Exercise and Sport Science Department (ESS)

College of Science and Health
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www.uwlax.edu/exercise-sport-science

With a reputation as one of the outstanding programs in the country, the UW-La Crosse Department of Exercise and Sport Science has a history of preparing quality professionals who are employed in all areas of the USA and around the world. With three areas of emphasis from which to choose, our graduates are well prepared to meet the challenges of a wide variety of careers.

Whether your interest is in teaching, coaching, fitness, or management, the Department of Exercise and Sport Science is committed to helping each student achieve his or her maximum potential. Each student is assigned a faculty adviser to assist with academic and career decisions. Our highly acclaimed “learn by doing” reputation is further enhanced by providing students with hands-on educational experiences in their area of choice. While maintaining a strong tradition in activities and the sciences, the department also emphasizes innovative programs and activities designed to maintain healthy, active lifestyles.

Center of Excellence in Physical Education

The Center of Excellence designation was awarded to the Department of Exercise and Sport Science by the Board of Regents of the University of Wisconsin System. The purpose of the center, which reflects the excellent reputation of the department, is to serve as a catalyst for maintaining faculty and curricular vitality while expanding the scope of comprehensive services provided to professionals in Wisconsin and throughout the nation. General goals are to provide in-service and expertise in emerging content areas and technology to physical educators and students in professional preparation programs; modify undergraduate and master’s curricula to incorporate recent trends and projected professional needs and expand research and public service components with special emphasis on assessment.

A three-dimensional professional preparation model was developed with the following foci:

1. Enhancing life span motor development;
2. Promoting the major purposes of professional preparation in physical education-prevention of injury or illness, skill enhancement, meaningful active living, and rehabilitation; and
3. Developing instruments for assessment of performance and programs.

Additional emphasis is placed on the importance of movement of young children and on age-related changes in active, older adults to develop and maintain efficient movement throughout the lifespan. The professional preparation programs within the Department of Exercise and Sport Science prepare graduates to assist individuals of all ages in developing meaningful, active lifestyles. Improving the level of skill in a wide variety of activities and promoting effective movement patterns will result in more active and healthy individuals in our society. For additional information regarding the Center of Excellence in Physical Education, please contact: Department Chair, Exercise and Sport Science, Mitchell Hall, University of Wisconsin-La Crosse, La Crosse, WI 54601 USA

Admission to programs

All majors in the Department of Exercise and Sport Science have admission standards and retention and advancement standards. Students are advised to become aware of the application criteria for their major and may refer to program websites for the most detailed information regarding these criteria and procedures. Meeting minimum criteria does not guarantee admission, as the department programs have competitive admission processes.

Exercise and sport science program transfer policy

Students transferring into the exercise and sport science programs must have a cumulative GPA of 2.50 or higher at the time of transfer.

General education writing emphasis

This department incorporates a significant amount of writing through the required courses instead of identifying particular courses as writing emphasis courses. Students who complete a major in this department will fulfill the general education writing emphasis requirement (http://catalog.uwlax.edu/undergraduate/generaleducation/#generaleducationrequirementstext).

2018-19 Faculty/Staff

The following is the department’s faculty and staff as of the publication date of this catalog. This list will not be updated again until the next catalog is published in June.

Professor
Carl Foster
Richard Mikat
John Porcari
Garth Tymeson
Brian Udermann
Glenn Wright
Chia-Chen Yu

Assistant Professor
Naoko Aminaka
Zack Beddoes
Naghmeh Gheidi
Mark Gibson
Cordial Gillette
Randall Gretebeck
Teresa Hepler
Salvador Jaime
Attila Kovacs
Eileen Narcotta-Welp
Rafael Ramirez
Debra Sazama
Amy Tischler

Senior Lecturer
Scott Doberstein
Kevin King

Lecturer
Kasey Crawford
Kari Emineth
Kathleen Gorman
Melanie Healy
Christopher Helixon
Charles King
Abigail Lee
David Malecek
Andrew McGlenn
Thomas Mickschl
Karen Middleton
Debra Sazama
Katie Wagner
Phil Whitesitt

Associate Lecturer
Susan Bramwell
Kimberley Radtke

Laboratory Manager I
Christopher Dodge

Administrative Support
Jeanne Voss

Majors
• Athletic training major - BS (http://catalog.uwlax.edu/undergraduate/exerciseandsportscience/athletictrainingbs) (No longer accepting students; new students should refer to the pre-athletic training program (http://catalog.uwlax.edu/undergraduate/scienceandhealth/#PreProfessionalTracks) if interested.)

• Exercise and sport science major: exercise science fitness track - BS (http://catalog.uwlax.edu/undergraduate/exerciseandsportscience/exerciseandsportsciencemajorexercisescienceemphasis)

• Exercise and sport science major: exercise science pre-professional track - BS (http://catalog.uwlax.edu/undergraduate/exerciseandsportscience/exerciseandsportsciencemajorexercisesciencepreprofessional)

• Exercise and sport science major: physical education - BS (http://catalog.uwlax.edu/undergraduate/exerciseandsportscience/exerciseandsportsciencemajorthrelandphysicaleducation)

• Exercise and sport science major: sport management emphasis - BS (http://catalog.uwlax.edu/undergraduate/exerciseandsportscience/exerciseandsportsciencebs)

Minor
• Adapted physical education teaching minor (http://catalog.uwlax.edu/undergraduate/exerciseandsportscience/adaptedphysicaleducationteachingminor)

Concentration
• Coaching competitive athletics concentration (http://catalog.uwlax.edu/undergraduate/exerciseandsportscience/coaching-competitive-athletics-concentration)

+ next to a course number indicates a general education course

Courses
ESS 100 Cr.1
Physical Activities
A program of instruction to enhance participation in physical activities throughout one's lifetime. The primary emphases for specific activities may include acquiring a knowledge base, learning new skills and/or refining skills, developing components of health-related fitness, enhancing affective skills. Repeatable for credit. Pass/Fail grading. Offered Fall, Spring.

+ESS 104 Cr.2
Dance Appreciation
This course attempts to develop an awareness and appreciation of the role of dance in human society through the study of its purposes, functions and various forms. Offered Fall, Spring.

ESS 110 Cr.2
Introduction to Sport Management
This course exposes students to the profession of sport management. The course provides a broad overview of the sport industry, covers fundamental knowledge and skill sets of the sport manager, and provides students with information on specific sport industry segments for potential employment and career choices. Offered Fall, Spring.

ESS 113 Cr.1
Basic Swimming
This course is open to exercise and sport science majors and minors only. Emphasis is placed on the improvement of the individual student's swimming skill. Course content ranges from the non-swimmer level through American Red Cross intermediate skill level. Physical education teaching majors and minors are required to enroll in ESS 113 unless they hold one of the following American Red Cross certifications: Water Safety Instructor or Lifeguard Training. Offered Occasionally.
ESS 115 Cr.2  
**Orientation to Exercise and Sport Science**  
This course is designed to introduce the exercise and sport science major, to introduce the profession of exercise and sport science, and to give insight into the many diverse careers that can result from studying the discipline. Background knowledge of the foundations of the profession and the selection of a career path that reflects personal interests and abilities will be the focus. Offered Fall, Spring.

ESS 116 Cr.2  
**Water Safety Instruction**  
This course is designed to cover the basic components for certification by the ARC including infant and preschool, Longfellow’s Whale Tales, progressive instruction, safety training for swim coaches and basic and emergency water safety. Upon successful completion of this course the student will be certified to instruct aquatics by the American Red Cross. Offered Fall.

ESS 117 Cr.2  
**Health Related Fitness Activities in PE**  
This course is designed to help students start to understand health-related fitness self-efficacy promotion through lifetime physical activity applications. Students will focus on exercise prescription design and goal setting strategies linked to skill development in fitness related activities. This activity-based course will focus on fitness principle applications as they relate to cardiovascular, muscular strength and endurance, flexibility, and body composition activities. Pedagogical strategies and the Personalized System of Instruction model will be introduced for health related fitness activity integration. Lect. 1, Lab 2. Offered Fall, Spring.

ESS 118 Cr.2  
**Introduction to the Physical Education Teaching Profession**  
An introductory course to the physical education teaching profession. This course presents the role that physical education plays in the overall development and education of children. Teacher candidates focus on learning teaching standards, K-12 content standards, and best practices related to the physical education teaching profession. Teacher candidates will experience fitness testing as a tool for personal and professional development. Offered Fall, Spring.

ESS 121 Cr.2  
**Teaching Adventure Education in Physical Education**  
A content course focused on movement skills and knowledge for students in grades K-12 within activity categories aligned to National Standards and Grade Level Outcomes for K-12 Physical Education. Teacher candidates will develop common and specialized content knowledge related to adventure education and will have opportunities to plan and teach. In addition, teacher candidates will recognize and understand academic language and theory related to teaching and learning adventure education. Prerequisite: ESS 118 or concurrent enrollment. Offered Fall, Spring.

ESS 130 Cr.1  
**Officiating Athletics**  
Provides a general background of the rules, interpretations and mechanics of officiating athletic events at various levels of competition. Knowledge in this area may lead to WIAA certification in the following sports: basketball, baseball, football, gymnastics, swimming, track and field, volleyball, and wrestling. Repeatable for credit - maximum eight. Lab 2. Offered Occasionally.

ESS 145 Cr.2  
**Sport Management and Communication**  
This course will cover fundamental knowledge of sport-related communication, including sport information as found in print and electronic media, personal communication, and social media. Sport management trends and issues include media, legal and sociological issues, crisis management, and employment options in sport communication. Offered Fall, Spring.

ESS 181 Cr.3  
**Introduction to Sports Medicine**  
An introductory course designed to provide insight into the areas of sports medicine. Fundamental emergency care procedures and wrapping/taping techniques are taught. Students are exposed to athletic training room procedures, accident forms, maintenance of equipment and use of athletic training materials. Enrollment in the course is dependent on an application/selection process. See requirements for athletic training major. Prerequisite: admission to athletic training major. Consent of instructor. Offered Fall.

ESS 182 Cr.3  
**Prevention and Emergency Care for Athletic Trainers**  
This course is designed to provide knowledge and experience in prevention and emergency care procedures. Students will learn emergency care procedures through mock practice. They will be exposed to advanced taping techniques, equipment selection and fitting, spine boarding, and receive certification in CPR/AED for the professional rescuer and in first aid. Prerequisite: ESS 181. Offered Spring.

ESS 200 Cr.2  
**Introduction to Teaching Methods in Physical Education**  
A pedagogy course introducing the methodology of teaching in physical education. This course focuses on the methods of planning instruction for student learning, including alignment of objectives, assessment, and tasks. Utilizing the Society of Health and Physical Education (SHAPE) National Standards and Grade Level Outcomes, teacher candidates will begin creating developmentally appropriate lesson plans. Interstate and Teacher Assessment and Support Consortium (InterTASC) Standards are introduced and analyzed to create developmentally appropriate instruction and advocacy in physical education. This course includes clinical observations in the elementary, middle, and high school levels. Prerequisite: ESS 118. Offered Fall, Spring.

ESS 201 Cr.1  
**Safety, First Aid and CPR**  
Instruction and practice in proper first aid principles, procedures and emergency care including CPR training. American National Red Cross Standard First Aid certification and CPR certification will be awarded to those students who meet certification requirements. One lecture/lab for seven weeks. Offered Fall, Spring.

ESS 205 Cr.3  
**Human Anatomy and Physiology for Exercise Science I**  
This course is designed to cover the structure and function of the cellular, histological, muscular, nervous, skeletal systems, as well as the brain and spinal cord. Emphasis will be placed on the musculoskeletal system during the laboratory component. Lect. 2, Lab 2. Prerequisite: BIO 100 or BIO 105 or MIC 100. (Not open for credit to students who have credit in BIO 312.) Offered Fall, Spring.

ESS 206 Cr.3  
**Human Anatomy and Physiology for Exercise Science II**  
This course is designed to cover the maintenance of homeostasis through study of the structure and function of the autonomic nervous system, cardiovascular, respiratory, immune, digestive, endocrine, and renal systems. Metabolism will also be discussed. It will also cover metabolism and fluid/electrolyte balance. Prerequisite: ESS 205. (Not open for credit for students who have had BIO 313.) Offered Fall, Spring.
ESS 207 Cr.3

Human Motor Behavior
This course is an investigation into the nature of human motor development, motor control, and motor learning. Topics will be approached from a constraints perspective, focusing on the interaction among the individual, the environment, and the task. Lect. 2, Lab 2. Prerequisite: ESS physical education majors must have ESS 112 or ESS 212. Offered Fall, Spring.

ESS 209 Cr.2

Strength Training Clinical I
A course designed to provide practical experience in the supervision of a strength center. Students will have the opportunity to instruct proper lifting technique, assist with the assessment of strength, power and speed, and learn facility and equipment maintenance. Lab 4. Prerequisite: ESS 205 or ESS 206 or concurrent enrollment; admission to strength and conditioning concentration. Pass/Fail grading. Offered Fall, Spring.

ESS 212 Cr.3

Teaching Fundamental Movement Skills in Physical Education
A content course focused on the development of fundamental movement skills and knowledge for students in grades K-2 that are aligned to National Standards and Grade Level Outcomes for PK-12 Physical Education. Teacher candidates will develop common and specialized content knowledge related to the development of fundamental movement skills and movement concepts. In addition, teacher candidates will recognize and understand academic language and theory related to teaching and learning fundamental movements, educational games and educational dance. Prerequisite: ESS 200 or concurrent enrollment. Offered Fall, Spring.

ESS 231 Cr.3

Introduction to Teaching Adapted Physical Education
This is a pedagogy designed to introduce teacher candidates to the process of teaching physical education to PK-12 students with disabilities. Course content includes: (1) causes and characteristics of selected disabilities and how these disabilities impact a person's movement and learning potential; (2) federal and state laws pertaining to the education of PK-12 students with disabilities; (3) special education service delivery process, including referral and placement of students in the least restrictive environment; (4) appropriate physical education teaching methods to use in inclusive general education instructional settings; (5) adapted teaching techniques and equipment for motor development, physical fitness, sport skills, and aquatics; and (6) behavior management techniques. In addition, all students are required to participate in the UW-La Crosse Motor Development Program for approximately 30 hours. Lect. 2, Lab 3. Prerequisite: ESS 200 or concurrent enrollment. Offered Fall, Spring.

ESS 233 Cr.2

Teaching Methods in Adapted Aquatics
This course focuses on strategies and techniques for teaching persons who are disabled in an aquatic setting. Emphasis is placed on program and teacher effectiveness. Two-hour lab required. Students are expected to have intermediate level swimming skills. Lect. 1, Lab 2. Prerequisite: ESS 231 or RTH 326. Priority enrollment will be given to students admitted to the adapted physical education minor. Offered Fall, Summer.

ESS 249 Cr.2

Youth Sport Issues
An investigation of how youth sport programs can provide a healthy experience for participants. Concepts dealing with when to teach sport techniques and the physical, psychological and social implications of athletic experiences will be covered. Offered Occasionally.
Biomechanics

Biomechanics emphasizes the investigation and application of mechanical principles to the study of human motion and the motion of sport objects. Students will learn systematic approaches for the qualitative and quantitative analysis of the human body as it engages in motor activities. Laboratory sessions are required for students that select the three-credit option. Prerequisite: grade of "C" or better in ESS 205 or BIO 312. Recommended: MTH 150, MTH 151, or MTH 207. Offered Fall, Spring.

ESS 304 Cr.2

Biomechanical Principles of Human Movement Assessment and Analysis

This course emphasizes the investigation and application of anatomical structure and mechanical principles to the study of human movement and the motion of sport objects. Students will learn systematic approaches for the qualitative analysis of the human body as it engages in motor activities. Prerequisite: grade of "C" or better in ESS 205 or BIO 312. Offered Fall, Spring.

ESS 309 Cr.2

Strength Training Clinical

A course designed to provide practical experience in supervising a strength center. Students will have the opportunity to: instruct proper lifting technique; assist with and conduct assessments of strength, power and speed; learn how to maintain a strength facility; practice maintaining a strength facility; and assist with the design of lifting and conditioning programs. Lab 4. Prerequisite: ESS 368. Pass/Fail grading. Offered Fall, Spring.

ESS 310 Cr.3

Teaching Outdoor Pursuits in Physical Education

A content course focused on how to implement outdoor pursuits for students in grades K-12 aligned to National Standards and Grade Level Outcomes for K-12 Physical Education. Teacher candidates will develop common and specialized content knowledge related to outdoor pursuits; will have opportunities to plan and teach; will learn about physical activity and fitness knowledge specific to each activity category. In addition, teacher candidates will recognize and understand academic language and theory related to teaching and learning a variety of outdoor pursuits which may include but not limited to recreational boating (kayaking, canoeing, sailing, rowing), hiking, backpacking, fishing, orienteering/geocaching, ice skating, skateboarding, snow or water skiing, snowboarding, snowshoeing, bouldering/traversing/climbing, mountain biking, adventure activities, and ropes courses. Lect. 1, Lab 2. Prerequisite: ESS 121; admission to physical education teacher education program. Offered Fall, Spring.

ESS 320 Cr.3

Field Experience in Sport Management

Practical experience in a sport management setting. Experiences provided may include: sport event facilitation, budget preparation and monitoring, preparing contracts, checking eligibility, and marketing and promotion. Repeatable for credit - maximum six. Prerequisite: admission into exercise sports science - sport management emphasis. Offered Fall, Winter, Spring, Summer.

ESS 321 Cr.2

Evaluation in Health Education and Physical Education

An introductory course in the meaning and application of measurement, tests, elementary statistical procedures and evaluation in physical education. Prerequisite: admission into teacher education. Offered Occasionally.

ESS 323 Cr.3

Nutrition and Sport

Basic principles of human nutrition and nutritional needs for athletes and/or active populations. Issues discussed include ergogenic aids, carbohydrate loading/manipulation, eating disorders, and protein supplementation. Practical application will include dietary analysis and composition for people in various activities and conditions. Prerequisite: ESS 302 or NUT 200. Offered Fall, Spring.

ESS 324 Cr.1-3

Independent Study in Exercise and Sport Science

Provides students with supervised study in a specific area of interest in their exercise and sport science academic program. Repeatable for credit - maximum nine credits or three courses. Consent of department. Offered Fall, Winter, Spring, Summer.

ESS 326 Cr.2

Clinical Experience in Teaching Physical Education II

Students will practice teaching with close supervision of both the university instructor and the elementary/middle school cooperating teacher. The students will learn to use objective analysis instruments, videotaping, computer analysis techniques, and intervention processes. Students will have a minimum of 48 hours of public school clinical experiences. Prerequisite: admission into teacher education. Must be taken concurrently with ESS 321, ESS 419, ESS 420. Offered Occasionally.

ESS 327 Cr.2

Physical Education for the Elementary Classroom Teacher

Students participate in lecture and laboratory experiences to gain and practice skills in teaching elementary physical education. Applied teaching experience occurs at a local school allowing for implementation of appropriate skill progression, movement education management and a variety of curriculum options. Lect. 1, Lab 2. Prerequisite: elementary education major. Offered Fall, Spring.

ESS 328 Cr.3

Field Experience in Exercise Science

Practical experience in an exercise science setting or formal observation in a clinical setting. Experiences provided may include activities such as exercise leadership, coaching, assisting with fitness assessment and exercise prescription, exercise research, clinical observation, etc. Repeatable for credit - maximum six. Prerequisite: admission to the exercise sport science major - fitness or pre-professional emphasis. Offered Fall, Winter, Spring, Summer.

ESS 344 Cr.3

Introduction to Fitness Assessment

The purpose of this course is to review the clinical and diagnostic approach to cardiovascular anatomy, physiology and pathophysiology, and to provide basic knowledge in evaluation, methodology and interpretation of fitness testing. Areas of emphasis will be population characteristics, participant screening and referral process, alternatives of fitness assessment and exercise prescription. Lect. 2, Lab 2. Prerequisite: ESS 302; admission to exercise sports science - fitness emphasis. Offered Fall, Spring.

ESS 348 Cr.2

Theory of Coaching

Theory of coaching specific competitive sports. Coaching and directing youth, club, inter-scholastic and intercollegiate sports programs. Theory of coaching the following sports will be offered on a rotational basis: baseball/softball, basketball, football, gymnastics, soccer, swimming and diving, tennis, track and field/cross country, volleyball, and wrestling. A competitive background in and fundamental knowledge of the sport is HIGHLY recommended. Repeatable for credit - maximum four. Prerequisite: junior standing. Offered Fall, Spring.
ESS 349 Cr.2
Psychology of Coaching Competitive Athletics
Aids the prospective coach to better understand the application of psychological concepts to the coaching of sports. Emphasis will be on the methods of improving the performance of athletes through a better understanding of the factors affecting teaching and learning in athletics. Prerequisite: junior standing. Offered Fall, Spring.

ESS 355 Cr.3
Methods of Exercise Leadership
This course will cover the methodology of developing, teaching and leading sound exercise workouts for all levels of physiological fitness and for individual needs. Lect. 2, Lab 2. Prerequisite: ESS 302, ESS 303; admission to exercise sports science - fitness emphasis. Offered Fall, Spring.

ESS 363 Cr.2
Teaching Dance in Physical Education
A content course focused on movement skills and knowledge for students in grades 3-12 within activity categories aligned to National Standards and Grade Level Outcomes for K-12 Physical Education. Teacher candidates will develop common and specialized content knowledge related to teaching dance and rhythmic activities; will have opportunities to plan and teach; will learn about physical activity and fitness knowledge specific to each activity category. In addition, teacher candidates will recognize and understand academic language and theory related to teaching and learning a variety dance and rhythmic activities which may include but not limited to dance forms such as creative movement, line, ballet, modern, literature and movement, sport, hip hop, Latin, ballroom, square, stepping, folk/cultural dance, and social. Prerequisite: ESS 212; admission to physical education teacher education program. Offered Fall, Spring.

ESS 364 Cr.3
Teaching Fitness and Wellness in Physical Education
A content course focused on movement skills and knowledge for students in grades K-12 aligned to National Standards and Grade Level Outcomes for K-12 Physical Education. Teacher candidates will develop common and specialized content knowledge related to fitness and physical activity; will have opportunities to plan and teach; will learn about physical activity and fitness knowledge specific to improving or maintaining fitness and wellness. In addition, teacher candidates will recognize and understand academic language and theory related to teaching and learning fitness activities including but not limited to yoga, Pilates, resistance training, spinning, running, fitness walking, fitness swimming, kickboxing, cardio-kick, Zumba, and exergaming. Prerequisite: ESS 302 or concurrent enrollment; admission to physical education teacher education program. Offered Fall, Spring.

ESS 366 Cr.3
Teaching Target, Net and Wall Activities in Physical Education
A content course focused on movement skills and knowledge for students in grades 3-12 within activity categories aligned to National Standards and Grade Level Outcomes for K-12 Physical Education. Teacher candidates will develop common and specialized content knowledge related to target and net/wall activity categories; will have opportunities to plan and teach; will learn about physical activity and fitness knowledge specific to each activity category. In addition, teacher candidates will recognize and understand academic language and theory related to teaching and learning target and net/wall activity categories. Lect. 1, Lab 2. Prerequisite: ESS 212; admission to physical education teacher education program. Offered Fall, Spring.

ESS 367 Cr.3
Teaching Invasion and Striking and Fielding Activities in Physical Education
A content course focused on movement skills and knowledge for students in grades 3-12 within activity categories aligned to National Standards and Grade Level Outcomes for K-12 Physical Education. Teacher candidates will develop common and specialized content knowledge related to invasion, striking and fielding, individual-performance and lifetime activity categories; will have opportunities to plan and teach; will learn about physical activity and fitness knowledge specific to each activity category. In addition, teacher candidates will recognize and understand academic language and theory related to teaching and learning invasion, striking and fielding, individual-performance and lifetime activity categories. Lect. 1, Lab 2. Prerequisite: ESS 212; admission to physical education teacher education program. Offered Fall, Spring.

ESS 368 Cr.3
Strength Training Techniques and Programs
This course is designed to provide the student with a working knowledge of proper lifting and spotting technique, an understanding of the various types of equipment and modes of strength training, basic program design and programming for special populations, and weight training for competition. Students will be taught to design and individualize a strength training program. Prerequisite: ESS 205 and ESS 206, or BIO 312 and BIO 313. ESS 100 - Strength Training recommended. Offered Fall, Spring.

ESS 373 Cr.3
Media and Public Relations in Sport Management
This course is designed to acquaint students with media and public relations practices that are incorporated in sport management. Included in the class are the responsibilities and issues that sport managers face on a daily basis such as PR management, crisis management, interviews and media conferences, legal and ethical dilemmas, and the production of sport media relations tools. The course emphasizes practical application of sport media and PR. Prerequisite: admission to exercise sports science plan - sport management emphasis. Offered Fall, Spring.

ESS 378 Cr.4
Musculoskeletal Assessment of the Lower Body
This course is designed for individuals seeking certification from the Board of Certification (BOC). Content addresses observation and evaluation techniques for musculoskeletal injuries and conditions of the lower body. Students must integrate anatomical structures and physiological principles to provide a basis for critical decision making in an injury management environment. Lect. 3, Lab 2. Prerequisite: ESS 286, ESS 379. Offered Spring.

ESS 379 Cr.4
Musculoskeletal Assessment of the Upper Body
This course is designed for individuals seeking certification from the Board of Certification (BOC). Content addresses observation and evaluation techniques for musculoskeletal injuries and conditions of the upper body. Students must integrate anatomical structures and physiological principles to provide a basis for critical decision making in an injury management environment. Lect. 3, Lab 2. Prerequisite: ESS 205; admission to athletic training major. Offered Fall.
ESS 383 Cr.3
Clinical Pathology for Exercise Science
This course is designed to introduce students to the pathology of injuries and illnesses of the body systems and treated by allied health professionals. Topics included are categorized into physiological responses to trauma, disease, inflammatory responses and autoimmune/immunodeficiency responses to various diseases/syndromes/conditions. Prerequisite: admission to athletic training major or ESS-exercise science emphasis. Offered Fall, Spring, Summer.

ESS 386 Cr.2
Athletic Training Clinical III
A course designed to provide clinical experience in an athletic training setting. Students will have an opportunity to gain competency in lower extremity evaluation skills, and management of pathologies of the lower extremity that are common in athletics. This course is designed to have students demonstrate mastery of a variety of athletic training clinical proficiencies and clinical integration proficiencies. Prerequisite: ESS 287. Offered Fall.

ESS 387 Cr.2
Athletic Training Clinical IV
A course designed to provide clinical experience in an athletic training setting. Students will have an opportunity to gain competency in utilization of therapeutic interventions for the management of pathologies that are common in physical activity and healthcare setting. This course is designed to have students demonstrate mastery of a variety of athletic training clinical proficiencies and clinical integration proficiencies. Prerequisite: ESS 386. Offered Spring.

ESS 400 Cr.3
Pharmacology in Athletic Training
This course covers the basic pharmacokinetic principles including absorption, biotransformation, and elimination. Pharmaceutical agents covered include anabolic agents, steroidal and non-steroidal anti-inflammatory drugs, local anesthetics, psychotropic drugs, antibiotic agents, antihypertensive and anti-arrhythmic pharmaceuticals, cardio-active drugs, diuretic medications, anti-asthmatic agents, and medications commonly used in the treatment of diabetes mellitus. Prescription and nonprescription agents as well as indications, contraindications, and potential interactions of pharmaceuticals will be covered. Prerequisite: admission to the athletic training major. Offered Spring.

ESS 402 Cr.1
Advanced Activities
A program of opportunities to enhance advanced teaching knowledge and participation in a self-selected physical activity. The course will go beyond the knowledge, skills and strategies that may be offered at the introductory level. These opportunities may include, but not be limited to, participation in advanced activity classes offered both on and off campus, participation in advanced certification programs, intern teaching experiences in the student’s area of expertise. Repeatable for credit in different activities - maximum three. Only one credit counts toward the physical education teacher education major. Prerequisite: ESS 321; ESS 326, ESS 322 or ESS 419; ESS 325 or ESS 420. Pass/Fail grading.

ESS 403 Cr.2
Advanced Strength Training Applications and Techniques
This course presents advanced strength training and conditioning theory and practice. Designed primarily for students specializing in strength and conditioning, the course explores advanced periodization models and their utilization, mastery and analysis of Olympic lifts, plyometric programming, ergogenic aids (identification, legal implications, nutritional alternatives,) facility design, and special population needs. Prerequisite: ESS 302, ESS 303, ESS 368. Offered Fall, Spring.

ESS 407 Cr.3
Sport Management and Society
This course is designed to provide the foundation for an understanding of the ethical, social, cultural, and psychological aspects for the operation of programs in athletics, sports, physical education and fitness. The student will be able to identify current social, cultural, and ethical issues and problems and the potential solutions to these problems. Prerequisite: admission to exercise sports science - sport management emphasis; junior standing. Offered Fall, Spring.

ESS 409 Cr.2
Strength Training Clinical III
A course designed to provide practical experience in management of a strength center. Students will have the opportunity to instruct proper lifting technique, assess strength, power and speed, maintain the strength facility, design lifting and conditioning programs, and assist with the supervision and instruction of junior staff members. Lab 4. Prerequisite: ESS 302, ESS 303, ESS 309, ESS 368. Offered Fall, Spring.

ESS 410 Cr.2
Legal Implications of Sport and Activity
This course addresses the legal aspects for the operation and administration of sports programs, competitive athletic programs, and community and commercial fitness programs. Prerequisite: admission to exercise sports science - fitness or sport management emphasis. Offered Fall, Spring.

ESS 411 Cr.2
Strength and Conditioning Educator Training
This course is a capstone experience for students specializing in strength and conditioning. Content includes exercise physiology and biomechanics, nutrition and ergogenic aids, testing and evaluation, exercise techniques, program design, and organization and administration of a strength and conditioning facility. Prerequisite: ESS 403 or concurrent enrollment. Offered Fall, Spring.

ESS 419 Cr.5
Elementary Methods in Physical Education
A pedagogy course focused on Society of Health and Physical Education (SHAPE) National Standards and Grade Level Outcomes for elementary physical education, Interstate and Teacher Assessment and Support Consortium (InTASC) Standards and best practices related to methodology and assessment. This course includes a clinical experience organized as a professional development school (PDS) where teacher candidates spend significant time developing lesson plans, teaching, and assessing student learning, as well as interacting with elementary school students and teachers. A professional learning community approach is utilized throughout the course to provide students multiple opportunities to collaborate. Lect. 3, Lab 2. Prerequisite: ESS 261, ESS 363, ESS 364, ESS 366, ESS 367; admission to physical education teacher education program. Offered Fall, Spring.

ESS 420 Cr.5
Secondary Methods in Physical Education
A pedagogy course focused on Society of Health and Physical Educators (SHAPE) National Standards and Grade Level Outcomes for secondary physical education, Interstate and Teacher Assessment and Support Consortium (InTASC) Standards and best practices related to methodology and assessment. This course includes a clinical experience organized as a professional development school (PDS) where teacher candidates spend significant time developing lesson plans, teaching, and assessing student learning, as well as interacting with secondary school students and teachers. A professional learning community approach is utilized throughout the course to provide students multiple opportunities to collaborate. Lect. 3, Lab 2. Prerequisite: ESS 310, ESS 363, ESS 364, ESS 366, ESS 367; admission to physical education teacher education program. Offered Fall, Spring.
ESS 421 Cr.3
**Sport Operations Management/Event and Venue Management**
This course is designed to introduce students to principles and procedures for preparing, planning, operating, managing, and evaluating event and venue in sports settings. Students will gain a greater understanding of event and venue management and the total operation of sports organizations. Prerequisite: admission to exercise science - sport management emphasis; junior standing. Offered Fall, Spring.

ESS 423/523 Cr.2
**Sociocultural Factors in Physical Education**
This is a content course which focuses on contemporary and historical perspectives on sociocultural and philosophical issues that influence teaching and learning in physical education. Students will analyze how particular students and student groups are advantaged and disadvantaged in and through social practices in physical education and physical activity environments. Topics include, but are not limited to, race, ethnicity, gender, sexuality, ability, bodies, socioeconomic status, and culturally responsive teaching. Prerequisite: junior standing; admission to physical education teacher education program. Offered Fall, Spring.

ESS 424 Cr.3
**Curriculum Development and Administration in Physical Education**
This is a culminating course designed to provide an experience in creating a quality physical education program through development of all facets of a standards-based PK-12 curriculum. The administrative component includes creating policy and procedures as well as current mandates and initiatives in education. Prerequisite: ESS 419 or concurrent enrollment; ESS 420 or concurrent enrollment; admission to physical education teacher education program. Offered Fall, Spring.

ESS 425 Cr.1
**Student Teaching Seminar in Physical Education**
This is a culminating course designed to provide student teachers with opportunities to reflect and discuss student teaching experiences. Course emphasis is placed on development of teaching competencies as outlined by the beginning teacher standards and successful completion of edTPA. Taken concurrently with student teaching. Prerequisite: taken concurrently with student teaching; completion of all course work required to student teach; successful completion of PRAXIS II exam. Pass/Fail grading. Offered Fall, Spring.

ESS 430/530 Cr.3
**Disability and Physical Activity Implications**
The causes, characteristics, incidences, and impacts of physical, sensory, emotional/behavioral, intellectual, and other developmental disabilities. Content includes a wide variety of low and high incidence disabilities (mild through severe/profound levels for each) and the implications for physical education instruction in PK-12 educational settings. Emphasis is on movement and motor development implications, adaptations, and instructional strategies to enhance physical activity and gross motor skills of individuals with disabilities, ages 3 through adulthood. This course is taught largely at a graduate level. Prerequisite: RTH 329 or admission into the adapted physical education teaching minor; junior standing. Offered Fall, Spring.

ESS 431 Cr.1
**Fitness Programming for Persons with Disabilities**
Students learn techniques for health-related physical fitness assessment, exercise prescription, and activity adaptations. The focus is on hands-on clinical skill development in an evidence-based exercise program for individuals with disabilities. Students should take this course within two semesters after completion of ESS 430. Offered Fall, Spring, Summer.

ESS 432 Cr.3
**Financial Aspects of Sport**
This course is designed to study financial management principles including budget development, fundraising, and economic impact for use in the administration of sport and athletic programs. In addition, emphasis will be placed on sources of revenue and expense for sport organizations and their use in sport management. The student will understand why budget and finance in sport is a critical component of all sports related industries. Prerequisite: admission to exercise science - sport management emphasis; junior standing. Offered Fall, Spring.

ESS 435/535 Cr.1
**Sport for Persons with Disabilities**
This course addresses sports that have been modified/adapted based on traditional sports and those developed specifically for persons with disabilities. Content includes the legal aspects and health enhancing benefits for sport participation for persons with disabilities, developmental sport models, disability sport organizations, sport skill development, school and community advocacy and involvement, and interscholastic adapted sport programs. Out of class clinical experience is required in the course. This course is taught largely at a graduate level. Prerequisite: ESS 231; admission into the adapted physical education teaching minor; junior standing. Offered Spring, Summer.

ESS 436/536 Cr.3
**Assessment in Adapted Physical Education**
This course presents standardized tests and authentic procedures for assessing the gross motor development, motor skill performance, and health-related physical activity/fitness of persons with disabilities. Students learn to select, administer, and interpret assessment instruments and how to use results to develop the physical education components of individualized education programs (IEPs) as the basis for instructional programs. Types of assessment decisions and the PK-12 special education eligibility and service delivery process is studied. Clinical experiences required. This course is taught largely at a graduate level. Prerequisite: ESS 231; admission to adapted physical education teaching minor; junior standing. Offered Spring, Summer.

ESS 437/537 Cr.3
**Teaching and Service Delivery Models in Adapted Physical Education**
This course focuses on evidence-based adapted physical education teaching strategies and service delivery models in PK-12 settings. Instructional programming and best practices of early childhood, elementary, middle/secondary, and transitional programs for students with disabilities in adapted physical education are covered. Emphasis is on collaboration among professional service providers such as special educators, general physical educators, and related service personnel (e.g., occupational, physical, and recreational therapists), as well other community agency staff. Practical teaching is included, along with guest presentations on related disciplines and programs. Students are required to participate in approximately 35 clinical education hours for the semester. This course is taught largely at a graduate level. Prerequisite: ESS 231; admission to adapted physical education teaching minor; junior standing. Offered Fall, Spring.

ESS 439 Cr.3
**Teaching Methods and Internship in Adapted Physical Education**
Students are provided practical teaching and supervision opportunities to enhance their skills in planning, implementing, and evaluating adapted physical education programs for children and youth with a variety of disabilities. Emphasis is also placed on effective staff collaboration and consultation as well as teacher and program supervision. Participation in the motor development program laboratory is required. Lect. 2, Lab 3. Prerequisite: three courses from: ESS 233, ESS 430, ESS 436, ESS 437. Offered Fall, Spring.
ESS 440/540 Cr.3
Advanced Sport Nutrition
This course is designed to provide the student with a working knowledge of advanced topics as they relate to the field of sport nutrition. Such topics will include nutritional biochemistry, ergogenic aids, nutritional strategies for strength/power athletes, endurance athletes and altering body composition. Students will also learn how to assess an individual's dietary intake and utilize technology to determine energy needs of athletes. This course is taught largely at an undergraduate level. Graduate students will have additional course requirements/expectations. Prerequisite: ESS 302, ESS 323. Offered Summer, Winter.

ESS 442 Cr.2
Aging and Physical Activity
The course will explore why and how physical activity must change to meet the modifications that occur in the human body with aging. The physiological and psychological status of an aging population will be presented, along with suggestions to address the physical activity needs of this growing group. Practical experience in both on and off campus sites. Prerequisite: ESS 302; admission to exercise science emphasis or have a declared emphasis in gerontology. Offered Fall, Spring.

ESS 443 Cr.3
Fitness Across the Lifespan
This course will explore why and how physical activity must change to meet the modifications that occur in the human body as it matures from childhood to old age. Students will address the principles and procedures for designing physical fitness experiences for all ages. Lecture, practice, and field experiences are included. Prerequisite: ESS 302; ESS 303; admission to exercise science emphasis or have a declared emphasis in gerontology. Offered Fall, Spring.

ESS 445/545 Cr.3
Planning Facilities for Physical Activity and Sport
A study of planning techniques concerning facility development and maintenance for schools, athletic clubs, fitness centers and professional sport organizations. This course is taught largely at an undergraduate level. Graduate students will have additional course requirements/expectations. Prerequisite: admission to exercise science emphasis or have a declared emphasis in gerontology. Offered Fall, Spring.

ESS 446 Cr.3
Current Research and Trends in Exercise Science
A lecture/discussion-based course in which relevant and current research and industry trends are thoroughly reviewed and analyzed. Students are encouraged to take this course near the end of their careers as undergraduate students in the exercise science major. Prerequisite: admitted to exercise science major or pre-professional emphasis. Offered Fall, Spring.

ESS 447 Cr.3
Administration in Fitness and Sport
The course will cover principles of administrative theory and practice in the fitness and sport industry, including general administrative functions, public relations, personnel, budget and finance, facility management, and evaluation techniques. Prerequisite: admission to exercise science major or pre-professional emphasis. Offered Fall, Spring.

ESS 448 Cr.3
Promotion and Development of Fitness and Sport Programs
This course will provide understanding of and skill in the promotion process as it relates to advertising and public relations activities for the operation of programs in sport, physical education and fitness. Primary focus will be on the application of promotion principles to specific sport scenarios. Prerequisite: MKT 309, admission to exercise science major or pre-professional emphasis. Offered Fall, Spring.

ESS 449 Cr.1
Seminar in Fitness/Sports Management
An in-depth orientation to the required senior internship experience. Required course to be taken one semester prior to internship. Prerequisite: GPA of 2.75 (cumulative and major); admission to the exercise science emphasis or have a declared emphasis in gerontology. Offered Fall, Spring.

ESS 450 Cr.8-12
Exercise and Sport Science Internship
The internship is designed to be a terminal experience for students majoring in fitness or sport management (12 credits) emphasizes and athletic training (eight credits) with an intensive supervised practical work experience. Prerequisite: fitness, athletic training, and sport management majors: all course work for the appropriate major must be completed and a minimum cumulative and major GPA of 2.75. Athletic training majors must complete ESS 484. Pass/Fail grading. Offered Fall, Spring, Summer.

ESS 451 Cr.2-3
Practicum in Athletic Coaching
The practicum in athletic coaching is designed to be a culminating experience for students completing the concentration in Coaching Competitive Athletics. Students will seek a placement with a department approved university or public/private school athletic team to obtain practical coaching experience in the sport(s) of their choice. The practicum experience will be supervised by a coach or athletic director of the assigned team and the director of the concentration in coaching competitive athletics. Repeatable for credit in different sport(s) - maximum six. Prerequisite: completion of requirements in coaching concentration with the exception of ESS 368 and elective credits. Pass/Fail grading. Offered Fall, Spring.

ESS 460/560 Cr.1-3
Exercise Science Clinical Forum
Visiting lecturers as well as university professors will address various topics related to exercise science. Repeatable for credit. Prerequisite: junior standing. Offered Occasionally.

ESS 481 Cr.4
Therapeutic Modalities for Athletic Training
Introduction to the principles and therapeutic modalities used in the treatment of musculoskeletal injuries and conditions and the role of rehabilitation in athletic training. Course is designed for the students interested in taking the certification examination from the Board of Certification (BOC). Lect. 3, Lab 2. Prerequisite: ESS 287, ESS 378. Offered Fall.

ESS 483 Cr.3
Administration of Athletic Training Programs
A study and analysis of administrative policies involved in the management of an efficient athletic training program. Course is designed to provide information in program and strategic planning, evaluation of plans, record keeping, facility design and planning, budgeting and purchasing, inventory control, management of human resources, and governance structures in athletic training. Prerequisite: ESS 387, ESS 484. Offered Fall.
ESS 484 Cr.4

**Rehabilitation Techniques for Athletic Trainers**
This course covers the knowledge and skills needed in the rehabilitation of musculoskeletal injuries and conditions seen by athletic trainers. Rehabilitation strategies are designed to utilize rehabilitation principles and functional activities to prepare patients for safe return to activity. Lect. 3, Lab 2. Prerequisite: ESS 481, ESS 386. Offered Spring.

ESS 485 Cr.3

**Current Readings/Research in Athletic Training**
This course is designed to give students an overview of the research process in athletic training. Emphasis will be placed on the importance of building a research base in athletic training, the basics of developing a research study, protecting human subjects, presenting and publishing data, manuscripts review, and fundamentals of grant writing. Students will also review and discuss current published research in the field and give presentations pertaining to special topics not included in regular course work. Prerequisite: ESS 483, ESS 486. Offered Spring.

ESS 486 Cr.2

**Athletic Training Clinical V**
A course designed to provide clinical experience in an athletic training setting. Students will have an opportunity to gain competency in rehabilitation and management of pathologies that are common in athletics. Students will demonstrate mastery of a variety of athletic training clinical proficiencies and clinical integration proficiencies. Prerequisite: ESS 387. Offered Fall.

ESS 499 Cr.3

**Seminar in Physical Education**
The provision of intensified experiences in the solution of some individual or group problem. The utilization of some rudimentary research techniques receive marked attention, including the formulation of hypotheses, the design of study, the collection, analysis, and interpretation of data. Prerequisite: open to students of “honor” quality with senior standing; minimum 2.75 cumulative GPA. Offered Occasionally.