

Minor in Health Science**REQUIRED COURSES**

Complete the following six courses:

BHS U260	The American Health-Care System	4 SH
BHS U300	Communication Skills for the Health Professions	4 SH
BHS U350	Community and Public Health	4 SH
BHS U450	Health-Care Research	4 SH
BHS U510	Health-Care Ethics	4 SH
BHS U511	Health-Care Management	4 SH

GPA REQUIREMENT

2.000 GPA required in the minor

Minor in Exercise Physiology

A minimum grade of C is required in all courses taken toward the minor.

REQUIRED COURSES

Complete the following five courses with corresponding lab:

CES U202	Basic Clinical Skills	3 SH
CES U500	Exercise Physiology 1	4 SH
with CES U501	Lab for CES U500	1 SH
CES U502	Exercise Testing and Prescription	4 SH
CES U504	Clinical Kinesiology	4 SH
CES U520	Exercise Physiology 2	3 SH

GPA REQUIREMENT

2.000 GPA required in the minor

PHYSICAL THERAPY

www.bouve.neu.edu/programs/pt/index.php

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Entry-Level DPT Program

The physical therapy program prepares its graduates to provide quality patient care in a time of changing concepts, trends, and challenges. Students learn to help clients gain independence and to recognize and manage the emotional and socioeconomic problems that affect recovery.

The program in physical therapy has three admission points: freshman, transfer, or as a graduate student with a baccalaureate degree in a field other than physical therapy. The freshman entry program culminates at the end of six years in an entry-level Doctor of Physical Therapy (DPT) degree. Cooperative education is unique to and the hallmark of Northeastern University. Ongoing professional development is accomplished through integration of the combination of classroom and experiential activities. Students of physical therapy alternate semesters of academic study with semesters of cooperative education work experience. Students may be employed as physical therapy co-op students with increasing responsibilities commensurate with their academic studies, or they may perform other health-related duties. These experiences provide an opportunity for the application and reinforcement of the lessons learned in the classroom and laboratory. Prior to graduation, students have twelve months of work experience incorporated into the academic program.

In addition to cooperative education, the program includes twenty-eight weeks of clinical education. Clinical education allows the student to practice professional skills under the supervision of a licensed physical therapist. Clinical sites across the United States, offering a wide range of specialties, participate in our clinical education program. Every effort is made to accommodate individual circumstances, but students should be prepared to travel out of state for two of the three clinical courses. Availability of a car is also required, as most sites are not accessible by public transportation. All expenses associated with clinical education, including travel and housing, are the responsibility of the student. A very small number of sites offer student incentives, including stipends, meals, and housing at low or no cost to the student, but that is becoming increasingly rare.

Physical therapists provide services to patients and clients who have impairments, functional limitations, disabilities, or changes in physical function resulting from injury, disease, or other causes. In addition, physical therapists are involved in

wellness initiatives, including screenings, health promotions, and educational activities that promote healthy lifestyles. They perform administrative duties and direct and supervise support personnel. Physical therapists interact and practice in collaboration with a variety of health-care professionals, including, but not limited to, physicians, dentists, nurses, educators, social workers, occupational therapists, speech-language pathologists, and audiologists.

Physical therapists function in a variety of settings, including community and university hospitals; rehabilitation centers; private practices; educational settings; extended-care facilities; freestanding outpatient clinics; home health agencies; and community, state, and federal agencies.

The mission of the Department of Physical Therapy is to graduate clinically competent entry-level practitioners who are cognizant of, and sensitive to, individuals of diverse cultural and ethnic backgrounds and who can practice the art and science of the professional discipline autonomously and as part of an interdisciplinary team. An affirmation to the commitment of lifelong learning provides the basis upon which the department contributes to the advancement of physical therapy knowledge through research and scholarship. The fundamental belief of the department's faculty is the acceptance of evidence-based practice as the application of scientific evidence to inform and shape clinical practice. In the classroom, students develop problem-solving skills, manual dexterity, and proficiency with equipment and in sound biomechanical and kinesiological techniques.

Students do not need to reapply to the DPT phase of the program, provided they meet the academic standards. To progress in the program, students must maintain acceptable standards of scholarship and academic performance as stated in the academic requirements section of this catalog. Students must develop appropriate motor skills, professional behavior, and emotional maturity.

The program in physical therapy is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association.

Graduates of the Doctor of Physical Therapy program are eligible to sit for the Physical Therapy Licensure Examination. See pages 455–458 for course descriptions.

DPT—Doctor of Physical Therapy

YEAR 1

Introduction to College

Complete the following course:

BHS U100 College: An Introduction 1 SH

Introductory English

Complete the following course with a grade of C or higher:

ENG U111 College Writing 4 SH

Mathematics

Complete one of the following courses:

MTH U121 Precalculus 4 SH

MTH U141 Calculus 1 4 SH

Psychology

Complete the following two courses:

PSY U101 Foundations of Psychology 4 SH

PSY U404 Developmental Psychology 4 SH

Chemistry

Complete the following two courses with corresponding labs:

CHM U101 General Chemistry for Health Sciences 4 SH
with CHM U102 Lab for CHM U101 1 SH

CHM U104 Organic Chemistry for Health Sciences 4 SH
with CHM U105 Lab for CHM U104 1 SH

Free Electives

Complete any two courses outside physical therapy. Only one remedial or education course may be applied to the entire program.

YEAR 2

Professional Development

Complete the following course:

COP U101 Professional Development for Co-op 1 SH

Anatomy and Physiology

Complete the following two courses with corresponding labs:

BIO U117 Integrated Anatomy and Physiology 1 4 SH
with BIO U118 Lab for BIO U117 1 SH

BIO U119 Integrated Anatomy and Physiology 2 4 SH
with BIO U120 Lab for BIO U119 1 SH

Physics

Complete the following two courses with corresponding labs:

PHY U145 Physics for Life Sciences 1 4 SH
with PHY U146 Lab for PHY U145 1 SH

PHY U147 Physics for Life Sciences 2 4 SH
with PHY U148 Lab for PHY U147 1 SH

Statistics

Complete the following course:

MTH U280 Statistics and Software 4 SH

Physical Therapy Foundations

Complete the following three course with corresponding labs:

PTH U201 Foundation of Physical Therapy 3 SH
with PTH U202 Lab for PTH U201 1 SH

PTH U203 Human Skills Development 2 SH

PTH U204 Therapeutic Modalities 1 SH
with PTH U205 Lab for PTH U204 1 SH

Diversity

Complete one course from the list “Bouvé College of Health Sciences Approved Courses: Diversity” on page 161.

Free Electives

Complete any two courses outside physical therapy. Only one remedial or education course may be applied to the entire program.

YEAR 3

Gross Anatomy

Complete the following course with corresponding lab:

PTH U301 Gross Anatomy 4 SH

with PTH U302 Lab for PTH U301 1 SH

Kinesiology

Complete the following course with corresponding lab:

PTH U303	Kinesiology	3 SH
with PTH U304	Lab for PTH U303	1 SH

Professional Seminar 1

Complete the following course:

PTH U305	Physical Therapy Professional Seminar 1	2 SH
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Psychosocial Management

Complete the following course:

PTH U404	Psychosocial Management	2 SH
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Advanced Writing in the Disciplines

Complete the following course with a grade of C or higher:

ENG U306	Advanced Writing in the Health Professions	4 SH
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Exercise Physiology

Complete the following course with corresponding lab:

CES U500	Exercise Physiology 1	4 SH
with CES U501	Lab for CES U500	1 SH

Pathology

Complete the following course:

PTH U310	Pathology	4 SH
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Motor Control

Complete the following course with corresponding lab:

PTH U400	Motor Control	3 SH
with PTH U402	Lab for PTH U400	1 SH

Neuroscience

Complete the following course with corresponding lab:

PTH U308	Neuroscience	4 SH
with PTH U309	Lab for PTH U308	1 SH

YEAR 4**Health-Care Research**

Complete the following course:

BHS U450	Health-Care Research	4 SH
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Pharmacology

Complete the following course:

PSC U340	Pharmacology for the Health Professions	4 SH
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Cardiovascular and Pulmonary Management

Complete the following course with corresponding lab:

PTH U503	Cardiovascular and Pulmonary Management	4 SH
with PTH U504	Lab for PTH U503	1 SH

Musculoskeletal Management 1

Complete the following course with corresponding lab:

PTH U505	Musculoskeletal Management 1	4 SH
with PTH U506	Lab for PTH U505	1 SH

Integumentary System and Advanced Modalities

Complete the following course with corresponding lab:

PTH U515	Integumentary System and Advanced Modalities	2 SH
with PTH U516	Lab for PTH U515	1 SH

Clinical Integration 1: Evidence and Practice

Complete the following course with corresponding lab:

PTH U520	Clinical Integration 1: Evidence and Practice	2 SH
with PTH U521	Case Studies for PTH U520	1 SH

Physical Therapy Business Management

Complete the following course:

PTH U351	Physical Therapy Business Management	2 SH
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YEAR 5**Physical Therapy Project 1**

Complete the following course:

PTH U512	Physical Therapy Project 1	3 SH
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Assistive Technology

Complete the following course with corresponding lab:

PTH G215	Assistive Technology	3 SH
with PTH G216	Lab for PTH G215	1 SH

Neurological Management

Complete the following two courses with corresponding labs:

PTH U517	Neurological Management 1	4 SH
with PTH U518	Lab for PTH U517	1 SH
PTH G221	Neurological Management 2	4 SH
with PTH G222	Lab for PTH G221	1 SH

Administration

Complete the following course:

PTH G219	Physical Therapy Administration	4 SH
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Health Assessment

Complete the following course:

PTH G243	Health Assessment and Wellness	3 SH
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Physical Therapy Project 2

Complete the following course:

PTH U533	Physical Therapy Project 2	2 SH
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Professional Seminar 2

Complete the following course:

PTH U510	Physical Therapy Professional Seminar 2	2 SH
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Integrative Physical Therapy Practice

Complete the following course:

PTH U531	Integrative Physical Therapy Practice	2 SH
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Musculoskeletal Management 2

Complete the following course with corresponding lab:

PTH G223	Musculoskeletal Management 2	4 SH
with PTH G224	Lab for PTH G223	1 SH

Clinical Education 1

Complete the following course:

PTH G441	Clinical Education 1	6 SH
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Differential Diagnosis

Complete the following course:

PTH G240	Differential Diagnosis in Physical Therapy	3 SH
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Advanced Topics

Complete two courses from the following list:

PTH G231 to PTH G237	
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Graduate Elective

Complete one graduate elective.

YEAR 6**Clinical Education**

Complete the following three courses:

PTH G442	Clinical Education 2	6 SH
PTH G444	Clinical Education Integration Seminar	2 SH
PTH G448	Clinical Education 3	9 SH

Diagnostic Imaging

Complete the following course:

PTH G251	Diagnostic Imaging	3 SH
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PHYSICAL THERAPY MAJOR GRADE REQUIREMENT

A grade of C or higher is required in all PTH courses.

GENERAL ELECTIVES

Additional courses taken beyond college and major course requirements to satisfy graduation credit requirements.

COOPERATIVE EDUCATION**UNIVERSITY-WIDE REQUIREMENTS**

212 total semester hours required

Minimum 2.000 GPA required

SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY

www.bouve.neu.edu/programs/slpa/index.php

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Speech-language pathologists and audiologists are involved with the evaluation and treatment of, and counseling and research in, human communication and its disorders. The Speech-Language Pathology and Audiology program is designed to help students develop entry-level competencies that will enable them to function in a preprofessional capacity in educational settings, medical and rehabilitation centers, and private practice clinics. Students will be exposed to a wide variety of communication disorders through observation and participation in activities at the Northeastern University Speech-Language and Hearing Center. This is a state-of-the-art facility in the new Behrakis building. Alongside their graduate student mentors, students learn the basics of clinical practice and research. Externships in schools, hospitals, or other relevant settings will also broaden students' exposure and prepare them for graduate study or employment. Students may also broaden their knowledge of health-care practice by taking interdisciplinary courses with their colleagues in disciplines such as physical therapy, nursing, and pharmacy.

Speech-language pathologists and audiologists provide clinical services to a full range of communicatively impaired individuals, from infants through geriatrics. Speech-language pathologists treat disorders such as developmental language and articulation disorders, voice and resonance problems, stuttering, and language and cognitive impairments due to stroke, head injury, and progressive neurological diseases. Audiologists specialize in the prevention, identification, assessment, and rehabilitation of hearing disorders. Individuals with congenital and acquired hearing impairments are seen for services by audiologists. They prescribe and dispense hearing aids and instruct individuals in the use of amplification. Undergraduate students take courses in both speech-language pathology and audiology in preparation for advanced training and specialization at the graduate level.

The Bachelor of Science degree program in speech-language pathology and audiology includes an experiential learning component, a broad-based academic core, and the scientific and clinical course work necessary for understanding normal and disordered communication. The degree offers preprofessional training for individuals who want to pursue graduate education in speech-language pathology and audiology. Alternately, graduates may be hired as speech and hearing assistants in a variety of clinical settings, or they may pursue other career paths in health care and education.

The speech-language pathology and audiology curriculum is designed to facilitate critical thinking, information literacy, and oral and written communication skills. In addition to course work in the basic communication sciences, course work is required in education, allied health, computer literacy, ethics, multicultural/diversity issues, and psychology. The curriculum provides a solid foundation in speech-language pathology and audiology and basic sciences, and it is sufficiently flexible to provide students with the opportunity to minor in an area of related interest. By taking five courses in the standard curriculum, students may earn a minor in psychology.

A unique aspect of the speech-language pathology and audiology program is a five-year accelerated program. Students who have maintained a GPA of 3.250 or better, who have a departmental endorsement, and who have satisfied all graduate program admissions requirements may seek admission to this program in their third year. Students will, if successful, earn both a BS in speech-language pathology and audiology and an MS in speech-language pathology at the end of the program and meet national certification requirements. The accelerated program is selective and a restricted number of students are admitted each year. See pages 459–460 for course descriptions.

Academic Progression Standards

In order to progress from the freshman to sophomore year, the student must have a GPA of at least 1.800 and have completed 27 semester hours. In order to progress into the subsequent year of professional courses, the student must have a grade of C or better in all professional courses.

BS in Speech-Language Pathology and Audiology

SEMESTER 1

Freshman Seminar

BHS U100 College: An Introduction 1 SH

Anatomy and Physiology 1

Complete the following course with corresponding lab:
BIO U117 Integrated Anatomy and Physiology 1 4 SH
with BIO U118 Lab for BIO U117 1 SH

Introductory English

Complete the following course with a grade of C or higher:
ENG U111 College Writing 4 SH

Precalculus

Complete the following course:
MTH U121 Precalculus 4 SH

Introduction to Speech and Hearing

Complete the following course:
SLA U101 Introduction to Speech and Hearing 4 SH

SEMESTER 2

Anatomy and Physiology 2

Complete the following course with corresponding lab:
BIO U119 Integrated Anatomy and Physiology 2 4 SH
with BIO U120 Lab for BIO U119 1 SH

Foundations of Psychology

Complete the following course:
PSY U101 Foundations of Psychology 4 SH

Language Development

Complete the following course:
SLA U102 Language Development 4 SH

General Elective

Complete one course outside speech-language pathology and audiology. A course toward an approved minor may be selected to satisfy this requirement.

SEMESTER 3

Phonetics

Complete the following course:
SLA U200 Phonetics 4 SH

Introduction to Co-op

Complete the following course:
SLA U201 Introduction to Co-op 1 SH

Developmental Psychology

Complete the following course:
PSY U404 Developmental Psychology 4 SH

Physics 1

Complete the following course with corresponding lab:
PHY U145 Physics for Life Sciences 1 4 SH
with PHY U146 Lab for PHY U145 1 SH

General Elective

Complete one course outside speech-language pathology and audiology. A course toward an approved minor may be selected to satisfy this requirement.

SEMESTER 4

Advanced Writing in the Disciplines

Complete the following course with a grade of C or higher:
ENG U306 Advanced Writing in the Health Professions 4 SH

Statistics and Software

Complete the following course:
MTH U280 Statistics and Software 4 SH

Cognition

Complete the following course:
PSY U466 Cognition 4 SH

Clinical Research Directed Study

Complete the following course:
SLA U701 Clinical Research Directed Study 1 SH

Education Elective

Complete one course from the following list or an alternative course from the School of Education:
PSY U358 Behavior Therapies 4 SH
PSY U450 Learning and Motivation 4 SH

SEMESTER 5 (SUMMER)

Diversity

Complete the following course:
SOA U101 Peoples and Cultures 4 SH
or complete a course from the list “Bouvé College of Health Sciences Approved Courses: Diversity” on page 161.

General Elective

Complete one course outside speech-language pathology and audiology. A course toward an approved minor may be selected to satisfy this requirement.

SEMESTER 6

Health-Care Research

Complete the following course:
BHS U450 Health-Care Research 4 SH

Speech and Hearing Science

Complete the following course:

SLA U205 Speech and Hearing Science 4 SH

Introduction to Audiology

Complete the following course:

SLA U203 Introduction to Audiology 4 SH

Anatomy and Physiology of Vocal Mechanism

Complete the following course:

SLA U103 Anatomy and Physiology of the Vocal Mechanism 4 SH

SEMESTER 7 (SUMMER)**General Electives**

Complete two courses outside speech-language pathology and audiology. Courses toward an approved minor may be selected to satisfy this requirement.

SEMESTER 8**Language Disorders**

Complete the following course:

SLA U500 Language Disorders in Adults 4 SH

Aural Rehabilitation

Complete the following course:

SLA U503 Aural Rehabilitation 4 SH

Clinical Procedures

Complete the following course:

SLA U600 Clinical Procedures 4 SH

Psychology Elective

Complete one course from the PSY department.

SEMESTER 9**Communication Skills for the Health Profession**

Complete the following course:

BHS U300 Communication Skills for the Health Professions 4 SH

Moral Problems in Medicine

Complete one of the following courses:

BHS U510 Health-Care Ethics 4 SH

PHL U165 Moral and Social Problems in Health Care 4 SH

Early Intervention

Complete the following course:

BHS U505 Early Intervention 4 SH

Seminar in Speech-Language Pathology and Audiology

Complete the following course:

SLA U650 Seminar in SLP and Audiology 4 SH

SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY GRADE REQUIREMENT

A grade of C or higher is required in all SLA courses.

GENERAL ELECTIVES

Additional courses taken beyond college and major course requirements to satisfy graduation credit requirements.

COOPERATIVE EDUCATION**UNIVERSITY-WIDE REQUIREMENTS**

132 total semester hours required

Minimum 2.000 GPA required

BS/MS in Speech-Language Pathology and Audiology**SEMESTER 1****Freshman Seminar**

BHS U100 College: An Introduction 1 SH

Anatomy and Physiology 1

Complete the following course with corresponding lab:

BIO U117 Integrated Anatomy and Physiology 1 4 SH

with BIO U118 Lab for BIO U117 1 SH

Introductory English

Complete the following course with a grade of C or higher:

ENG U111 College Writing 4 SH

Precalculus

Complete the following course:

MTH U121 Precalculus 4 SH

Introduction to Speech and Hearing

Complete the following course:

SLA U101 Introduction to Speech and Hearing 4 SH

SEMESTER 2**Anatomy and Physiology 2**

Complete the following course with corresponding lab:

BIO U119 Integrated Anatomy and Physiology 2 4 SH

with BIO U120 Lab for BIO U119 1 SH

Foundations of Psychology

Complete the following course:

PSY U101 Foundations of Psychology 4 SH

Language Development

Complete the following course:

SLA U102 Language Development 4 SH

General Elective

Complete one course outside speech-language pathology and audiology. A course toward an approved minor may be selected to satisfy this requirement.

SEMESTER 3**Phonetics**

Complete the following course:

SLA U200 Phonetics 4 SH

Introduction to Co-op

Complete the following course:

SLA U201 Introduction to Co-op 1 SH

Developmental Psychology

Complete the following course:

PSY U404 Developmental Psychology 4 SH

Physics 1

Complete the following course with corresponding lab:

PHY U145 Physics for Life Sciences 1 4 SH

with PHY U146 Lab for PHY U145 1 SH

General Elective

Complete one course outside speech-language pathology and audiology. A course toward an approved minor may be selected to satisfy this requirement.

SEMESTER 4**Advanced Writing in the Disciplines**

Complete the following course with a grade of C or higher:

ENG U306 Advanced Writing in the Health Professions 4 SH

Statistics and Software

Complete the following course:

MTH U280 Statistics and Software 4 SH

Cognition

Complete the following course:

PSY U466 Cognition 4 SH

Clinical Research Directed Study

Complete the following course:

SLA U701 Clinical Research Directed Study 1 SH

Education Elective

Complete one course from the following list or an alternative course from the School of Education:

PSY U358 Behavior Therapies 4 SH

PSY U450 Learning and Motivation 4 SH

SEMESTER 5 (SUMMER)**Diversity**

Complete the following course:

SOA U101 Peoples and Cultures 4 SH

or complete a course from the list "Bouvé College of Health Sciences Approved Courses: Diversity" on page 161.

General Elective

Complete one course outside speech-language pathology and audiology. A course toward an approved minor may be selected to satisfy this requirement.

SEMESTER 6**Health-Care Research**

Complete the following course:

BHS U450 Health-Care Research 4 SH

Speech and Hearing Science

Complete the following course:

SLA U205 Speech and Hearing Science 4 SH

Introduction to Audiology

Complete the following course:

SLA U203 Introduction to Audiology 4 SH

Anatomy and Physiology of the Vocal Mechanism

Complete the following course:

SLA U103 Anatomy and Physiology of the Vocal Mechanism 4 SH

SEMESTER 7 (SUMMER)**General Electives**

Complete two courses outside speech-language pathology and audiology. Courses toward an approved minor may be selected to satisfy this requirement.

SEMESTER 8**Articulation and Phonology**

Complete the following course:

SLA G305 Articulation and Phonology 3 SH

Neurology of Communication

Complete the following course:

SLA G109 Neurology of Communication 3 SH

Speech-Language Disorders in Children

Complete the following course:

SLA G306 Speech-Language Disorders in Children 3 SH

Clinical Procedures

Complete the following course:

SLA U600 Clinical Procedures 4 SH

SEMESTER 9**Speech-Language Disorders in Adults**

Complete the following course:

SLA G309 Speech-Language Disorders in Adults 3 SH

Research and Evidence-based Practice

Complete the following course:

SLA G211 Research and Evidence-based Practice 3 SH

Speech Science

Complete the following course:

SLA G301 Speech Science 3 SH

SLP Seminar

Complete the following course:

SLA G414 SLP Clinic Seminar 1 SH

SLP Clinic 1

Complete the following course:

SLA G415 SLP Advanced Clinical Practicum 1 3 SH

SEMESTER 10 (SUMMER)**SLP Clinic 2**

Complete the following course:

SLA G416 SLP Advanced Clinical Practicum 2 3 SH

Undergraduate General Elective

Complete one undergraduate course outside speech-language pathology and audiology. A course toward an approved minor may be selected to satisfy this requirement.

SEMESTER 11**Dysphagia**

Complete the following course:

SLA G308 Dysphagia 3 SH

Voice Disorders

Complete the following course:

SLA G307 Voice Disorders 3 SH

SLP Clinic 3

Complete the following course:

SLA G417 SLP Advanced Clinical Practicum 3 3 SH

Aural Rehabilitation

Complete the following course:

SLA U503 Aural Rehabilitation 4 SH

Graduate General Elective

Complete one graduate course outside speech-language pathology and audiology. A course toward an approved minor may be selected to satisfy this requirement.

SEMESTER 12**Stuttering**

Complete the following course:

SLA G303	Stuttering	3 SH
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Augmentative and Alternative Communication

Complete the following course:

SLA G304	Augmentative and Alternative Communication	3 SH
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SLP Clinic 4

Complete the following course:

SLA G418	SLP Advanced Clinical Practicum 4	3 SH
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Motor Speech Disorders

Complete the following course:

SLA G321	Motor Speech Disorders	3 SH
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**SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY
GRADE REQUIREMENT**

A grade of C or higher is required in all SLA courses.

GENERAL ELECTIVES

Additional courses taken beyond college and major course requirements to satisfy graduation credit requirements.

COOPERATIVE EDUCATION**UNIVERSITY-WIDE REQUIREMENTS**

163 total semester hours required

Minimum 2.000 GPA required

Minor in Early Intervention**REQUIRED COURSES**

Complete the following six courses:

CAP U525	Early Intervention: Practicum 1	2 SH
CAP U526	Early Intervention: Practicum 2	2 SH
CAP U550	Early Intervention: Family Systems	3 SH
CAP U551	Early Intervention: Infant/Toddler Development, Risk, and Disability	3 SH
CAP U552	Early Intervention: Planning and Evaluating Services	3 SH
SLA U554	Early Intervention: Assessment and Intervention	3 SH

Note: The above courses are pending approval.

GPA REQUIREMENT

2.000 GPA required in the minor

SCHOOL OF NURSING

www.bouve.neu.edu/nursing

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Janet Dewan, MS, RN, CRNA

Brenda Douglas, MS, RN

Ann Hill, MS, RN, CNAA

Valeria Ramdin, MS, RN, ANP

The School of Nursing offers a Bachelor of Science in nursing program designed to prepare students to become professional nurses for practice in a variety of health-care settings such as hospitals, community health centers, schools, and homes. The school aims to provide all students—including those with diverse backgrounds and changing career goals—with a broad-based education that will foster ongoing personal and professional growth.

Successful completion of the baccalaureate program allows graduates to take the National Council Licensing Examination

(NCLEX-RN) to become registered nurses (see also “Special Requirements,” below) and also provides the educational background needed for graduate study in nursing specialties.

Nursing is both a science-based process and a caring art. The curriculum offers instruction in the sciences with opportunities in the humanities. Since nursing practice focuses on promoting, preserving, and restoring the health and well-being of individuals, families, groups, and communities across the life span, the curriculum emphasizes a community-based primary-care approach, which builds throughout the program. This approach requires knowledge, skills, and attitudes related to health care that are comprehensive, culturally sensitive, continuous, effective, compassionate, and collaborative. Because the vast majority of people’s lives are spent in the community, a significant part of the clinical program takes place in the community where people live, work, rest, play, vote, and pray. Recognizing the equally important need to prepare nurses to care for ill patients in institutions, the program provides ample opportunities for nursing practice in hospitals, rehabilitation centers, and long-term-care facilities. The curriculum is capped by courses that enable students to put leadership and management skills into action and to synthesize the complete role of the professional nurse in a clinical practicum.

In addition to completing academic course work, students must meet the cooperative education requirement, which gives them the opportunity to integrate the theory and practice of nursing in selected settings. Through more than seventy community and institutional health-care agencies in Greater Boston and across the country, students gain experience in providing nursing care to a variety of patients and families. Students learn that nurses have major roles in wellness and health promotion, acute care, and long-term care.

The program is accredited by the Commission on Collegiate Nursing Education and is approved by the Board of Registration in Nursing of the Commonwealth of Massachusetts (BORN). Accreditation and approval indicate that the program meets educational standards for faculty, curriculum design, student quality, and overall University support. The school subscribes to the standards established by the American Association of Colleges of Nursing, of which it is a member. See pages 424–428 for course descriptions.

Special Requirements

All students must receive a health clearance from University Health and Counseling Services (UHCS). This is based on documentation of evidence of immunity from infectious disease and a physical examination (this may be done by the student’s own health-care provider). In addition, nursing students need a clinical clearance in order to participate in clinical courses. Clinical clearance includes verification of UHCS health clearance and also documentation of current certification in cardiopulmonary resuscitation (CPR), recent tuberculosis screening (PPD), and additional health screenings as may be required by the program. It is the responsibility of the student to stay current and to provide documentation required for clinical clearance throughout the entire nursing program.

Many clinical settings also require additional information from the student, such as a Criminal Offender Record Information (CORI) release; the school will inform the student in those instances.

Students enrolled in the clinical courses may need access to a car to travel to assigned agencies. Students are responsible for their own transportation costs.

During academic semesters, students in the School of Nursing are required to wear the approved school uniform in some clinical laboratory areas.

In Massachusetts and several other states, the registering board requires that graduates sitting for the NCLEX-RN licensure examination meet standards of “good moral character.” Students may review Licensure Policy No. 99-03 under “Rules & Regulations” on the Massachusetts BORN Web site at www.mass.gov/dpl/boards/rn/index.htm or investigate the requirements in the state where they expect to practice.

Upper-Division Transfer Track

The School of Nursing undergraduate program welcomes both transfer students and students planning a career change who have a degree in another field. Recommended entering requirements include two semesters of anatomy and physiology (with lab), one chemistry course (with lab), and college algebra. Overall GPA should be a minimum of 3.000 for consideration into the program. A microbiology course (with lab) is strongly recommended. Students are accepted into this track for the fall semester only. Once accepted, the transfer student follows a fixed curriculum plan that includes cooperative education experiences. Students may complete their baccalaureate program requirements in approximately six semesters.

RN to BSN Option

The school accepts registered nurses who wish to complete requirements for a Bachelor of Science in nursing degree into the University’s School of Professional and Continuing Studies. The part-time curriculum program varies, depending on the individual’s previous educational experience and ability to achieve advancement through the development of a portfolio to validate prior learning. More information is available at <http://www.ace.neu.edu/bouve/nursing/rnbsn>.

BSN—Bachelor of Science in Nursing

SEMESTER 1

Introduction to College

Complete the following course:

BHS U100	College: An Introduction	1 SH
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Nutrition

Complete the following course:

BHS U105	Nutrition	4 SH
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College Algebra and Calculus

Complete one course from the following list:

MTH U115	Applications of Algebra	4 SH
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MTH U121	Precalculus	4 SH
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MTH U141	Calculus 1	4 SH
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MTH U142	Calculus 2	4 SH
MTH U151	Calculus and Differential Equations for Biology 1	4 SH
MTH U152	Calculus and Differential Equations for Biology 2	4 SH
MTH U241	Calculus 1 for Science and Engineering	4 SH

Biology 1

Complete the following course with corresponding lab:

BIO U111	General Biology 1	4 SH
with BIO U112	Lab for BIO U111	1 SH

Introductory English

Complete the following course with a grade of C or higher:

ENG U111	College Writing	4 SH
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SEMESTER 2**Microbiology**

Complete the following course with corresponding lab:

BIO U121	Basic Microbiology	4 SH
with BIO U122	Lab for BIO U121	1 SH

Sociology

Complete the following course:

SOC U101	Introduction to Sociology	4 SH
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Anatomy and Physiology 1

Complete the following course with corresponding lab:

BIO U117	Integrated Anatomy and Physiology 1	4 SH
with BIO U118	Lab for BIO U117	1 SH

Psychology

Complete the following course:

PSY U101	Foundations of Psychology	4 SH
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SEMESTER 3**Health and Illness—Nursing Perspective (Diversity)**

Complete the following course:

NUR U210	Influences on Health and Illness: A Nursing Perspective	3 SH
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Chemistry

Complete the following course with corresponding lab:

CHM U101	General Chemistry for Health Sciences	4 SH
with CHM U102	Lab for CHM U101	1 SH

Ethics

Complete one of the following courses:

BHS U510	Health-Care Ethics	4 SH
or PHL U165	Moral and Social Problems in Health Care	4 SH

Anatomy and Physiology 2

Complete the following course with corresponding lab:

BIO U119	Integrated Anatomy and Physiology 2	4 SH
with BIO U120	Lab for BIO U119	1 SH

SEMESTER 4**Nursing Intervention/Assessment**

Complete the following course with corresponding lab:

NUR U220	Nursing Interventions, Assessment, and Community Care	3 SH
with NUR U221	Lab for NUR U220	2 SH

Pharmacology

Complete the following course:

PSC U340	Pharmacology for the Health Professions	4 SH
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Professional Development

Complete the following course:

COP U101	Professional Development for Co-op	1 SH
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Growth and Development

Complete the following course:

PSY U404	Developmental Psychology	4 SH
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Pathophysiology

Complete the following course:

NUR U312	Pathophysiology	4 SH
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SEMESTER 5**Nursing Intervention/Assessment—Intermediate Lab**

Complete the following course:

NUR U322	Intermediate Interventions and Assessment Lab	2 SH
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Nursing Care/Adults 1 and Clinical

Complete the following course with corresponding clinical:

NUR U320	Nursing Care of Adults 1	4 SH
with NUR U321	Clinical for NUR U320	2 SH

Women and Families

Complete the following course with corresponding lab:

NUR U302	Nursing with Women and Families	3 SH
with NUR U303	Lab for NUR U302	2 SH

Statistics

Complete the following course:

MTH U180	Statistical Thinking	4 SH
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SEMESTER 6**Nursing Care/Adults 2 and Clinical**

Complete the following course with corresponding clinical:

NUR U420	Nursing Care of Adults 2	4 SH
with NUR U421	Clinical for NUR U420	2 SH

Mental Health

Complete the following course with corresponding lab:

NUR U400	Nursing and the Promotion of Mental Health	3 SH
with NUR U401	Lab for NUR U400	2 SH

Research

Complete the following course:

BHS U450	Health-Care Research	4 SH
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SEMESTER 7**Acutely Ill Child**

Complete the following course with corresponding lab:

NUR U500	Nursing with Acutely Ill Children and Families	3 SH
with NUR U501	Lab for NUR U500	2 SH

Nursing Care in the Community and Clinical

Complete the following course with corresponding clinical:

NUR U340	Nursing Care in the Community	3 SH
with NUR U341	Clinical for NUR U340	2 SH

Advanced Writing in the Disciplines

Complete the following course with a grade of C or higher:

ENG U306	Advanced Writing in the Health Professions	4 SH
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SEMESTER 8**Comprehensive Nursing Practicum**

Complete one of the following courses:

NUR U945	Comprehensive Nursing Practicum	4 SH
or NUR U946	Comprehensive Nursing Practicum 2	6 SH

Vulnerable Populations and Clinical

Complete the following course with corresponding lab:

NUR U600	Nursing with Vulnerable Populations	3 SH
with NUR U601	Lab for NUR U600	2 SH

Managing and Leading

Complete the following course:

NUR U610	Managing and Leading in Health Care	3 SH
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Free Elective

Complete any course outside nursing or complete one of the following courses:

NUR U205	Wellness	4 SH
NUR U923	Directed Study	3 SH
NUR U924	Directed Study	4 SH
NUR U925	Directed Study	5 SH
NUR U970	Junior/Senior Project 1	4 SH
NUR U971	Junior/Senior Project 2	4 SH

GENERAL ELECTIVES

Additional courses taken beyond college and major course requirements to satisfy graduation credit requirements.

COOPERATIVE EDUCATION**UNIVERSITY-WIDE REQUIREMENTS**

128 total semester hours required

Transition students are required to complete 132 total semester hours

Minimum 2.000 GPA required

SCHOOL OF PHARMACY

www.bouve.neu.edu/pharmacy

DANIEL C. ROBINSON, PHARM D

Professor, Dean of the School, and Associate Dean of the College

JENNIFER M. TRUJILLO, PHARM D, BCPS

Associate Clinical Specialist, Assistant Dean for Academic Affairs

Department of Pharmaceutical Sciences

Vladimir P. Torchilin, PhD, DSc, *Northeastern University*

Distinguished Professor and Chair

BEHRAKIS TRUSTEE CHAIR IN PHARMACEUTICAL BIOTECHNOLOGY AND PROFESSOR

Alexandros Makriyannis, PhD

ELEANOR W. BLACK CHAIR IN IMMUNOPHYSIOLOGY AND PHARMACEUTICAL BIOTECHNOLOGY AND PROFESSOR

Michail V. Sitkovsky, PhD

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Ralph H. Loring, PhD

Robert A. Schatz, PhD

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Akio Ohta, PhD

Tara Pouyani, PhD

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Jiang Zheng, PhD

LECTURER

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John Devlin, PharmD, BCPS, FCCM

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 Yolanda M. Hardy, PharmD
 Michelle Jacobs, PharmD
 Jennifer L. Kirwin, PharmD, BCPS
 Dalia Mack, PharmD
 Alexandria Piotrowski, PharmD, BCPS
 Thomas Pomfret, PharmD
 Jenny A. Van Amburgh, PharmD, BCPP
 Mark Watanabe, PharmD, PhD, BCPP

Pharmacists promote the safe and effective use of drugs by providing pharmaceutical care. In addition to preparing and dispensing medications prescribed by physicians, pharmacists provide information to patients about medications and their use; advise physicians and other health-care practitioners on the selection, dosages, interactions, and adverse effects of drug therapy; and monitor patient response to drug therapy.

The profession of pharmacy requires a significant amount of patient contact. Counseling by the pharmacist is considered essential in improving drug therapy outcomes. Traditionally, most pharmacists work in a community setting, such as a retail pharmacy, or in a health-care facility, such as a hospital. Community pharmacists dispense medications, counsel patients, and answer questions about prescription drugs. They provide information and make recommendations about over-the-counter medications, products, and medical equipment. A community pharmacy offers the opportunity to combine specialized pharmaceutical training with skills in clinical patient management, business administration, and marketing. In addition to patient contact and counseling, community pharmacists also spend considerable time discussing health-related matters with the prescribing physicians. Pharmacists in health-care facilities dispense medications and collaborate with medical staff regarding the selection and effects of drugs. They also assess, plan, and monitor drug regimens and counsel patients on use of medications while in the hospital and at discharge. Hospital pharmacists have the opportunity to apply clinical skills in the management of drug therapy through participation in patient rounds, drug utilization review, and consultation with physicians on individual therapeutic regimens. Some pharmacists specialize in specific drug therapy areas, such as geriatrics or oncology (cancer).

Opportunities are expanding for pharmacists elsewhere. Health maintenance organizations, private practice groups, long-term-care facilities, home health care, the Public Health Service, the armed services, and law enforcement agencies such as the Federal Drug Enforcement Administration all require pharmacists. Other graduates find employment in drug development or marketing, colleges of pharmacy, or professional association management. Many graduates of the pharmacy program go on to leading graduate schools, residencies, or fellowship programs for specialized training.

The six-year Doctor of Pharmacy curriculum offers a blend of academic, cooperative education, and advanced practice experiences.

In order to be eligible for a pharmacy degree, a student must have satisfactorily completed all prescribed courses in his or her curriculum, have an overall 2.000 grade-point average (GPA), and must meet the cooperative education, advanced practice experience, and other requirements as stated in the *Bouvé College of Health Sciences Undergraduate Student Information Manual*. The undergraduate program, which is accredited by the Accreditation Council for Pharmacy Education (ACPE), subscribes to the standards established by ACPE and the American Association of Colleges of Pharmacy.

Pharmacy graduates must meet certain requirements to obtain a license from the state in which they want to practice. Those requirements include graduating from an accredited school of pharmacy, passing an examination given by a state board of pharmacy, and completing an internship.

The internship is a period of practical experience under the supervision of a registered pharmacist. Massachusetts requires 1,500 internship hours, of which 1,100 hours can be satisfied through cooperative education in years three through five. Students may apply for up to 400 internship hours during their advanced-practice experiences in year six. See pages 436–441 for Doctor of Pharmacy course descriptions and pages 447–449 for pharmaceutical science course descriptions.

Academic Progression Standards

Students must adhere to the program plan for their year of graduation. Any deviation from the prescribed curriculum will require permission and an approved plan of study from the Pharmacy Academic Standing Committee. Students must receive a grade of C or better in professional prerequisites beginning with the second year. Students must have an overall GPA of at least 2.700 to progress from second- to third-year status and have satisfactorily completed all courses in years one and two of the curriculum. In order to progress into any subsequent year of the program, the student must have passed all professional courses with a grade of C or better.

PharmD—Doctor of Pharmacy**SEMESTER 1 (FALL)****Freshman Seminar**

Complete the following course:

BHS U100	College: An Introduction	1 SH
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Biology 1

Complete the following course with corresponding lab:

BIO U111	General Biology 1	4 SH
with BIO U112	Lab for BIO U111	1 SH

Chemistry 1

Complete the following course with corresponding lab:

CHM U211	General Chemistry 1	4 SH
with CHM U212	Lab for CHM U211	1 SH

Introductory English

Complete the following course with a grade of C or higher:

ENG U111 College Writing 4 SH

Psychology

Complete the following course:

PSY U101 Foundations of Psychology 4 SH

SEMESTER 2 (SPRING)**Biology 2**

Complete the following course with corresponding lab:

BIO U113 General Biology 2 4 SH

with BIO U114 Lab for BIO U113 1 SH

Chemistry 2

Complete the following course with corresponding lab:

CHM U214 General Chemistry 2 4 SH

with CHM U215 Lab for CHM U214 1 SH

Calculus

Complete the following course:

MTH U141 Calculus 1 4 SH

Profession of Pharmacy

Complete the following course:

PMD U101 Introduction to the Profession of Pharmacy 1 SH

Elective

Complete any one elective outside pharmacy.

SEMESTER 3 (FALL)**Physics**

Complete the following course with corresponding lab:

PHY U149 Physics for Pharmacy 4 SH

with PHY U150 Lab for PHY U149 1 SH

Organic Chemistry 1

Complete the following course with corresponding lab:

CHM U311 Organic Chemistry 1 4 SH

with CHM U312 Lab for CHM U311 1 SH

Human Physiology 1 and Human Anatomy Lab

Complete the following course with corresponding lab:

PSC U301 Human Physiology 1 3 SH

with PSC U302 Human Anatomy Lab 1 SH

Diversity

Complete one course from the list "Bouvé College of Health Sciences Approved Courses: Diversity" on page 161.

SEMESTER 4 (SPRING)**Co-op Seminar/Pharmacy Practice**

Complete the following course:

PMD U201 Introduction to Pharmacy Practice 1 SH

Organic Chemistry 2

Complete the following course with corresponding lab:

CHM U313 Organic Chemistry 2 4 SH

with CHM U314 Lab for CHM U313 1 SH

Human Physiology 2 and Human Physiology Lab

Complete the following course with corresponding lab:

PSC U303 Human Physiology 2 3 SH

with PSC U304 Human Physiology Lab 1 SH

Communications

Complete the following course:

PMD U310 Communications 3 SH

Free Elective

Complete any one elective.

SEMESTER 5 (FALL)**Biochemistry**

Complete the following course:

PSC U320 Biochemistry 4 SH

Pharmacology/Medicinal Chemistry 1

Complete the following course:

PSC U501 Pharmacology/Medicinal Chemistry 1 5 SH

Writing for the Health Professions

Complete the following course with a grade of C or higher:

ENG U306 Advanced Writing in the Health Professions 4 SH

Pharmaceutics 1

Complete the following course:

PSC U411 Pharmaceutics 1 4 SH

SEMESTER 6 (SUMMER)**Health-Care Systems**

Complete the following course:

PMD U350 Health-Care Systems 3 SH

Medical Microbiology

Complete the following course:

PSC U360 Medical Microbiology 3 SH

Pharmacology/Medicinal Chemistry 2

Complete the following course:

PSC U502 Pharmacology/Medicinal Chemistry 2 5 SH

Pharmaceutics Laboratory

Complete the following course:

PSC U419 Pharmaceutics Laboratory 1 SH

Pharmaceutics 2

Complete the following course:

PSC U412 Pharmaceutics 2 4 SH

SEMESTER 7 (SPRING)**Pharmacokinetics and Biopharmaceutics**

Complete the following course:

PSC U430 Pharmacokinetics and Biopharmaceutics 3 SH

Immunology

Complete the following course:

PSC U330 Immunology 3 SH

Self-Care Therapeutics

Complete the following course:

PMD U440 Self-Care Therapeutics 4 SH

Pathophysiology

Complete the following course:

PMD U401 Pathophysiology 4 SH

Research Methodology and Biostatistics

Complete the following course:

PMD U450 Research Methodology and Biostatistics 4 SH

SEMESTER 8 (SUMMER)**Therapeutic Drug Monitoring**

Complete the following course:

PMD U510	Therapeutic Drug Monitoring and Applications	2 SH
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Toxicology

Complete the following course:

TOX U570	Clinical Toxicology	2 SH
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Jurisprudence

Complete the following course:

PMD U530	Jurisprudence	3 SH
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Therapeutics 1

Complete the following course with corresponding seminar:

PMD U539	Therapeutics 1	3 SH
	with PMD U540 Therapeutics Seminar 1	1 SH

Drug Information

Complete the following course:

PMD U560	Drug Information and Evaluation	3 SH
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SEMESTER 9 (FALL)**Therapeutics 2 and 3**

Complete the following two courses with corresponding seminar:

PMD G241	Therapeutics 2	4 SH
PMD G242	Therapeutics 3	4 SH
PMD G243	Therapeutics Seminar 2–3	1 SH

Pharmacy Care Management

Complete the following course:

PMD G250	Pharmacy Care Management	3 SH
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Pharmaceutical Care Practice

Complete the following course:

PMD U569	Pharmaceutical Care Practice	2 SH
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Free Elective

Complete any one elective.

SEMESTER 10 (SPRING)**Therapeutics 4 and 5**

Complete the following two courses with corresponding seminar:

PMD G244	Therapeutics 4	4 SH
PMD G245	Therapeutics 5	4 SH
PMD G246	Therapeutics Seminar 4–5	1 SH

Pharmacoeconomics

Complete the following course:

PMD G270	Pharmacoeconomics	4 SH
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Pharmaceutical Care Practice 2

Complete the following course:

PMD U579	Pharmaceutical Care Practice 2	2 SH
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Free Elective

Complete any one elective.

YEAR 6 (SUMMER, FALL, SPRING)**Advanced Practice Experience**

Select courses from the following list to complete six, six-week rotations for a total of 36 semester hours:

PMD G440 to PMD G468

PHARMACY MAJOR GRADE REQUIREMENT

A grade of C or higher is required in all PMD and PSC courses. A GPA of 2.700 is necessary to progress from the second to the third year. See pages 159–161 for additional grade and progression requirements.

GENERAL ELECTIVES

Additional courses taken beyond college and major course requirements to satisfy graduation credit requirements.

COOPERATIVE EDUCATION**UNIVERSITY-WIDE REQUIREMENTS**

209 total semester hours required

Minimum 2.000 GPA required

TOXICOLOGY

ROBERT A. SCHATZ, PhD

Associate Professor and Director

Toxicology—the study of injurious effects of chemicals on living organisms—has become increasingly important against a background of bioterrorism, rapid advances in DNA research, and a constant stream of new industrial chemicals in our environment. Toxicologists are responsible for determining hazards from exposure to chemicals, setting limits of safety, identifying and measuring toxic chemicals by analysis, recommending safe use of chemicals, and determining clinical hazards and treatment of drug overdoses and chemical exposure.

Toxicology is a very diverse field, touching on drug research, pharmacology, chemical analysis, forensics, and environmental pollution, among other disciplines.

A minor in toxicology is available to students interested in environmental issues and in gaining insight into experimental approaches to evaluate drug and chemical toxicity. See pages 472–473 for course descriptions.

Minor in Toxicology**REQUIRED COURSES**

Complete the following three courses:

TOX U574	Organ Systems Toxicology	3 SH
TOX U576	Experimental Toxicology	3 SH
TOX U578	Biochemical Toxicology Lab	3 SH

ELECTIVE

Complete one elective based on your area of interest:

MLS U299	Foundations of Forensic Lab Science	3 SH
TOX U570	Clinical Toxicology	2 SH
TOX U572	Environmental Toxicology	3 SH

GPA REQUIREMENT

2.000 GPA required in the minor