ESS - Exercise and Sport Science: Human Performance Graduate Program

Exercise and Sport Science - Human Performance Program
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www.uwlax.edu/grad/human-performance/

The Master of Science in Exercise and Sport Science: Human Performance Program is an interdisciplinary program of study for those interested in learning and applying scientific principles to training of physically active individuals and athletes at all levels (e.g. recreational, high school, college, professional). Areas of study include physiology, biomechanics, and motor learning.

Students in human performance choose an emphasis in applied sport science or strength and conditioning. Students select a thesis option (32 credits) or a non-thesis (32 credits). Students choosing the non-thesis option must successfully complete written comprehensive examinations at the end of the program. At least one-half of the credits must be earned at the 700 level.

Students interested in studying the responses and adaptations to the training of athletes, pursuing a career as a sport coach or strength conditioning coach, or working in fitness/athletic enhancement centers are encouraged to apply to this graduate program.

Graduate preparation goals:

- Serve as head or assistant strength and conditioning coach for high school, DI, DII or DIII university sports or professional and semi-professional sports.
- Prepare sport coaches to apply sport science to their training programs.
- Serve as fitness professional in health club, fitness facility or corporate fitness facility
- Pursue a doctoral degree and career as an exercise scientist (teaching and research at the university level)

Application deadline is February 1 of each year for fall semester.

Graduate degrees

- Exercise and sport science: human performance - MS: applied sport science emphasis (http://catalog.uwlax.edu/graduate/programrequirements/exercisehumanperformance/applied-sport-science-emphasis-ms)
- Exercise and sport science: human performance - MS: strength and conditioning emphasis (http://catalog.uwlax.edu/graduate/programrequirements/exercisehumanperformance/strength-conditioning-emphasis-ms)

Courses

ESS 423/523 Cr.2
Individual and Social Factors in Physical Education
This course focuses on contemporary and historical perspectives on socio-cultural and philosophical issues that influence schooling and physical education teacher preparation, including race, gender, sexuality, ability, disability, obesity and culturally responsive teaching. Offered Fall, Spring.

ESS 430/530 Cr.3
Disability and Physical Activity Implications
The etiology and effects of select physical, sensory, intellectual and other developmental disabilities will be addressed. Content emphasizes movement implications and strategies to enhance physical activity behavior. Prerequisite: ESS 231 or RTH 326. Students in the adapted physical education teaching minor or graduate program are given priority enrollment. Offered Fall, Summer.

ESS 435/535 Cr.1
Sports for Persons with Disabilities
This course addresses sports that have either been modified based on traditional sports or developed specifically for various physical, intellectual and sensory disability groups. Content includes developmental sport models, disability sport organizations, fitness training, community advocacy and involvement, and infusion into physical education and interscholastic sports programs. Lec. 1, Lab 1. Prerequisite: ESS 231. Students in the adapted physical education teaching minor or graduate APE Program are given priority in enrollment. Offered Spring, Summer.

ESS 436/536 Cr.3
Assessment and Program Evaluation in Adapted Physical Education
This course provides an introduction to appropriate instruments and testing strategies necessary for assessing the gross motor development and health related physical fitness levels of persons with disabilities. Students learn how to administer, interpret, and use the results of motor assessments to develop individualized education program plans that are utilized in either adapted or general physical education programs for students with disabilities. Prerequisite: admission to Master of Science Physical Education Teacher Education Program. Offered Spring, Summer.

ESS 437/537 Cr.3
Teaching and Service Delivery Models in Adapted Physical Education
This course focuses on adapted physical education teaching strategies and service delivery models in PK-12 settings. Instructional programming and best practices in 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, regular physical educators, and related service personnel. (e.g. occupational, physical, and recreational therapists), as well as health and other community agency staff. School visits and practical teaching are included, along with guest presentations on related disciplines and program. Lec. 2; Lab 3. Prerequisite: admission to Master of Science Physical Education Teacher Education Program. Offered Fall, Spring.

ESS 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. Prerequisite: ESS 302, ESS 323. Offered Summer, Winter.
ESS 445/545 Cr.3  
**Facility Management in Sport**  
A study of planning techniques concerning facility development and maintenance for schools, athletic clubs, fitness centers, and professional sport organizations. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Fall.

ESS 349/549 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. Offered Fall, Spring.

ESS 452/552 Cr.2  
**Seven Habits of Highly Effective People**  
An in-depth study of lifestyle principles as identified by Stephen Covey in the book "7 Habits of Highly Effective People." Students will explore how to apply these principles as teachers and coaches personally and with peers, students and athletes. Offered Occasionally.

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. Offered Occasionally.

ESS 480/680 Cr.2  
**Injury Prevention, Management and Rehabilitation**  
Designed to assist the student in refinement of skills in prevention, management and rehabilitation of injuries occurring in a high activity environment. Special attention will be given to injury recognition and common injuries. Basic rehabilitation protocols will be reviewed in addition to conditions for referral. Prerequisite: teaching and/or coaching experience. Offered Occasionally.

ESS 702 Cr.3  
**Sport Administration**  
Principles of management theory and practice in the sport industry, including management functions, personnel, fiscal, program, and facility management of athletic/sport administration enterprise. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Fall.

ESS 710 Cr.3  
**Event Management**  
This course is designed to assist students in understanding the concepts related to planning, promoting, managing, and evaluating an event from inception to post-event analysis and to understand some of the specialized terminology used in the business. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Fall.

ESS 711 Cr.3  
**Sponsorship in Sport**  
The course provides a detailed examination of the relationship between sport and corporate sponsorship, and strategies for selling sponsorship packages. Topics covered will include the theoretical rationale for sponsorship, strategic communication through sponsorship, determining the value of a sponsorship, evaluation of sponsorship activities, and techniques used to sell sponsorship packages. Perspectives from the event holder (i.e., property) offering a sponsorship and from the organization functioning as the sponsor will be considered. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Summer.

ESS 725 Cr.2  
**Diversity in the Physical Activity Setting**  
The class will address racial, ethnic, sexual orientation, and disability issues for which physical education teachers should have an awareness. The purpose of the course will be to sensitize the students to the fact that diversity is part of life in America and that a teacher needs to recognize that differences need to be understood and reflected upon so that the teacher can help all students have a positive educational experience. Pedagogical methods for integrating students will be addressed, such as inclusion techniques for students with a disability, culturally diverse games, and appropriate behavior management techniques. Offered Spring.

ESS 727 Cr.2  
**Planning for Effective Instruction in Physical Education**  
This course focuses on the planning and teaching skills needed to be an effective/model physical educator. Research related to teaching and learning styles will be studied and instructional materials will be developed. A variety of instructional units and lessons which incorporate knowledge-based objectives and developmentally appropriate learning experiences will be designed and implemented. Prerequisite: ESS 759. Offered Spring.

ESS 728 Cr.2-3  
**Effective Middle School Physical Education**  
Course designed to provide an overview of middle school physical education. Emphasis will be on current recommended standards and assessment procedures. Creating a positive learning environment, co-curricular activities, personal philosophy and program content will also be examined. Students may choose to do an independent application project utilizing material covered in the course. Repeatable for credit - maximum three. Offered Occasionally.

ESS 730 Cr.3  
**Research Methods for Exercise and Sport Science**  
This course presents the purposes, methods, and techniques for the development, conduct, and interpretation of research. Emphasis is on understanding the process and product of current research. Each student is guided in the creation of a graduate-level research proposal and other components of the research process. Offered Fall, Spring, Summer.

ESS 732 Cr.3  
**Advanced Athletic Activity Injury Management**  
This course provides students with clinically applicable knowledge and skills in the assessment and treatment of medical pathologies relative to athletic activity in a health care facility setting. Rotations will be completed in primary care, orthopedics, physical medicine, or emergency medicine. Lect. 1, Lab. 6. Prerequisite: open to students certified by the NATABOC (or eligible) or who possess an equivalent athletic training credential. Offered Occasionally.

ESS 733 Cr.3  
**Advanced Athletic Training Teaching**  
This course provides the student with experiences relevant to athletic training education. Students will work directly with athletic training faculty to plan courses, develop syllabi, plan and deliver selected course content, and evaluate students in UW-L’s undergraduate athletic training program. Lect. 1, Lab 6. Open to students certified by the NATABOC (or eligible) or who possess an equivalent athletic training credential. Prerequisite: ESS 734. Offered Occasionally.
ESS 734 Cr.3
Effective Instruction in Athletic Training
This course is designed to expose students to a wide variety of teaching methodologies that can be incorporated into athletic training courses. Additionally, relevant topics pertaining to both didactic and clinical education (e.g., standards for appropriate student supervision) in the area of athletic training will be covered. Prerequisite: open to students certified by the NATABOC (or eligible) or who possess an equivalent athletic training credential. Offered Occasionally.

ESS 735 Cr.3
Statistics for Exercise and Sport Science
An introductory course in statistics with the essential purpose of providing students with the tools to conduct statistical analyses as well as to interpret and evaluate the results of research. Offered Fall, Spring, Summer.

ESS 736 Cr.3
Critical Analysis Project: Adapted Physical Education
This is a required course in the adapted physical education graduate emphasis. The student proposes, develops, and analyzes an issue or problem in the adapted physical education profession. Upon approval, the student will conduct an in-depth analysis of the issue/problem. The end product will be a written document describing the student’s analysis and an oral presentation with the analysis committee. Prerequisite: ESS 530; ESS 536; ESS 537; EFN 730. Offered Fall, Spring, Summer.

ESS 737 Cr.2
Curriculum Design in Physical Education
This course will provide an in-depth review of a variety of traditional and contemporary curricular models for physical education. Topics relating to philosophical perspectives/belief systems inherent in various types of programs will be included. Additional emphasis will also be given to designing and producing an elementary, junior/middle, or high school curriculum for the future and the evaluation model which could be used to assess its effectiveness. Offered Fall.

ESS 738 Cr.3
Financial Management for Sport Programs
Principles of sport finance and economics including budget development and management, fund-raising, and economic impact of sport, financial theories and practical application of sport income and expenditures in current society. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Summer.

ESS 739 Cr.3
Sport Law
A comprehensive examination of the court and legal system as it relates to the sport enterprise. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Spring.

ESS 740 Cr.3
Reading/Writing in Athletic Training
A survey and analysis of current and classical literature pertaining to the area of athletic training. Readings will include both assigned and student selected materials for the purpose of student presentation to and discussion with the assigned instructor. The class also includes a comprehensive writing assignment, which will culminate in the submission of a manuscript to be reviewed for publication in a scientific journal. Prerequisite: open to students certified by the NATABOC (or eligible) or who possess an equivalent athletic training credential. Offered Occasionally.

ESS 741 Cr.3
Concepts of Teaching in Elementary School P-E
An in-depth examination of teaching methods appropriate for use in elementary school physical education. Course work will involve an examination of research findings, laboratory experience and extensive reading and discussion in related areas. Offered Occasionally.

ESS 744 Cr.3
Lab Techniques in Clinical Exercise Physiology
Students learn techniques for health screening, evaluation of exercise tolerance (with and without gas exchange), body composition analysis, and spirometry. The focus is on hands-on skill development and supports theoretical concepts addressed in other parts of the curriculum. Lect. 2, Lab. 1. Prerequisite: ESS 770 or concurrent registration. Offered Fall.

ESS 745 Cr.3
Pedagogy of Outdoor Physical Education
This course covers the history, philosophy, and principles of outdoor physical education, and its interdisciplinary nature and aim of employing the outdoors to contribute to student’s physical and educational growth. The pedagogical focus provides teaching strategies, instructional materials, and procedures used in the field, as well as information on existing programs. Current research and national trends and issues will be emphasized. Offered Spring.

ESS 746 Cr.3
Physical Education Pedagogy Graduate Project
Culminating synthesis project to provide students with a supervised opportunity for in-depth study of a physical education issue, trend, or problem. Completion of the project should demonstrate advanced professional competence in program development, implementation, and evaluation. The project will be completed with graduate faculty approval and supervision. Prerequisite: EFN 736; completion of six hours of the required pedagogy core; candidacy approval; unconditional acceptance into the pedagogy track of the MS in ESS teaching program. Offered Occasionally.

ESS 747 Cr.3
Advanced Principles of Athletic Performance Enhancement
This course provides advanced concepts of training and conditioning for both athletes and other populations. It includes applicable and practical information for developing conditioning programs for speed, strength, endurance, and power. This course is ideal for future professionals such as athletic coaches, strength and conditioning coaches, personal trainers and those planning to become strength and conditioning professionals. Prerequisite: ESS 767. Offered Summer.

ESS 748 Cr.3
Sports Performance Practicum
This practicum course is designed to give the graduate students interested in strength and conditioning of athletes practical experience in two primary areas: 1) the development and delivery of sport-specific strength and conditioning training programs to improve athletic performance; and 2) measurement of performance related to strength and conditioning of athletes. Offered Fall.

ESS 749 Cr.3
Psychological Aspects of Sports
Examines the developmental, personal, social and psychological aspects of sport performance. Special attention is given to psychological factors such as activation, aggression, anxiety, affiliation, motivation, personality, and performance variables. Prerequisite: admission to an ESS MS Program. Offered Spring.
ESS 750 Cr.3
Mechanics and Analysis of Movement
This course is designed to provide a mechanical understanding of the human body in motion. Mechanical principles, laws, and equations will be studied and applied to human movement in exercise and sport activities. Quantitative analysis techniques will be introduced and biomechanical assessment of various exercises and sports will be performed. Prerequisite: ESS 303 or equivalent; MTH 151 or equivalent. Offered Spring.

ESS 751 Cr.3
Advanced Biomechanics
This course is designed to teach proficiency in quantifying and analyzing human movement activities. Advanced techniques in videography and force-plate analysis will be covered. Utilization of biomechanical techniques for research activities will be a primary focus. Prerequisite: ESS 750. Concurrent enrollment in ESS 761 recommended. Offered Occasionally.

ESS 752 Cr.3
Assessment of Physical Education and Athletics
This course is designed for practitioners in the field of physical education and athletics. Students will learn to utilize assessment strategies and data to improve instruction and program effectiveness. Emphasis on the use of assessment data to document effectiveness and increase accountability of physical education and athletic programs. Prerequisite: ESS 321 or equivalent. Offered Spring.

ESS 753 Cr.2-3
Problems in Physical Education
Provides an opportunity to investigate and to attempt solution of a professional problem in one of the following areas: 1) athletics; 2) recreation; 3) health education; 4) dance; 5) physical education. Designed primarily for experienced teachers. Repeatable for credit - can repeat the course once. Offered Occasionally.

ESS 754 Cr.3
Sport Marketing
Principles of marketing theory and practice in the sport industry to include public relations, promotions, special events, fund raising, and media. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Spring.

ESS 755 Cr.1-3
Practical Experience in Sport Administration
This course will provide the student with hands-on, practical management experience prior to the ESS 788 Internship in Sport Administration. Experiences can include, but are not limited to, games and event management, personnel management, marketing and promotions, budget maintenance and fund raising. The student will be required to do 65 hours of work per credit under the direct supervision of the university personnel or a practitioner in the field. A written proposal describing the project and practicum outcomes must be approved by the supervisor and program director prior to the start of the experience. Students may not receive academic credit for experiences that are considered part of their normal professional workload or graduate assistantship responsibilities. Repeatable for credit - maximum six. Offered Fall, Spring.

ESS 759 Cr.3
Analysis and Supervision of Physical Education
Designed to present current research related to effective teaching in physical education, provide quantitative and qualitative techniques to gather information about and analyze teaching, and to apply the principles of clinical supervision in physical education for the improvement of instruction. Additional emphasis will also be given to the personal assessment of teaching and the need for and characteristics of effective staff development activities. Offered Fall.

ESS 760 Cr.3
Issues in Sport Management
This course is designed to provide the learner the opportunity to study specific problems in the field of sport management, and to analyze the constantly changing areas of sport management through lectures, readings, visual aids, discussion, and student investigation. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Spring.

ESS 761 Cr.2
Lab Techniques in Human Performance-Biomechanics
This course provides a variety of hands-on experiences in biomechanical testing procedures. Students will be introduced to a variety of testing procedures utilized in collecting kinematic, and neuromuscular data. Special techniques of data processing will also be discussed. Prerequisite: ESS 750 or concurrent enrollment. Offered Occasionally.

ESS 762 Cr.2-3
Lab Techniques in Human Performance-Exercise Physiology
Development of skills and experience (in the area of exercise physiology) necessary for data collection in laboratory and field settings, special techniques of data acquisition, processing, analyzing and interpretation of results using available experimental equipment and methods. Repeatable for credit - maximum three. Prerequisite: ESS 767 or ESS 770. Offered Spring.

ESS 763 Cr.2
Lab Techniques/Human Performance-Motor Learning
Development of skills and experience (in the area of motor learning) necessary for data collection in laboratory and field settings, special techniques of data acquisition, processing, analyzing and interpretation of results using available experimental equipment and methods. Prerequisite: ESS 768 or concurrent registration; graduate student in ESS MS Program. Offered Spring.

ESS 765 Cr.2-3
Adventure Education for Physical Educators
This course focuses on methods, safety, research, and management of adventure education programs and initiative games in the physical education curriculum. Implementation of adventure activities with different age groups and diverse populations in physical education programs will be emphasized, as well as the principles and challenges of teaching adventure education. The use of unique environments such as ropes courses and climbing walls will be included. Repeatable for credit - maximum three. Offered Fall.

ESS 766 Cr.3
Sport and Society
An examination of American culture and the role played in it by sports. Areas which will come under scrutiny are: the family, labor, industry, schools, churches, communication media, population mobility, government, race relations, foreign relations, war activities, and democracy as they are related to sports in America. Prerequisite: admission to ESS Sport Administration MS Program or consent of program director. Offered Spring.

ESS 767 Cr.3
Applied Physiology of Endurance Performance
Designed to teach the physiological responses and adaptations to training and performance of endurance sports. Emphasis is on the metabolic, cardiovascular, and respiratory systems. Environmental concerns will also be addressed. Prerequisite: ESS 302 or equivalent. Offered Fall.

ESS 768 Cr.3
The Psychomotor Basis of Skill Performance
Integration of thought processes with the physical organism to produce highly skilled acts. Offered Fall.
ESS 780 Cr.2
**Philosophy and Organization of Preventive and Rehabilitative Programs**
This course focuses on the historical background, documented benefits, and organizational issues in both conventional and innovative approaches to prevention and rehabilitation programs. The course will ultimately address both the why and how of clinical exercise and risk factor reduction programs. Offered Spring.

ESS 782 Cr.3
**Electrocardiography**
Course is designed to instruct the student in the basics of the normal, the abnormal resting and the exercise electrocardiogram. Involves lecture experiences and intensive investigation of documented ECG-GXT case studies. Offered Summer.

ESS 783 Cr.3
**Graded Exercise Testing and Exercise Prescription**
This course is designed to provide students with the theoretical and practical knowledge necessary to conduct and interpret the wide variety of diagnostic exercise tests commonly used in clinical practice. Additionally, students will be able to formulate, based on test results, appropriate exercise prescriptions for healthy adults, as well as patients with a wide variety of chronic diseases. A major goal of the course is to provide students with the knowledge and practical skills required to take the American College of Sports Medicine Registered Clinical Exercise Physiologist certification examination. Prerequisite: ESS 782. Offered Spring.

ESS 785 Cr.5
**Internship: Clinical Exercise Physiology**
Designed to provide the student with practical work experience in an adult fitness (YMCA/corporate environment) or clinical setting. The internship is three months in duration and all course work and thesis requirements must be completed prior to the beginning of the internship. Prerequisite: open only to students in the ESS Clinical Exercise Physiology MS Program. Offered Fall, Spring, Summer.

ESS 786 Cr.1
**Advanced Cardiac Life Support (ACLS)**
An in-depth study and the development of understanding and skills of Advanced Cardiac Life Support (ACLS). Successful completion of the course and passing the ACLS exam results in the student being ACLS certified. Prerequisite: ESS 782. Offered Fall.

ESS 787 Cr.1-3
**Clinical Internship in Adapted Physical Education**
Students complete clinical experiences in adapted physical education settings. Students are required to complete three different clinicals. Each experience is one semester and for one credit hour. Clinical experiences may include infant (0-2 years) stimulation programs, preschool or early childhood programs, motor development and physical fitness programs for persons with disabilities, and school-based adapted physical education programs. Three credits of internship are required in the adapted physical education emphasis of the graduate Physical Education Teacher Education Program. Repeatable for credit - maximum three. Prerequisite: admission to ESS Physical Education Teacher Education MS Program. Offered Fall, Spring, Summer.
ESS 788 Cr.6
**Internship in Sport Administration**
Designed to provide students with an intensive supervised sport administration work experience. The internship must be at least three consecutive months (40 hours per week). Only approved sites can be used for internships. Prerequisite: open only to students in ESS Sport Administration MS Program who have completed all required course work for the degree. Offered Fall, Spring.

ESS 789 Cr.3
**Internship: Human Performance**
A practical learning experience designed to apply the competencies gained within the human performance emphasis in a community, institutional or industrial setting. Each intern will earn three elective credits for a mutually agreed upon time period, consistent with the policies of the university and the internship site. All other course work shall be completed prior to the internship experience. Repeatable for credit - maximum six. Offered Fall, Spring, Summer.

ESS 790 Cr.2
**Supervision and Administration of Adapted Physical Education**
Designed to provide the student with the skills and knowledge to conduct and/or administer staff planning, program critiques, staff management, program coordination, IEP material least restrictive placement, and in-service training for a special (adapted) physical education program. Offered Occasionally.

ESS 792 Cr.1-3
**Seminar in Adapted Physical Education**
The course is designed to provide in-depth analysis of topics and issues in adapted physical education. During each semester, selected topics will be highlighted for analysis. Students will be provided with guest lectureships from professionals in the selected areas and will engage in information sharing and critical analysis of issues based upon outside readings. Repeatable for credit - maximum three. Offered Summer.

ESS 793 Cr.2
**Motor Development Issues in Adapted Physical Education**
Growth and development issues concerning motor skill acquisition for adapted physical educators. Examination of embryology, normal growth expectations, developmental sequences of fundamental skills, various motor development concepts, Dynamical Systems Model, and abnormal motor development. Offered Occasionally.

ESS 794 Cr.1-3
**Readings in Sports Psychology**
A survey and analysis of current and classical literature pertaining to the area of sport psychology in human performance. Readings will include both assigned and student selected materials for the purpose of student presentation to and discussion with the assigned instructor. Prerequisite: ESS 749; graduate student in ESS MS Program. Offered Fall, Spring.

ESS 795 Cr.1-6
**Research: Master's Thesis**
An independent research project is to be selected and executed under the direction of a staff member by those students electing to write a thesis. The project may be in any of the areas related to physical education, such as health, recreation, or athletics. For students following Plan A - Thesis option. Repeatable for credit - maximum 10. Offered Fall, Spring, Summer.