ESS - Clinical Exercise Physiology Graduate Program

Clinical Exercise Physiology Program
Director: John Porcari
141 Mitchell Hall; 608.785.8684
Email: jporcari@uw lax.edu

www.uwlax.edu/grad/clinical-exercise-physiology/

The Master of Science in Clinical Exercise Physiology Program is a 46-credit program that provides the theoretical, laboratory, research and clinical experiences necessary for a career in a cardiopulmonary rehabilitation setting. Each year’s class (15 students) entering the four-semester program - summer, fall, spring, summer - receives practical, hands-on experience in Phases I and II cardiac rehabilitation, as well as graded exercise testing, in cooperation with area hospitals and clinics. In addition, students participate in the on-campus La Crosse Exercise and Health Program (LEHP), which provides adult fitness, Phases III and IV cardiac rehabilitation programming, and health and nutrition services to over 300 participants each week. The required internship - three months during the last semester - presents opportunities for further experience at a site of the student’s choosing. The completion of a thesis project is required before the student is allowed to begin the internship.

Degree candidates typically have an undergraduate degree in physical education, fitness, exercise science, or other allied health related fields such as biology, health education, nursing, or physical therapy. A minimum undergraduate grade point average of 3.00 is required for admission. Application deadline is February 1 of each year.

Graduates are prepared to:

- Conduct graded exercise tests
- Design exercise programs for healthy and diseased populations
- Organize and administer adult fitness, corporate fitness, and cardiopulmonary rehabilitation programs

Graduates are employed in:

- Colleges and universities
- Adult fitness centers (public, private, and corporate)
- Clinic, hospital, and "free standing" rehabilitation facilities
- Sports medicine centers

Graduate degree

- Clinical exercise physiology - MS (http://catalog.uwlax.edu/graduate/programrequirements/clinicalexercise physiology/clinical-exercise-physiology-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 NATA (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 NATA (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 how 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 769 Cr.3
**Application of Muscle Physiology to Strength/Power Training**
This course is designed to apply the training for strength and power muscular performance to teach skeletal muscle physiology in a classroom setting. The ability to regulate force and power production and muscle metabolism during strength power training will be studied. Application to common training practices including strength training, plyometrics, and sprint training and adaptations to such training highlight this course. Prerequisite: undergraduate human anatomy and physiology course; exercise physiology course; ESS 767 or ESS 770 recommended. Offered Spring.

ESS 770 Cr.3
**Physiology of Activity**
Designed to provide the student with a general overview of the physiological basis of activity with an emphasis on those factors affecting performance in healthy individuals. Prerequisite: ESS 302 or equivalent. Offered Fall.

ESS 771 Cr.2-3
**Current Issues in Physical Education**
Identification of current trends and issues in physical education. Emphasis on development of methods for resolving issues. Opportunities for the student to pursue professional issues of current interests will be encouraged. Repeatable for credit with program director permission - maximum six. Offered Summer.

ESS 774 Cr.2
**Clinical in Phase I and Phase II Cardiac Rehabilitation**
This course is designed to provide hands-on experiences in Phases I and II cardiac rehabilitation, pulmonary rehabilitation and cardiac related co-morbidities in local hospitals. Additional activities will include two regional field trips to observe existing programs in progress. Prerequisite: open only to students in the ESS Clinical Exercise Physiology MS Program. Offered Fall, Spring.

ESS 776 Cr.3
**Clinical in Adult Fitness/Phase III Cardiac Rehabilitation**
This course is designed to provide students with hands-on experiences in exercise prescription, exercise leadership, and patient counseling in health and fitness programs for apparently healthy adults and maintenance (Phase III) cardiac rehabilitation participants. Repeatable for credit - maximum nine. Offered Fall, Spring, Summer.

ESS 777 Cr.2
**Seminar in Adventure/Outdoor Physical Education**
In-depth examination of educational research in adventure education. Emphasis will be placed on using research to solve current problems, examining trends and contemporary issues in K-12 adventure programs. Reviewing research and using findings to solve problems in the public school setting will be stressed. Offered Fall.

ESS 778 Cr.2
**Practicum in Adventure Education**
This practicum will provide students with experiences in field based (authentic) leadership and teaching situations in a field setting with public school programs. Emphasis will be on planning and developing outdoor physical education programs in conjunction with public/private K-12 programs. Consent of instructor. Offered Spring.

ESS 779 Cr.1-3
**Readings in Special Physical Education**
An in-depth analysis of the literature in a chosen topic pertaining to adapted physical education. Readings will include both assigned and student selected materials. In addition, there will be periodic discussions with the instructor and an agreed upon terminal assignment. Repeatable for credit - maximum three. Prerequisite: ESS 430/530, ESS 436/536, and ESS 792. Offered Fall, Spring.
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.1-3
**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.

ESS 797 Cr.1-3
**Readings in Exercise Physiology**
A survey and analysis of current and classical literature pertaining to the area of exercise physiology 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 767 or ESS 770. Offered Fall, Spring.

ESS 798 Cr.1-3
**Readings in Motor Learning**
A survey and analysis of current and classical literature pertaining to the area of motor learning 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 768; graduate student in ESS MS Program. Offered Fall, Spring.

ESS 799 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.