

Recommended prerequisites for **Exercise Physiology** include:

- One year of biology
- Two years of chemistry
- One year of physics

Recommended prerequisites for **Motor Control** include:

- Math through calculus
- Anatomy and physiology

-One year of biological or physical science

Admission is selective and competitive, based on the number of well-qualified applicants and the limits of available faculty and facilities. Those who meet stated minimum academic requirements are not guaranteed admission, nor are those who fail to meet those requirements necessarily precluded from admission if they offer other appropriate strengths. See the Admission Information chapter in this catalog for additional information.

REQUIREMENTS FOR THE DEGREE

The Master of Science with a major in Exercise Science requires 24 credits of coursework at the 600 or 800 level, and 6 credits of thesis. The 24 credits of coursework are specified in the individual planned programs of study, and must include 15-18 credits of coursework in courses within Exercise Science, and 6-9 credits of coursework in cognate areas as specified by the requirements for each concentration.

MASTER OF SCIENCE IN EXERCISE SCIENCE CONCENTRATION: EXERCISE PHYSIOLOGY

Exercise Physiology is a science that studies the effect of physical activity on the systems of the human body. Opportunities are available in scientific research, physiological assessment, cardiac rehabilitation, and exercise prescription. Students in the MS program in exercise physiology are required to conduct research and complete a thesis.

Credit Requirements:

Credits within Exercise Science	15-18
Cognate areas outside Exercise Science	6-9
Thesis	6

Total number of required credits 30

A. Required Credits Within Exercise Science

HESC 601 Research Methods	3
HESC 602 Statistics	3
HESC 603 Seminar in Exercise Science (4 semesters required)	0
HESC 800 Advanced Physiology of Exercise	3
HESC 804 Clinical Measures in Ex Phys	3
At least one of the following courses	
HESC 675 Cardiovascular Assessment II	3
HESC 802 Human Cardiovascular Control	3

Total from Area A 15-18

B. A minimum of 2 courses from the following:

HESC 665 Cardiovascular Assessment I	3
HESC 650 Life Span Motor Development	3
HESC 675 Advanced Exercise Prescription	3
HESC 666 Special Problem	1-6
HESC 807 Motor Learning and Control	3
IFST 605 Impact of Aging on the Family	3
BISC 675 Cardiopulmonary Physiology	3
BISC 605 Advanced Mammalian Physiology	4
STAT 615 Design and Analysis of Experiments	3
STAT 617 Multivariate Methods	3

Total from Area B 6-9

C. HESC 869 Thesis in Exercise Physiology	6
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Total from Area C 6

MASTER OF SCIENCE IN EXERCISE SCIENCE CONCENTRATION: BIOMECHANICS

Biomechanics is an interdisciplinary science that objectively interprets movement in living organisms. Emphasis is placed on techniques of measuring kinematic and kinetic characteristics of living organisms and on mathematical methods of analysis. Students in the MS program in biomechanics are required to conduct research and complete a thesis.

Credit Requirements:

Credits within Exercise Science	15-18
Credits in Cognate Areas	6-9
Thesis	6

Total number of required credits 30

A. Courses Required Within Exercise Science

HESC 601 Research Methods	3
HESC 602 Statistics	3

HESC 603 Seminar in Exercise Science (4 semesters required)	0
HESC 690 Biomechanical Methods	3
HESC 803 Laboratory Instrumentation	3
At least one of the following courses:	
HESC 687 Seminar in Biomechanics	3
HESC 688 Electromyographic Kinesiology	3

Total Credits from Area A 15-18

B. A minimum of 2 courses from the following:

BMSC 601 Mathematics for Biomechanics	3
HESC 650 Life Span Motor Development	3
HESC 655 Advanced Physiology of Exercise	3
HESC 691 Gait Laboratory Internship	3
HESC 807 Motor Learning and Control	3
MEEG 612 Biomechanics of Human Mvt.	3
STAT 615 Design and Anal. of Experiments	3
STAT 617 Multivariate Methods	3
EDST 861 Introduction to Stat. Inference	3
EDST 862 Principles of Experimental Design	3
PHYT 604 Functional Anat./Biomechanics	3

Total Credits from Area B 6-9

C. HESC 869 Thesis in Biomechanics	6
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Total Credits from Area C 6

MASTER OF SCIENCE IN EXERCISE SCIENCE CONCENTRATION: MOTOR CONTROL

Motor control is an interdisciplinary science that focuses on neural, physical, and behavioral aspects of the development and regulation of human movement. Emphasis is placed on changes that occur across the lifespan or due to pathology, and adaptations that occur in response to motor learning or exercise training. Students in the MS program in Motor Control are required to conduct research and complete a thesis.

Credit Requirements:

Credits within Exercise Science	15-18
Credits in Cognate Areas	6-9
Thesis	6

Total number of required credits 30

A. Courses Required Within Exercise Science

HESC 601 Research Methods	3
HESC 602 Statistics	3
HESC 603 Seminar in Exercise Science (4 semesters required)	0
HESC 807 Motor Learning and Behavior	3
HESC 651 Neurophysiological Bases of Movement	3
HESC 808 Seminar in Motor Control	3

Total Credits from Area A 15

B. A minimum of 2 courses from the following:

HESC 650 Life Span Motor Development	3
HESC 666 Independent Study	3
HESC 807 Motor Learning and Behavior	3
HESC 803 Intro. to Lab Instrumentation	3
HESC 690 Biomechanical Methods	3
STAT 615 Design and Analysis of Experiments	3
STAT 617 Multivariate Methods	3
EDUC 861 Introduction to Statistical Inference	3
EDUC 862 Principles of Experimental Design	3
EDUC 823 Learning and Development	3
PSYC 612 Human Psychophysiology	3
PSYC 626 Neuroscience I	3

Total Credits from Area B 6-9

C. HESC 869 Thesis in Motor Control	6
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Total Credits from Area C 6

MASTER OF SCIENCE IN EXERCISE SCIENCE CONCENTRATION: SPORTS MEDICINE

Credit Requirements:

Credits within Exercise Science	15-18
Credits in Cognate Areas	6-9
Thesis	6

Total number of required credits 30

A. Courses Required Within Exercise Science

HESC 601 Research Methods	3
HESC 602 Statistics	3
HESC 603 Seminar in Exercise Science (4 semesters required)	0
HESC 604 Sensorimotor Characteristics of Injury	3

HESC 605	Pathoetiology of Musculoskeletal Injury	3
HESC 606	Evidence-Based Sports Medicine	3
Total Credits from Area A		15

B. A minimum of 3 courses from the following:*(At least 2 courses must come from the same cognate area)*

<i>Motor Control</i>		
HESC 607	Motor Learning and Control	3
HESC 650	Life Span Motor Development	3
HESC 651	Neurophysiological Basis of Human Movement	3
HESC 808	Seminar in Motor Control	3
<i>Biomechanics</i>		
HESC 688	Electromyographic Kinesiology	3
HESC 689	Laboratory Instrumentation	3
HESC 690	Biomechanical Methods	3
HESC 687	Seminar in Biomechanics	3
<i>Exercise Physiology</i>		
HESC 665	Cardiovascular Assessment 1	3
HESC 675	Exercise Testing and Prescription	3
HESC 800	Advanced Physiology of Exercise	3
HESC 802	Human Cardiovascular Control	3
HESC 804	Clinical Measures in Exercise Physiology	3
<i>Research Design and Statistics</i>		
BISC 667	Seminar (Research Design and Statistics)	3
STAT 615	Design and Analysis of Experiments	3
STAT 617	Multivariate Methods	3
EDUC 861	Introduction to Statistical Inference	3
EDUC 862	Principles of Experimental Design	3
<i>Special Problems</i>		
HESC 666	Special Problem	3
HESC840	Advanced Human Anatomy	3
<i>Anatomy</i>		
HESC 666	Special Problem	3
HESC840	Advanced Human Anatomy	3
Total Credits from Area B		9
C. HESC 869 Thesis in Sports Medicine		6
Total Credits from Area C		6

site requirements.

5. Acceptable GRE scores (combined math and verbal score of 1050).

RECOMMENDED PREREQUISITES

All prerequisites are subject to individual review by the Health Promotion Graduate committee. Specific prerequisites for the program are:

- Psychology
- Sociology
- Statistics
- Equivalent of 3 topical health-related courses
- Health Promotion or Community Health Programming course

For students interested in an Exercise Science emphasis prerequisites also include:

- Anatomy and Physiology
- Exercise Physiology with Lab

For students interested in an Nutrition emphasis prerequisites also include:

- Anatomy and Physiology
- Advanced nutrition course that requires biochemistry

Admission is selective and competitive, based on the number of well-qualified applicants and the limits of available faculty and facilities. Those who meet stated minimum academic requirements are not guaranteed admission, nor are those who fail to meet those requirements necessarily precluded from admission if they offer other appropriate strengths. See the Admission Information chapter in this catalog for additional information.

FINANCIAL AID

Available financial aid will be awarded to full-time students (registered in at least 6 graduate credits each semester) based on admission ranking, needs of the program, and experience and expertise of the graduate student. Students who receive financial aid will be obligated to work up to 20 hours per week in an assigned position during the fall and spring semesters. Some forms of financial aid may provide support for tuition while others may not. Continuation of this award is contingent upon the evaluation of the program director and Health Promotion Graduate committee. The student must remain in good academic standing to be eligible for the continuation of the award.

REQUIREMENTS FOR THE DEGREE

The Master of Science in Health Promotion requires 30 credit hours of coursework at the 600 and 800 level, and 3 credits of either an internship or research project. The 30 credits of coursework must include 18 credits of required courses, and 12 credits of advisor approved coursework.

Credit Requirements:

Core Credits	18
Area of Emphasis	6
Electives (advisor approved)	6
Internship or Research Project	3
Total number of required credits	33

A. Courses Required Within Health Promotion

HESC 609	Survey Research Methods	
HESC 602	Elementary Computer Statistics	
HLPR 803	Advanced Health Promotion Programming	
HLPR 807	Topics and Issues in Health Promotion	
HLPR 809	Health Behavior	
HLPR 823	Human Response to Stress	
Total Credits from Area A		18

MS IN HEALTH PROMOTION

Telephone: (302) 831-3672

<http://www.udel.edu/HNES/ms-hp/>**PROGRAM OVERVIEW**

The Master of Science in Health Promotion prepares professionals for the successful design, implementation, and evaluation of health promotion interventions. Students are prepared in the science and art of helping people change their lifestyle and behaviors through a combination of efforts that involve cognitive and behavioral modification, and environmental and cultural change. The program is designed to meet the needs of both traditional graduate students and working professionals, with graduates having the skills and knowledge to work with a wide variety of populations and in diverse settings. The program provides opportunity to pursue specific areas of emphasis within Health Promotion which can include but is not limited to: exercise science, aging, nutrition, social marketing, health psychology, health communications, worksite health, or customized study.

REQUIREMENTS FOR ADMISSION

Students will be admitted to the program based upon enrollment availability and their ability to meet the following entrance requirements.

1. A bachelor's degree based on a four-year curriculum from an accredited college or university.
2. Acceptable undergraduate transcripts.
3. Three letters of recommendation indicating the capability, interest, maturity, scholastic, and professional potential of the candidate for graduate study.
4. Adequate preparation in health as determined by the prerequi-

B. Area of Emphasis**Exercise Science Emphasis (6 credits)**

HESC 685 Advanced Exercise Prescription
HESC 800 Advanced Physiology of Exercise

Cardiac Rehabilitation Emphasis (6 credits)

HESC 685 Advanced Exercise Prescription
HESC 665 Cardiovascular Assessment I

Nutrition Emphasis (6 credits)

NTDT 640 Nutrition and Aging
NTDT 645 Teaching Methods: Nutrition and Foods
NTDT 615 Advanced Nutrition and Physical Activity
NTDT 660 Community Nutrition

Aging Emphasis (6 credits)

NTDT 640 Nutrition and Aging
IFST 803 Human Development: Lifespan Perspective
IFST 600 level or higher Aging related course

C. Recommended Electives (12 credits)

HLP 610 Health and the Media
HLP 819 Social Marketing
UAPP 657 Health Policy
UAPP 804 Program Evaluation for Health and Social Services
UAPP 808 Qualitative Methods for Program Evaluation
IFST 601 Theories of Human Development
IFST 642 Leadership in Human Services
SOCI 607 Sociology of Gender
COMM 610 Organizational Communication Theory
COMM 624 Media Message Analysis
COMM 654 Children and Mass Media
HESC 655 Advanced Physiology of Exercise
COMM 656 Communication in Organizations
COMM 657 Children, Television, and Education
EDUC 685 Multimedia Literacy
POSC 653 Politics and Healthcare

D. Internship or Research Project

HLP 864 Internship
or
HLP 868 Research Project
Prior to enrollment in either HLP 864 or HLP 868 students must successfully pass a Qualifying Exam.

MS IN HUMAN NUTRITION

Telephone: (302) 831-1006
<http://napa.ntdt.udel.edu/graduate/>
Faculty Listing: <http://napa.ntdt.udel.edu/graduate/FacultyList.htm>

PROGRAM OVERVIEW

The MS program in Human Nutrition is supported with well-equipped research facilities. Additional linkages available to support graduate research opportunities for students in this program include Delaware Cooperative Extension, the State Division of Aging, the State Division of Public Health, the University Wellness Center, and local health care facilities. Interdisciplinary work is encouraged. There is also opportunity for close liaison with programs in Individual and Family Studies, Animal and Food Sciences, Chemistry and Biochemistry, Biological Sciences, and Nursing, as well as with the other master's programs in the department.

REQUIREMENTS FOR ADMISSION

Requirements for admission include an undergraduate cumulative index (based on a 4.0 system) of 2.75 with a 3.00 average in the major field. The recommended minimum combined verbal and math GRE score is 1000. International students applying for a teaching assistantship must report a paper-based TOEFL score of at least 600 (250 or better on the computer-based TOEFL or 100 on the IBET TOEFEL) and Test of Spoken English (TSE) score of at least 45. A score of 575 or better (231 or better on the computer-based TOEFL) is required or 90 on the IBET TOEFEL for international students who do not apply for a teaching assistantship. Three letters

of reference from individuals able to evaluate the applicant's potential for successful graduate work are also necessary to complete the application file. See also the chapter "Graduate Admissions" in this catalog.

Prerequisite courses to regular status include: human or animal physiology, inorganic and organic chemistry, biochemistry (preferably with lab), and one semester of human nutrition having a biochemistry prerequisite. Students planning to pursue thesis research topics related to social science aspects of nutrition and food habits should have some courses in sociology, psychology, anthropology, etc.

Students seeking to enter the program from undergraduate majors other than nutrition should expect to take prerequisite courses in sciences and nutrition prior to admission on regular status.

Admission to the program is selective and competitive based on the number of applicants and limits of available faculty and facilities. Those who meet minimum academic requirements are not guaranteed admission.

REQUIREMENTS FOR THE DEGREE**THESIS OPTION**

A minimum of 32 credits at the graduate level is required, 6 of which are thesis-related and 14-17 credits in the Department of Health, Nutrition and Exercise Sciences (2 seminar credits and 12-15 course credits). The remaining credits are obtained through courses in related areas such as chemistry, biology, statistics/experimental design, food science, physical education, psychology, sociology, anthropology, communication, etc. Selection of these courses will depend in part on the specific needs of the student and on the student's professional or research interests.

Core course requirements include: NTDT 611 (Advanced Nutrition), NTDT 630 (Trace Minerals and Vitamins) a graduate level biochemistry course, and a graduate level course in statistics/experimental design.

Degree completion also requires: 1) presentation of thesis research results in seminar format to the departmental faculty, 2) submission of manuscript draft for publication, and 3) satisfactory performance on the final oral examination.

NON-THESIS OPTION

A minimum of 32 credits at the graduate level is required, including 17 credits of graduate nutrition courses and a 3 credit scholarly project. The remaining 15 credits are obtained through non-program courses in related areas. Degree completion also requires satisfactory performance on a written comprehensive examination and presentation of scholarly project at a department seminar.

DIETETIC INTERNSHIP CERTIFICATE PROGRAM

A post-baccalaureate dietetic internship developed in cooperation with the Delaware Division of Public Health provides an in-depth experience in clinical nutrition, food service management, and public health nutrition. This program is accredited by the Commission on Accreditation for Dietetics Education and leads to certification as a registered dietitian by the American Dietetic Association. The University of Delaware Dietetic Internship is delivered on-line. Students who live outside the immediate Delaware-Mid-Atlantic region will be required to locate their own preceptors and facilities, subject to approval by the Delaware Internship faculty. Evaluation of eligibility for admission is made by a departmental faculty review committee. Evidence of completion of a baccalaureate degree and courses required as part of the degree-granting didactic program must be provided as part of the application. Acceptance into the internship is on a competitive basis. Applications are read and evaluated by an internship acceptance committee who use a numerical rating scale. Students who provide evidence of a considerable amount of work experience in a professional capacity

may be accepted based on the merits of their total application even if the undergraduate grade point average is less than the desired minimum.

Prospective students should submit a completed application form, transcript(s) of all undergraduate and post-baccalaureate course work, Graduate Record Examination (GRE) scores, and three references from individuals able to evaluate the applicant's potential for successful completion of the internship. Admission to regular status requires 1) GRE scores of 900 or higher (verbal plus quantitative); 2) overall undergraduate grade point average (GPA) of 2.75 or higher; 3) undergraduate GPA of 2.75 or higher in major courses. Students applying for this experience must have completed the courses necessary for American Dietetic Association verification.

Students are required to participate in a two-week orientation at the beginning of the internship and to earn a total of 12 credits. Students must complete the equivalent of 28 weeks of supervised clinical practice, consisting of 38 hours per week: NTDT 550 (fall, 4 credits) and NTDT 551 (spring, 4 credits). In addition, students must complete a 2-hour interactive distance learning seminar each week during both semesters: NTDT 650 (fall, 2 credits) and NTDT 651 (spring, 2 credits). Of the 12 credits required to complete the certificate program, only the four credits from NTDT650 and 651 may be applied toward the Master's degree.

Additional information regarding progress evaluation and retention/termination policies are available from the department office.

COMBINED MS/DIETETIC INTERNSHIP PROGRAM

PROGRAM OVERVIEW

The combined MS/Dietetic Internship (MS/DI) enables students to complete the MS in Human Nutrition and the university's dietetic internship in a two-year period. This is an accelerated program for post-baccalaureate students with a current verification statement from an accredited didactic program in dietetics. The program prepares students to successfully complete the Registration Examination with the Commission on Dietetic Registration and helps students develop critical reasoning, analytical and problem-solving skills so that graduates are positioned to be leaders in their chosen areas of dietetic practice.

Students enrolled in the MS/DI are considered full-time graduate students and are eligible to apply for financial aid. Graduate teaching assistantships are also available through the department. The MS/DI student is eligible for a teaching assistantship with the department during the first year. However, teaching assistantships for the dietetic internship certificate program will not be available to the MS/DI student.

REQUIREMENTS FOR ADMISSION

Applicants to the MS/DI must complete both the application to the graduate program and the dietetic internship application. Three professional references are required along with a letter of application and transcripts from all schools attended. Admission requirements include:

1. GPA of 2.75 overall and 3.0 in major courses
2. Recommended combined verbal and math GRE score of at least 1000
3. Verification statement of completion of a didactic program in dietetics
4. Medical Nutrition Therapy Course within four years of application
5. Biochemistry course within five years of application
6. Recent relevant work experience beyond what is required for undergraduate course requirements

REQUIREMENTS FOR THE DEGREE

The program is designed to provide 30 credits of graduate course work and 8 additional credits for the dietetic internship (NTDT 550/551). The Master of Science in Human Nutrition enables students to pursue their interests through an individualized program of study with either a thesis or non-thesis option. Both options include a core of required credits in nutrition and research methods, after which students work with an advisor to develop a customized elective program that fulfills the remainder of the program credits.

Students pursuing the thesis option are required to take CHEM 527 and six thesis credits (NTDT 869). Required NTDT courses include NTDT 611, 630, 650, 651, 665. Additional required courses include statistics, research design, and six elective credits. Students pursuing the non-thesis option are required to complete a three credit Scholarly Project (NTDT 669) in place of thesis credits.

The dietetic internship requires a total of 1064 hours of supervised practice. NTDT 550, Dietetics Practicum I, is completed in supervised practice facilities in winter and summer sessions during the first year. NTDT 551, Dietetics Practicum II, is completed in the fall and winter sessions of the second year. Interns enrolled in the MS/DI must attend the one week dietetics internship orientation held in mid August of the first year.

NURSING

Telephone (302) 831-1255

<http://www.udel.edu/nursing/graduate.html>

Faculty Listing: <http://www.udel.edu/nursing/faculty/faculty.html>

E-mail: UD-gradnursing@udel.edu

PROGRAM OVERVIEW

The School of Nursing offers programs leading to a Master of Science in Nursing (MSN) degree, a MS in Health Services Administration, and Post-Master's Certificates. The program is designed to prepare Clinical Nurse Specialists (CNS), Health Services Administrators, Family Nurse Practitioners (FNP), Adult Nurse Practitioners (ANP), and Neonatal Nurse Practitioners. Clinical specialization in the CNS concentration is offered in adult health, pediatrics, and psychiatry. Health Services Administration prepares nurses for leadership positions as nurse managers at a variety of levels. The Family and Adult Nurse Practitioner specialties prepare nurses to provide primary health care to clients. The Neonatal Nurse Practitioner specialty prepares nurses to provide acute care to newborns and their families using a collaborative team approach. Post-master's certificate programs are available in all concentrations for students who already hold a Master of Science in Nursing degree. All graduates are qualified to sit for national certifying examinations.

The graduate program includes core concepts of advanced practice nursing as well as concepts specific to the area of specialization. The curriculum is built on the theories and professional practice students have obtained at the baccalaureate level of nursing education and provides a foundation for future doctoral study.

Independent and interdependent functions of nursing are emphasized as important in achieving the health goals of individuals, families, and communities. Graduates of the program are prepared to improve the quality of nursing practice and to influence the delivery of health care. Clinical resources include a wide variety of facilities in Delaware, Pennsylvania, Maryland, and New Jersey.

The majority of students attend classes on a part-time basis. All on-campus classes are held after 3:00 p.m. in order to accommodate working nurses. Online and web-enhanced delivery methods are available for selected courses. The Health Services Administration concentration is offered entirely in a WEB-enhanced or WEB-based format.

The programs offered by the School of Nursing are fully accredited by the National League for Nursing Accrediting Commission (NLNAC) and from the Commission for Collegiate Nursing Education (CCNE).

MSN PROGRAM

ADMISSION REQUIREMENTS

To be considered for admission, applicants are expected to have a baccalaureate degree in nursing from an NLNAC or CCNE accredited school of nursing. Applicants are evaluated on the following criteria: (1) satisfactory performance in undergraduate academic work as well as in upper-division nursing courses; (2) three satisfactory academic and/or professional references; (3) licensure as a registered nurse in Delaware or in the state where clinical practice is to be arranged; and (4) an interview with a faculty member from the graduate program. For international students, a minimum score of 600 on the paper Test of English as a Foreign Language or 250 on the equivalent computer-based test is required.

One year of recent clinical experience is recommended prior to starting the clinical courses for the CNS and NP students; one year management experience in a health related field or three years experience in a professional health related practice for HSAD students. Admission to the Neonatal Nurse Practitioner specialty requires an interview with NNP faculty. All applicants are considered on an individual basis.

Admission is selective and competitive based on the number of well-qualified applicants and the limits of available faculty and facilities. Those who meet stated minimum academic requirements are not guaranteed admission, nor are those who fail to meet those requirements necessarily precluded from admission if they offer other appropriate strengths. See also the chapter "Graduate Admissions" in this catalog.

Students are required to meet all immunization, safety, criminal background checks, drug screenings, and CPR requirements prior to clinical coursework and direct patient care. Additional requirements for the clinical education may be required by the healthcare agency to which a student is assigned. Students are expected to provide their own transportation to all required clinical experiences.

REQUIREMENTS FOR THE DEGREE

Students in the Clinical Nurse Specialist and Health Services Administration concentrations must complete 34 and 37 credit hours of graduate study respectively for the MSN. Those pursuing the Family Nurse Practitioner specialty must complete 43 credit hours. Students in the Adult Nurse Practitioner specialty must complete 40 credit hours. Completion of the Neonatal Nurse Practitioner specialty requires 37 course credits in which the core courses are completed at the University of Delaware and the specialty coursework is completed at Thomas Jefferson University. All students take at least 13 credits of core courses.

Students have the option of writing either a thesis or a non-thesis scholarly project to meet the program requirements or they may complete a Research Application course. Those who choose to write a thesis conduct the necessary research and receive six credits (NURS 669) for the completed study. Students must complete all course requirements within five years of matriculation into the graduate nursing program.

CORE COURSES FOR CNS, FNP, ANP, AND NNP		13 Credits
NURS 604	Advanced Practice Roles for Health Care Providers	3
NURS 609	Nursing Science: Theory and Research	4
EDUC 665	Elementary Statistics	3
Choice of one from among the following:		
NURS 687	Nursing Science: Research Application	3
NURS 868	Scholarly Project	3

NURS 869	Master's Thesis	6
CLINICAL NURSE SPECIALIST		Credits
Additional Courses		21
NURS 620	Advanced Health Assessment	3
NURS 621	Advanced Pathophysiology*	3
NURS 622	Advanced Pharmacology	3
NURS 686	Clinical Nurse Specialist Role Integration	4

(*PSYC 829 Advanced Psychopathology, EDUC 813 Childhood Psychopathology or another approved graduate psychopathology course required for Psychiatric CNS instead of NURS 621)

REQUIRED COURSES FOR EACH SPECIALTY:

Adult Health

NURS 636	Adult Health I	4
NURS 646	Adult Health II	4

Nursing of Children

NURS 654	Nursing of Children I	4
NURS 655	Nursing of Children II	4

Psychiatric Nursing

NURS 671	Psychiatric Mental Health Nursing I	4
NURS 672	Psychiatric Mental Health Nursing II	4

TOTAL CREDITS REQUIRED 34

FAMILY NURSE PRACTITIONER

43 Credits

Additional Courses		30
NURS 620	Advanced Health Assessment	3
NURS 616	Primary Care in Community Health	3
NURS 621	Advanced Pathophysiology	3
NURS 622	Advanced Pharmacology	3
NURS 623	Management of Women's Health Care	3
NURS 624	Management of Children's Health	3
NURS 625	Management of Adult Episodic Health Needs and Problems	3
NURS 626	Management of Adult Chronic Health Needs and Problems	3
NURS 617	Preceptorship I	3
NURS 627	Preceptorship II	3

TOTAL CREDITS NEEDED 43

ADULT NURSE PRACTITIONER

40 Credits

Additional Courses		27
NURS 620	Advanced Health Assessment	3
NURS 616	Primary Care in Community Health	3
NURS 621	Advanced Pathophysiology	3
NURS 622	Advanced Pharmacology	3
NURS 623	Management of Women's Health Care	3
NURS 625	Management of Adult Episodic Health Needs and Problems	3
NURS 626	Management of Adult Chronic Health Needs and Problems	3
NURS 617	Preceptorship I	3
NURS 627	Preceptorship II	3

TOTAL CREDITS NEEDED 40

NEONATAL NURSE PRACTITIONER

37 credits

Additional Courses		24
NURS 616	Primary Care in Community Health	3
NURS 621	Advanced Pathophysiology	3
NURS 622	Advanced Pharmacology	3
Courses from Thomas Jefferson University		
TJU - NUR 662	NNP Clinical Course I	3
TJU - NUR 663	NNP Clinical Course II	3
TJU - NUR 664	NNP Clinical Course III	3
TJU - NUR 665	Comprehensive Assessment for Clinical Decision Making	3
TJU - NUR 666	Advanced Pharmacotherapeutics for the NNP	3

TOTAL CREDITS NEEDED 37

HEALTH SERVICES ADMINISTRATION

37 credits

Core Courses (13 credits: NURS 604, NURS 609, NURS 668, EDUC 665)		
NURS 619	Financial Management in Health Services Organizations	3
NURS 635	Health Administration Theories	3
NURS 637	Health Planning Strategies	3
NURS 638	Health Services Evaluation	3
NURS 664	Health Services Administration Practicum	3
NURS 690	Colloquium	0
UAPP and COMM Selected courses		6
TOTAL CREDITS NEEDED		37

POST MASTER'S CERTIFICATE OPTION

Post Master's Certificate programs are available in all concentrations. The Post Master's Certificate option is designed to provide individuals who already hold a Master of Science in Nursing degree with the core courses and clinical experiences necessary for eligibility for advanced certification. The number of credits varies with the area of specialty and the student's past academic record. Students must complete all course requirements within five years of matriculation into the Post Master's program.

APPLICATION PROCESS FOR POST MASTER'S CERTIFICATE PROGRAMS

To apply to the post-master's certificate programs, applicants must submit an application and an official transcript of undergraduate and master's degrees to the University of Delaware. An interview with faculty is also required.

COURSE REQUIREMENTS:

HEALTH SERVICES ADMINISTRATION		15 Credits
NURS 619	Financial Management in Health Services Organizations	3
NURS 635	Health Administration Theories	3
NURS 637	Health Planning Strategies	3
NURS 638	Health Services Evaluation	3
NURS 664	Health Services Administration Practicum	3
CLINICAL NURSE SPECIALIST		18 Credits
<i>All tracks require:</i>		
NURS 620	Advanced Health Assessment	3
NURS 621	Advanced Pathophysiology*	3
NURS 686	Clinical Nurse Specialist Role Integration	4

(*PSYC 829 *Advanced Psychopathology*, EDUC 813 *Childhood Psychopathology* or another approved graduate psychopathology course required for Psychiatric Nursing Specialty instead of NURS 621.)

REQUIRED COURSES FOR EACH SPECIALTY:**Adult Health**

NURS 636	Adult Health I	4
NURS 646	Adult Health II	4

Nursing of Children

NURS 654	Nursing of Children I	4
NURS 655	Nursing of Children II	4

Psychiatric Nursing

(In addition to core requirements: Total of 18 credits of psychiatric/mental health course work are required to sit for the certification examination)

NURS 671	Psychiatric Mental Health Nursing I	4
NURS 672	Psychiatric Mental Health Nursing II	4
Choose two of the following:		
PSYC 612	Human Psychophysiology	3
IFST 684	Theories of Counseling	3
IFST 690	Special Issues in Counseling Women	3

FAMILY NURSE PRACTITIONER

		30 Credits
NURS 620	Advanced Health Assessment	3
NURS 616	Primary Care in Community Health	3
NURS 621	Advanced Pathophysiology	3
NURS 622	Advanced Pharmacology	3
NURS 623	Management of Women's Health Care	3
NURS 624	Management of Children's Health	3
NURS 625	Management of Adult Episodic Health Needs and Problems	3
NURS 626	Management of Adult Chronic Health Needs and Problems	3
NURS 617	Preceptorship I	3
NURS 627	Preceptorship II	3

ADULT NURSE PRACTITIONER

		27 Credits
NURS 620	Advanced Health Assessment	3
NURS 616	Primary Care in Community Health	3
NURS 621	Advanced Pathophysiology	3
NURS 622	Advanced Pharmacology	3
NURS 623	Management of Women's Health Care	3
NURS 625	Management of Adult Episodic Health Needs and Problems	3
NURS 626	Management of Adult Chronic Health Needs and Problems	3
NURS 617	Preceptorship I	3
NURS 627	Preceptorship II	3

NEONATAL NURSE PRACTITIONER

		24 credits
NURS 616	Primary Care in Community Health	3
NURS 621	Advanced Pathophysiology	3
NURS 622	Advanced Pharmacology	3
Courses from Thomas Jefferson University		
TJU - NUR 662	NNP Clinical Course I	3
TJU - NUR 663	NNP Clinical Course II	3
TJU - NUR 664	NNP Clinical Course III	3
TJU - NUR 665	Comprehensive Assessment for Clinical Decision Making	3
TJU - NUR 666	Advanced Pharmacotherapeutics for the NNP	3

MS IN HEALTH SERVICES ADMINISTRATION

The School of Nursing offers a concentration in Health Services Administration leading to a Master of Science degree. Admission requires that students fulfill the following requirements:

1. Completion of a Bachelor's degree in a health-related field, such as nutrition/dietetics, sports medicine/exercise science, physical therapy, occupational therapy, public policy, information sciences, health education, and health promotion and wellness.
2. Completion of one year of management experience in a health-related field or three years experience in professional health-related practice.
3. Satisfactory performance in undergraduate academic work as well as in upper division major courses.
4. Three satisfactory academic and/or professional recommendations.
5. Interview with faculty from the graduate program.
6. Submission of a personal statement concerning goals related to health services administration.

For students for whom English is not a primary language, a minimum score of 600 for the paper test or 250 for the computer based test is required on the Test of English as a Foreign Language. These students may be required to take the Test of Spoken English.

REQUIREMENTS FOR THE DEGREE

1. Completion of a minimum of 36 credits (21 credits of department core requirements; 6 credits of research design and statistics; 6 credits of non-College requirements; and 3 credits of free elective).
2. Three credits of practicum, which may be taken together or in one-credit blocks.
3. Writing of a Scholarly Project.
4. A colloquium presentation on the Scholarly Project.

CORE COURSES

		21 credits
HSAD 604	Advanced Practice Roles for Healthcare Providers	3
HSAD 619	Financial Management in Health Services Administration	3
HSAD 635	Health Administration Theories	3
HSAD 637	Health Planning Strategies	3
HSAD 638	Health Services Evaluation	3
HSAD 664	Health Services Administration Practicum	3
HSAD 668	Health Services Administration Scholarly Project	1-3
HSAD 690	Colloquium	0

NON-DEPARTMENT COURSES

		6 credits
Human Resource Management (select one)		
UAPP 685	Personnel and Human Resource Issues	3
UAPP 837	Human Resources Management in Public and Nonprofit Sectors	3
Communication Theory (select one)		
COMM 610	Organizational Communication Theory	3
COMM 642	Topics in Organizational Communication	3
COMM 656	Communication in Organizations	3

RESEARCH DESIGN AND STATISTICS

		6 credits
Research Design (select one)		
PSYC 809	Research Design	3
IFST 815	Research Issues and Designs	3
UAPP 800	Research Design and Methodologies	3
IFST 615	Research Methods	3

Statistics (select one)	3
EDUC 665 Elementary Statistics	
UAPP 815 Public Management Statistics	
Free Elective	3
TOTAL	36

MASTER OF SCIENCE IN NURSING FOR THE REGISTERED NURSE (BSN/MSN)

The School of Nursing offers a separate program to allow registered nurses an opportunity to earn a Master of Science in Nursing concurrently with a Bachelor of Science in Nursing. The number of credits for both degrees is 134. Licensed registered nurses who are graduates of associate degree or diploma programs may apply for admission to this program.

Students are admitted to the Master of Science for the Registered Nurse program. Before enrollment in any nursing courses, students must meet the following criteria:

- Official admission to the RN to MSN major
- Successful completion of RN licensure exam (30 credits nursing knowledge awarded) and current RN license
- Completion of 60 pre-requisite non-nursing credits (See BRN program information.)
- GPA of 3.0 or higher in all previous college work
- Submission of Nursing Employment Verification Form
- Students are required to meet all immunization, safety, criminal background checks, drug screenings, and CPR requirements prior to clinical coursework and direct patient care. Additional requirements for the clinical education may be required by the healthcare agency to which a student is assigned. Students are expected to provide their own transportation to all required clinical experiences.
- Three satisfactory academic and/or professional recommendations.
- Interview with faculty from graduate program.

DUAL DEGREE: BACHELOR OF SCIENCE IN NURSING and MASTER OF SCIENCE IN NURSING

CURRICULUM CREDITS

UNIVERSITY REQUIREMENTS

ENGL 110 Critical Reading and Writing (minimum grade C-) 3

Discovery Learning Experience (see p. 64) 3

Three credits in an approved course or courses stressing multi-cultural, ethnic, and/or gender-related course content (see p. 64-66) 3

MAJOR REQUIREMENTS

24 credits, to include a minimum of one course in each of the following five categories: (1) biology, (2) microbiology, (3) chemistry, (4) anatomy and physiology, and (5) nutrition 24
 English course (second English composition course) 3
 Psychology course 3
 Sociology course 3
 Lifespan development course 3
 Restricted elective chosen from the following 3
 Art, Art History, History, Philosophy, Music, Theatre, Comparative Literature, Black American Studies, Economics, Political Science, Women's Studies, Foreign Languages and Literatures, Linguistics, and English.

CORE COURSES FOR ALL SPECIALTIES

NURS 335 BRN Orientation	1
NURS 411/412 Topics in Health Care Delivery (Nursing Elective)	6
NURS 435 Leadership & Management in Health Organizations	3
NURS 442 Community Health Nursing	3
NURS 604 Advanced Nursing Roles	3
NURS 609 Nursing Science: Theory & Research	4
NURS 620 Advanced Health Assessment	3
NURS 621 Advanced Pathophysiology*	3

(*PSYC 829 Advanced Psychopathology, EDUC 813 Childhood Psychopathology or another approved graduate psychopathology course required for Psychiatric Clinical Nurse Specialist program.)

EDUC 665 Elementary Statistics	3
NURS 686 Clinical Nurse Specialist Role Integration	4

Three credits from among the following: 3

NURS 668 Scholarly Project	
NURS 669 Master's Thesis	
NURS 687 Nursing Science: Research Application	

Eight credits from among the following CNS specialty courses are required for each specialty 6

Adult Health

NURS 636 Adult Health I	4
NURS 646 Adult Health II	4

Nursing of Children

NURS 654 Nursing of Children I	4
NURS 655 Nursing of Children II	4

Psychiatric Nursing

NURS 671 Psychiatric Mental Health Nursing I	4
NURS 672 Psychiatric Mental Health Nursing II	4

ELECTIVES

After required courses are completed, sufficient elective credits must be taken to meet the minimum credits required for the degree 15

TOTAL CREDITS REQUIRED 134