

Health Sciences

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The Health Sciences program provides students an in-depth science background, and an introduction to the health care field.

A core curriculum in the first and second year provides the students with a sound understanding of liberal arts, biology, chemistry, mathematics, physics, assessment, care and prevention, along with our hands-on experiences in labs, and opportunities for internships provide the necessary framework.

Goal:

To prepare students to meet the entrance requirements of graduate schools in areas such as physical therapy, occupational therapy, physician's assistant, medicine, public health, exercise sciences, biomechanics, and hospital administration.

Outcomes:

- Earn advanced certification in cardiopulmonary resuscitation and automatic external defibrillator (CPR/AED) administration.
- Develop strong writing skills in the production of scientific literature.
- Demonstrate proficiency in skills required for entry-level patient care.
- Reference literature as appropriate for profession.
- Be able to critically appraise scientific literature in the health care field.
- Effectively communicate with health professions and the community on a variety of topics in health care.
- Make sound, ethically-based decisions in topics of health care.
- Demonstrate the ability to organize, lead, and work within an inter-professional team on a variety of health care initiatives.

Careers for this Major:

- Hospitals
- International healthcare organizations
- Research facilities
- Universities

B.S. in Health Sciences - Curriculum Map 2017-2018 Catalog

Print PDF Curriculum Map (http://catalog.norwich.edu/residentialprogramscatalog/collegeofscienceandmathematics/sportsmedicine/hlthsci_1499805040120.pdf)

Freshman			
Fall	Cr.	Spring	Cr.
BI 101 Principles of Biology I (General Education Lab Science)	4	BI 102 Principles of Biology II (General Education Lab Science)	4
EN 101 Composition and Literature I	3	EN 102 Composition and Literature II	3
MA 232 Elementary Statistics (General Education Math)	3	SM 139 Health Science Research Methods ²	2
SM 136 Emergency Care, Injury/Illness ²	3	SM 220 Care and Prevention of Athletic Injuries ²	4
SM 138 Introduction to Sports Medicine ²	3	General Education History (http://catalog.norwich.edu/archives/2017-18/residentialprogramscatalog/generaleducationgoals)	3
Semester Total Credits	16	Semester Total Credits	16
Sophomore			
Fall	Cr.	Spring	Cr.
BI 215 Human Anatomy & Physiology I ²	4	BI 216 Human Anatomy & Physiology II ²	4
CH 103 General Chemistry I	4	CH 104 General Chemistry II	4
MA 107 Precalculus Mathematics	4	SM 230 Fundamentals of Evidence-Based Practice ²	2
PY 211 Introduction to Psychology (General Education Social Science)	3	PE 163 Scientific Foundations of Health and Wellness ²	3
		General Education Literature (http://catalog.norwich.edu/archives/2017-18/residentialprogramscatalog/generaleducationgoals)	3
Semester Total Credits	15	Semester Total Credits	16
Junior			
Fall	Cr.	Spring	Cr.
PS 201 General Physics I	4	PS 202 General Physics II	4
PE 365 Kinesiology ²	4	PE 371 Physiology of Exercise ²	4
SM 420 Therapeutic Modalities ²	4	SM 422 Therapeutic Exercise ²	4
General Education Arts & Humanities (http://catalog.norwich.edu/archives/2017-18/residentialprogramscatalog/generaleducationgoals)	3	CH 205 Survey of Organic Chemistry or BI 364	4
Semester Total Credits	15	Semester Total Credits	16
Senior			
Fall	Cr.	Spring	Cr.
SM 210 Assessment of Injury and Illness ²	4	BI 364 Pathophysiology in Sports Medicine or CH 205	4
SM 450 Capstone Experience I ²	1	SM 451 Capstone Experience II ²	1
SM 439 Leadership & Management in Sports Medicine (General Education Ethics)	3	Free Electives or Internship ¹	9-12
Biology Elective	4		

Free Elective ¹	3	
Semester Total Credits	15	Semester Total Credits 14-17
Total Credits For This Major: 123-126		

- ¹ SM 426 (<https://currentcatalog.norwich.edu/residentialprograms/catalog/collegeofscienceandmathematics/athletictrainingandsportsmedicine>) Internship may be taken by qualified students during the junior or senior year in place of two or three Free Elective credits.
- ² Courses must be taken in order presented and passed with a grade of C or higher before progressing in the program.

Courses

SM 136 Emergency Care, Injury/Illness 3 Cr.

This course follows the national standards for Advanced First Aid, CPR for Professional Rescuers, and Bloodborne Pathogens. Recognition, care, and temporary treatment of injuries and illness are discussed and the associated skills are practiced. In addition, this course will introduce basic concepts of emergency actions plans and initial injury evaluation. Upon successful completion of the course, students will be awarded national certification cards for: Advanced First Aid, CPR for Professional Rescuers, and Bloodborne Pathogens training. Classroom 2 hours, laboratory 2 hours. Offered fall semesters.

SM 138 Introduction to Sports Medicine 3 Cr.

This course provides students with an introduction to the principles of pharmacology, medical terminology, and documentation used in the care of physically active individuals. Offered spring semesters. Prerequisites: Athletic Training (SPA) or Health Science (HLS) standing. Offered Fall Semesters. Classroom 3 hours.

SM 139 Health Science Research Methods 2 Cr.

This course provides the foundation for understanding basic research methods and the application of research findings to health care. Current literature is used to demonstrate the fundamentals of research design, research ethics, basic biostatistics, and other research-related issues applicable to future health care providers. Classroom 2 hours. Prerequisite: Athletic Training (SPA) or Health Science (HLS) standing. Offered spring semesters.

SM 1XX Sports Medicine Transfer Elective 3 Cr.

SM 200 Clinical Education in Athletic Training I 1 Cr.

This course provides students the opportunity to integrate clinical proficiencies introduced in prerequisite courses during a supervised practicum in an athletic training setting. Clinical rotation(s) (3 hours/week) and clinical proficiency evaluations. Prerequisites: Freshman 2 Athletic Training (SPA) standing, SM 136, SM 138, SM 139 and SM 220. Offered fall semesters.

SM 201 Clinical Education in Athletic Training II 2 Cr.

This course provides students the opportunity to integrate clinical proficiencies introduced in prerequisite courses during a supervised practicum in an athletic training setting. Clinical rotation(s) (6 hours/week) and clinical proficiency evaluations. Prerequisites: SM 200, SM 214 and SM 231. Offered spring semester.

SM 210 Assessment of Injury and Illness 4 Cr.

Building on the assessment principles acquired in SM 138 and SM 220; this course focuses on the techniques necessary to evaluate body systems for injury/illness. Classroom 3 hours, laboratory 3 hours. Prerequisites: BI 216. Offered fall semesters.

SM 212 Health Promotion 3 Cr.

This course provides students with the knowledge and skills essential for understanding the etiology and prevention of common injuries and illness. Special emphasis is placed on acute and chronic conditions of the musculoskeletal system and chronic conditions of the cardiovascular, endocrine and respiratory systems. Classroom 3 hours. Offered fall semesters. Prerequisites: Sophomore Athletic Training (SPA) or Sophomore Health Science (HLS) standing.

SM 214 Clinical Anatomy 3 Cr.

This course is designed to explore musculoskeletal anatomy relating to human performance. Students will be able to identify major anatomical landmarks through palpation and perform range of motion assessments upon completion of the course. Prerequisite/Corequisite: BI 215, BI 216. Classroom 3 hours.

SM 220 Care and Prevention of Athletic Injuries 4 Cr.

Course provides students with the knowledge and skills essential for the proper prevention, evaluation, and treatment of common athletic injuries. Risk management and professional ethics are stressed. Classroom 3 hours, laboratory 3 hours. Prerequisite: SM 136 and SM 138. Offered spring semesters.

SM 228 Clinical Physiology I 4 Cr.

This course is part one of a series of two physiology courses in a modular format aligned with clinical practice. It provides an introduction to human physiology with a basic survey of the physiologic and pathological processes. Students will learn concepts related to cellular, neuromuscular, renal, and cardiovascular physiology. Classroom 3 hours, laboratory 3 hours. Offered fall semesters. Prerequisite: SM129.

SM 229 Clinical Physiology II 4 Cr.

This course is part two of a series of two physiology courses in a modular format aligned with clinical practice. It provides an introduction to human physiology with a basic survey of the physiologic pathological processes. Students will learn concepts related to respiratory, gastrointestinal, endocrine, and reproductive physiology and temperature regulation. Classroom 3 hours, laboratory 3 hours. Prerequisite: SM 228. Offered spring semesters.

SM 230 Fundamentals of Evidence-Based Practice 2 Cr.

This course prepares students to make independent judgments about the validity of clinical research and implement evidence-based clinical practice in their careers. Focus is on concepts of evidence-based practice with emphasis on forming answerable clinical questions, effective literature search strategies, and structured evaluation of the strength and relevance of clinical evidence. Classroom 2 hours. Offered spring semesters. Prerequisite: SM 139 and MA 232. Offered spring semesters.

SM 231 Management of Spine and Pelvic Conditions 3 Cr.

This course will focus on a critical analysis of injuries and conditions that may affect the spine and pelvis in physically active individuals. The application of joint and musculoskeletal anatomy will be utilized to assess the various joints and body regions of the spine and pelvis to determine the appropriate management of these conditions. Classroom 3 hours. Offered spring semesters. Prerequisite: SM 232, SM 233, SM 214 and Sophomore standing.

SM 232 Lower Extremity Injuries 3 Cr.

This course will focus on a critical analysis of injuries and conditions that may affect the lower extremity in physically active individuals. The application of joint and musculoskeletal anatomy will be utilized to assess the various joints and body regions of the lower extremity to determine the appropriate management of these conditions. Classroom 3 hours. Offered spring semesters. Prerequisite: SM 214.

SM 233 Upper Extremity Injuries 3 Cr.

This course will focus on a critical analysis of injuries and conditions that may affect the upper extremity in physically active individuals. The application of joint and musculoskeletal anatomy will be utilized to assess the various joints and body regions of the upper extremity to determine the appropriate management of these conditions. Classroom 3 hours. Offered fall semesters. Prerequisite: SM 214.

SM 300 Clinical Education in Athletic Training III 4 Cr.

This course provides students the opportunity to integrate clinical proficiencies introduced in prerequisite courses during a supervised practicum in an athletic training setting. Clinical rotation(s) including non-traditional seasons (12 hours/week) and clinical proficiency evaluations. Prerequisites: SM 201, PE 260, SM 230 and SM 232. Offered fall semesters.

SM 301 Clinical Education in Athletic Training IV 4 Cr.

This course provides students the opportunity to integrate clinical proficiencies introduced in prerequisite courses during a supervised practicum in an athletic training setting. Clinical rotation(s) (12 hours/week) and clinical proficiency evaluations. Prerequisites: SM 300. Offered spring semesters.

SM 400 Clinical Education in Athletic Training V 4 Cr.

This course provides students the opportunity to integrate clinical proficiencies introduced in prerequisite courses during a supervised practicum in an athletic training setting. Clinical rotation(s) including non-traditional seasons (12 hours/week) and clinical proficiency evaluations. Prerequisites: SM 301, PE 371, SM 231, and SM 422. Offered fall semesters.

SM 401 Clinical Education in Athletic Training VI 4 Cr.

This course provides students the opportunity to integrate clinical proficiencies introduced in prerequisite courses during a supervised practicum in an athletic training setting. Clinical rotation(s) (12 hours/week) and clinical proficiency evaluations. Prerequisites: SM 400 and SM 439. Offered spring semester.

SM 420 Therapeutic Modalities 4 Cr.

Investigation of the physiological response of selected human body tissues to trauma and inactivity as well as the implications of said responses for the selection, use, and application of therapeutic modalities. Classroom 3 hours, laboratory 3 hours. Prerequisites: Sophomore 2 Athletic Training (SPA) or Health Science (HLS) standing.

SM 422 Therapeutic Exercise 4 Cr.

Investigation of principles, objectives, indications, contraindications and progression of various modes of conditioning and reconditioning exercises. Methods for evaluation, progress assessment and development of criteria for return to activity. Classroom 3 hours, laboratory 3 hours. Prerequisite: Sophomore 2 Athletic Training (SPA) or Health Science (HLS) standing.

SM 426 Internship 12 Cr.

A course designed to provide the Sports Medicine students with an intern-type experience in a professional setting appropriate to their career goals. Prerequisite: Athletic Training (SPA) or Health Sciences (HLS) majors.

SM 439 Leadership & Management in Sports Medicine 3 Cr.

Part of a two-semester capstone experience in sports medicine/athletic training. This course focuses on leadership, management, and professional ethics in sports medicine. Students will complete a series of organization and administrative projects and papers focused on personal and professional ethics. This course will satisfy General Education Goal 6 requirements. In addition, students will be required to lead the weekly discipline journal club discussion. Classroom 3 hours. Prerequisite: Junior 2 Standing.

SM 440 Evidence-Based Sports Med 3 Cr.

Part of a two-semester capstone experience in sports medicine/athletic training. This course focuses on the development and utilization of evidence-based practice research as it is applied to sports medicine. Prerequisites: SM 439.

SM 450 Capstone Experience I 1 Cr.

This course will focus on the development of two evidence-based practice projects that have direct application to clinical practice. Classroom 1 hour. Offered fall semesters. Prerequisite: Junior 2 Athletic Training (SPA) or Health Sciences (HLS) standing.

SM 451 Capstone Experience II 1 Cr.

This course will focus the presentation and evaluation of two evidence-based practice projects from SM 450. Classroom 1 hour. Offered spring semesters.

SM 460 Emerging Practice Skills 3 Cr.

This course will focus on emerging topics in sports medicine practice. Included in the course will be advanced airway management, advanced wound closure techniques, IV therapy, advanced cardiac examination and advanced immobilization techniques. Classroom 2 hour, Laboratory 2 hours. Offered spring semesters. Prerequisite: Junior 2 Athletic Training standing.