

# Athletic Training and Sports Medicine

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The **Bachelor of Science in Athletic Training** uses a competency-based approach in both the classroom and clinical settings. Using a medical education model, athletic training students have experience in a variety of educational domains to prepare them to serve as allied health care providers for the physically active population. Certified Athletic Trainers have specialized education in the prevention, evaluation, diagnosis, and treatment of injuries and illness affecting physical active populations. Educational content is based on cognitive (knowledge), psychomotor (skills), and clinical proficiencies (professional, practice-oriented outcomes). The Athletic Training Education Program incorporates hands-on experience in various professional settings. An optional summer internship provides the opportunity for exciting field placements, including the Olympic training center, professional sports training camps, sports medicine clinics, or campus-based sports camps. The Athletic Training Education Program is accredited by the Commission on the Accreditation of Athletic Training Education (CAATE). Graduates are eligible to sit for the National Athletic Trainers Association Board of Certification examination. Students may also elect to continue their studies in graduate school (recent graduates have entered graduate programs in athletic training, physical therapy, exercise physiology, chiropractic medicine, and physician-assistant schools).

## Entrance Requirements

All students must meet the University's General Admission Requirements located in the front of the catalogue. Students may decide to pursue the Athletic Training coursework track during the fall semester of their freshman year, but they must apply for entrance into the Athletic Training Education Program during the spring of their sophomore year. By that time they must have completed the following courses with a minimum grade of "C":

SM 136	Emergency Care, Injury/Illness	3
SM 138	Introduction to Sports Medicine	3
SM 220	Care and Prevention of Athletic Injuries	4
BI 215	Human Anatomy and Physiology	4
PE 161	Physical Fitness & Wellness Assessment	3

Students not meeting the minimum criteria will need to correct any deficiencies before they can be formally accepted in the Athletic Training Education Program.

## Progression and Graduation

In order to progress in the Athletic Training Major, students must complete the following courses, each with a minimum grade of "C":

BI 216	Human Anatomy and Physiology	4
PE 260	Personal and Community Health	3
PE 365	Kinesiology	4
PE 371	Physiology of Exercise	4

All sports medicine (SM) courses

All athletic training (ST) courses

Students not meeting the minimum criteria will need to correct any deficiencies before continuing in the Athletic Training Education Program. Athletic Training students must adhere to Norwich University policies and procedures, including the policies and procedures of the Athletic Training Education Program and of clinical sites.

The **Health Science** concentration provides students with additional free electives to complete coursework necessary for graduate studies in physical therapy, exercise physiology, chiropractic medicine, health, fitness and wellness fields and physician-assistant programs.

## B.S. in Athletic Training - Curriculum Map

### First Year

Fall	Credits	Spring	Credits
PY 211 Introduction to Psychology	3	SM 220 Care and Prevention of Athletic Injuries	4
MA 232 Elementary Statistics	3	EN 102 Composition and Literature II	3
EN 101 Composition and Literature I	3	SM 129 Clinical Anatomy II	3
SM 138 Introduction to Sports Medicine	3	SM 136 Emergency Care, Injury/Illness	3
SM 128 Clinical Anatomy I	3	SM 139 Health Science Research Methods	2
	<b>15</b>		<b>15</b>

**Second Year**

Fall	Credits	Spring	Credits
SM 212 Health Promotion	3	SM 232 Lower Extremity Injuries	3
MA 235 Clinical Mathematical Methods	3	SM 229 Clinical Physiology II	4
SM 228 Clinical Physiology I	4	SM 201 Clinical Education in Athletic Training II	2
SM 230 Fundamentals of Evidence-Based Practice	2	CH 111 Chemistry and the Chemical World	4
SM 231 Management of Spine and Pelvic Conditions	3	PE 260 Personal and Community Health	3
SM 200 Clinical Education in Athletic Training I	1		
	<b>16</b>		<b>16</b>

**Third Year**

Fall	Credits	Spring	Credits
SM 420 Therapeutic Modalities	4	PE 371 Physiology of Exercise	4
SM 233 Upper Extremity Injuries	3	SM 422 Therapeutic Exercise	4
SM 300 Clinical Education in Athletic Training III	4	BI 253 Foods and Nutrition	4
CH 112 Living Chemistry	4	SM 301 Clinical Education in Athletic Training IV	4
	<b>15</b>		<b>16</b>

**Fourth Year**

Fall	Credits	Spring	Credits
SM 439 Leadership & Management in Sports Medicine	3	SM 401 Clinical Education in Athletic Training VI	4
SM 400 Clinical Education in Athletic Training V	4	SM 451 Capstone Experience II	1
History Elective <sup>1</sup>	3	Humanities Elective <sup>3</sup>	3
Literature Elective <sup>2</sup>	3	Free Elective	3
Free Elective	3-4	SM 460 Emerging Practice Skills	3
SM 450 Capstone Experience I	1		
	<b>17-18</b>		<b>14</b>

Total Credits: 124-125

<sup>1</sup> History Elective = any History Department course (HI) except HI 209.

<sup>2</sup> Literature Elective = must meet General Education literature requirement.

<sup>3</sup> Humanities Elective = EN (above EN 206, excluding EN 240-EN 242); FA; SA; MU 101; CM 109, CM 261, CM 335, CM 436; Modern Language (above 112); or PH.

SM 426 Internship may be taken by qualified student in the summer between the junior and senior year in place of two or four free electives.

## B.S. in Sports Medicine - Curriculum Map

### Health Science Concentration

#### First Year

Fall	Credits	Spring	Credits
BI 101 Principles of Biology I	4	MA 232 Elementary Statistics	3
MA 107 Precalculus Mathematics	4	EN 102 Composition and Literature II	3
EN 101 Composition and Literature I	3	SM 138 Introduction to Sports Medicine	3
SM 136 Emergency Care, Injury/ Illness	3	PE 161 Physical Fitness & Wellness Assessment	3
		BI 215 Human Anatomy and Physiology	4
	<b>14</b>		<b>16</b>

#### Second Year

Fall	Credits	Spring	Credits
SM 220 Care and Prevention of Athletic Injuries	4	Literature Elective <sup>1</sup>	3
BI 216 Human Anatomy and Physiology	4	SM 210 Assessment of Injury and Illness	4
CH 103 General Chemistry I	4	SM 226 Clinical Education in Sports Medicine	2
PY 211 Introduction to Psychology	3	PE 260 Personal and Community Health	3
SM 227 Clinical Anatomy&Biomechanics	3	CH 104 General Chemistry II	4
		BI 102 Principles of Biology II	4
	<b>18</b>		<b>20</b>

#### Third Year

Fall	Credits	Spring	Credits
PE 365 Kinesiology	4	PE 371 Physiology of Exercise	4
SM 422 Therapeutic Exercise	4	SM 420 Therapeutic Modalities	4
CH 205 Survey of Organic Chemistry	4	BI 364 Pathophysiology in Sports Medicine (or BI Elective)	4
PS 201 General Physics I	4	Free Elective	3-4
		PS 202 General Physics II	4
	<b>16</b>		<b>19-20</b>

**Fourth Year**

Fall	Credits	Spring	Credits
CH 205 Survey of Organic Chemistry (or Free Elective)	3-4	BI 364 Pathophysiology in Sports Medicine (or BI Elective)	4
History Elective <sup>2</sup>	3	Humanities Elective <sup>3</sup>	3
Free Elective	3-4	Free Elective	3-4
Free Elective	3-4	Free Elective	3-4
SM 439 Leadership & Management in Sports Medicine	3	SM 440 Evidence-Based Sports Med	3
	<b>15-18</b>		<b>16-18</b>

Total Credits: 134-140

- Literature Elective = must meet General Education literature requirement.
- History Elective = any History Department course (HI) except HI 209.
- Humanities Elective = EN (above EN 206, excluding EN 240-EN 242); FA; MU 101; CM 109, CM 261, CM 335, CM 436; CN; Modern Language (above 112); or PH.

SM 426 Internship may be taken by qualified students in the summer between the junior and senior year in place of two or four free electives.

## Minor in Sports Medicine

A minor in sports medicine, designed to enhance student awareness in the sports injury and rehabilitation area without leading to certification, requires the following courses with a grade of "C" or higher:

SM 210	Assessment of Injury and Illness	4
PE 260	Personal and Community Health	3
SM 220	Care and Prevention of Athletic Injuries	4
BI 253	Foods and Nutrition	4
<b>Plus two of the following courses:</b>		<b>6-8</b>
PE 365	Kinesiology	4
PE 371	Physiology of Exercise	4
PE 373	Activities and Programs for the Disabled and Aging	3
SM 422	Therapeutic Exercise	4
SM 420	Therapeutic Modalities	4

PE 432	Organization and Administration in Physical Education	3
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Total Credits 21-23

Completion of BI 215-BI 216 is necessary in order to satisfy prerequisites for courses in the minor.

## Athletic Training Courses

### ST 310. Upper Extremity Injuries. 3 Credits.

Advanced athletic training course that incorporates areas of assessment/diagnosis, clinical anatomy and biomechanics utilizing evidence-based medicine to provide a comprehensive approach to caring for upper extremity and cervical/thoracic spine injuries. Classroom 3 hours. Prerequisite: SM 220.

### ST 311. Clinical Education in Athletic Training I. 2 Credits.

Emphasis will be placed on the application of knowledge and skills introduced in BI 216 (Human Anatomy and Physiology), PE 260 (Personal and Community Health), and SM 220 (Care and Prevention of Athletic Injuries). This course will also provide the opportunity for students to further develop clinical proficiencies introduced in preceding courses. Supervised practicum in an athletic training setting. Class meets for 2 hours/week utilizing lecture, demonstrations and hand-on instructional techniques plus Clinical Rotation (average 4 hours/week). Prerequisites: SM 226 and SM 220, PE 260 and BI 216. Open only to declared Sports Medicine-Athletic Training Concentration students.

### ST 320. Lower Extremity Injuries. 3 Credits.

Advanced athletic training course that incorporates areas of assessment/diagnosis, clinical anatomy and biomechanics utilizing evidence-based medicine to provide a comprehensive approach to caring for lower extremity, pelvis and lumbar spine injuries. Classroom 3 hours. Prerequisite: SM 220.

### ST 321. Clinical Education in Athletic Training II. 2 Credits.

Emphasis will be placed on the application of knowledge and skills introduced in PE 365 (Kinesiology) and ST 310 (Upper Extremity Injuries). This course will also provide the opportunity for students to further develop clinical proficiencies introduced in preceding courses. Supervised practicum in an athletic training setting. Class meets for 2 hours/week utilizing lecture, demonstrations and hands-on instructional techniques plus Clinical Rotation (average 4 hours/week). Prerequisites: ST 310.

### ST 410. Clinical Education in Athletic Training III. 3 Credits.

Emphasis will be placed on the application of knowledge and skills introduced in PE 371 (Physiology of Exercise), SM 420 (Therapeutic Modalities) and ST 320 (Lower Extremity Injuries). This course will also provide the opportunity for students to further develop clinical proficiencies introduced in preceding courses. Supervised practicum in an athletic training session. Class meets 2 hours/week utilizing lecture, demonstrations and hands-on instructional techniques plus Clinical Rotation (average 7 hours/week). Prerequisites: ST 321 and ST 320, SM 420 and PE 371.

**ST 421. Clinical Education in Athletic Training IV. 3 Credits.**

Emphasis will be placed on the application of knowledge and skills introduced in SM 422 (Therapeutic Exercise) and SM 437 (Senior Seminar I). This course will also provide the opportunity for students to further develop clinical proficiencies introduced in preceding courses. Supervised practicum in an athletic training setting. Class meets for 2 hours/week utilizing lecture demonstrations and hands-on instructional techniques plus Clinical Rotation (average 8 hours/week). Prerequisites: ST 410, SM 422, PE 371 and SM 437.

## Sports Medicine 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.

**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.

**SM 136. Emergency Care, Injury/Illness. 3 Credits.****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.

**SM 139. Health Science Research Methods. 2 Credits.****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: SM 136, 138, and 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 212 and 231, MA 235.

**SM 210. Assessment of Injury and Illness. 4 Credits.**

Building on the assessment principles acquired in SM138 and 220; this course focuses on the techniques necessary to evaluate body systems for injury/illness. Classroom 3 hours, laboratory 3 hours. Prerequisites: SM220. Co-Requisite: BI216.

**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.

**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: SM138.

**SM 226. Clinical Education in Sports Medicine. 2 Credits.**

Emphasis will be placed on the application of knowledge and skills introduced in SM135, 138, 210 and BI215. This course provides students the opportunity to develop clinical proficiencies introduced in preceding courses. Supervised practicum in athletic training setting. Class meets for 2 hours/week utilizing lecture, demonstrations and hands-on instructional techniques, plus Clinical Rotation (average 4 hours/week). Prerequisites: SM135 and 138.

**SM 227. Clinical Anatomy&Biomechanics. 3 Credits.**

This course is designed to explore clinical anatomy and biomechanical principles, exposing students to the structural interrelationships that serve to form the basis for normal function and as a means to understanding structural and functional pathology. Classroom 3 hours. Co-requisite: SM 220.

**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.

**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.

**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.

**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.

**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.

**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 228, 229, and 232.

**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 233 and 420.

**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 212, 420, 422; BI 253 and PE 371.

**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 439.

**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: SM220.

**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: SM420.

**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: satisfactory completion of all courses in the major through the sixth semester. Cross listed as PE/SM. A student may not receive credit for both.

**SM 439. Leadership & Management in Sports Medicine. 3 Credits.**

**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: SM439 and MA232.

**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.

**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.