

Health Sciences

Associate Professor Eduardo Hernandez, ATC (Chair); Lecturer James Murdock, ATC; Lecturer Jennie Kruger, ATC; Lecturer Gregory Jancaitis, ATC, and Lecturer Justin P. Zabrowski, ATC

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:

- Pending

Careers for this Major:

- Hospitals
- International healthcare organizations
- Research facilities
- Universities

B.S. in Health Sciences - Curriculum Map

Freshman			
Fall	Credits	Spring	Credits
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	MA 107 Precalculus Mathematics (General Education Math)	4
SM 136 Emergency Care, Injury/Illness ²	3	PE 161 Physical Fitness & Wellness Assessment ²	3
SM 138 Introduction to Sports Medicine ²	3	SM 139 Health Science Research Methods ²	2
	16		16
Sophomore			
Fall	Credits	Spring	Credits
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
PE 260 Personal and Community Health ²	3	SM 210 Assessment of Injury and Illness ²	4
PY 211 Introduction to Psychology (General Education Social Science)	3	SM 220 Care and Prevention of Athletic Injuries ²	4
General Education Literature	3		
	17		16
Junior			
Fall	Credits	Spring	Credits
BI 364 Pathophysiology in Sports Medicine (or BI Elective)	4	CH 205 Survey of Organic Chemistry (or Free Elective) ¹	3-4
PE 365 Kinesiology ²	4	PE 371 Physiology of Exercise ²	4
PS 201 General Physics I	4	PS 202 General Physics II	4
SM 420 Therapeutic Modalities ²	4	SM 422 Therapeutic Exercise ²	4
	16		15-16
Senior			
Fall	Credits	Spring	Credits
BI 364 Pathophysiology in Sports Medicine (or BI Elective)	4	CH 205 Survey of Organic Chemistry (or Free Elective) ¹	3-4
SM 439 Leadership & Management in Sports Medicine (General Education Ethics)	3	SM 440 Evidence-Based Sports Med (Capstone)	3
General Education History	3	General Education Arts & Humanities	3
Free Elective ¹	3-4	Free Elective ¹	3-4
Free Elective ¹	3		
	16-17		12-14
Total Credits: 124-128			

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 electives.

² Courses must be taken in order presented and passed with a grade of C or higher before progressing in the program.

Courses

SM 128 Clinical Anatomy I 3 Credits

This course is part one of a two part series of anatomy courses in a modular format aligned with clinical practice. It provides an introduction to human anatomy with a basic survey of the body and pathological processes. Students will learn basic concepts related to anatomy, pathology and medical assessment of the head, eyes, ears, nose, throat, neck, back, and upper extremities. Classroom 2 hours, laboratory 2 hours. Offered fall semesters. Prerequisites: Freshmen Athletic Training (SPA) standing.

SM 129 Clinical Anatomy II 3 Credits

This course is part two of a two part series of anatomy courses in a modular format aligned with clinical practice. It provides an introduction to human anatomy with a basic survey of the body and pathological processes. Students will learn basic concepts related to anatomy, pathology and medical assessment of the thorax, abdomen, pelvis, cranial nerves, and lower extremities. Classroom 2 hours, laboratory 2 hours. Offered spring semesters. Prerequisites: Freshmen Athletic Training (SPA) standing.

SM 136 Emergency Care, Injury/Illness 3 Credits

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.

SM 138 Introduction to Sports Medicine 3 Credits

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: Freshmen Athletic Training (SPA) or Health Science (HLS) standing.

SM 139 Health Science Research Methods 2 Credits

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: Freshmen Athletic Training (SPA) or Health Science (HLS) standing. Offered spring semesters.

SM 199 New Course 3 Credits**SM 200 Clinical Education in Athletic Training I 1 Credit**

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: Sophomore 1 Athletic Training (SPA) standing, SM 136, SM 138, and SM 220.

SM 201 Clinical Education in Athletic Training II 2 Credits

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 and SM 231.

SM 210 Assessment of Injury and Illness 4 Credits

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: Freshmen Athletic Training (SPA) or Health Science (HLS) standing.

SM 212 Health Promotion 3 Credits

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 220 Care and Prevention of Athletic Injuries 4 Credits

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.

SM 228 Clinical Physiology I 4 Credits

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 Credits

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 Credits

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.

SM 231 Management of Spine and Pelvic Conditions 3 Credits

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 2 hours, Laboratory 2 hours. Offered fall semesters. Prerequisite: Sophomore Athletic Training (SPA) standing.

SM 232 Lower Extremity Injuries 3 Credits

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 2 hours, Laboratory 2 hours. Offered spring semesters. Prerequisite: Sophomore Athletic Training (SPA) standing.

SM 233 Upper Extremity Injuries 3 Credits

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 2 hours, Laboratory 2 hours. Offered fall semesters. Prerequisite: Junior Athletic Training (SPA) standing.

SM 299 Topics 1-3 Credit**SM 300 Clinical Education in Athletic Training III 4 Credits**

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 and Junior Athletic Training (SPA) standing.

SM 301 Clinical Education in Athletic Training IV 4 Credits

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 and Junior Athletic Training (SPA) standing.

SM 400 Clinical Education in Athletic Training V 4 Credits

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 and Senior Athletic Training (SPA) standing.

SM 401 Clinical Education in Athletic Training VI 4 Credits

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 Senior Athletic Training (SPA) standing.

SM 420 Therapeutic Modalities 4 Credits

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: Junior Athletic Training (SPA) or Health Science (HLS) standing.

SM 422 Therapeutic Exercise 4 Credits

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: Junior Athletic Training (SPA) or Health Science (HLS) standing.

SM 426 Internship 12 Credits

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 Credits

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: Senior Standing.

SM 440 Evidence-Based Sports Med 3 Credits

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 Credit

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: Senior Athletic Training (SPA) or Health Sciences (HLS) standing.

SM 451 Capstone Experience II 1 Credit

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 Credits

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: Senior Athletic Training (SPA) standing.

SM 499 Internship 3 Credits