

# EXERCISE AND NUTRITION SCIENCES

The School of Exercise and Nutrition Sciences prepares students to become competent, dynamic, and responsible professionals in their chosen fields. The school's graduate programs are designed to maximize relevancy for students as they pursue their career goals. Faculty are focused on engaging students in innovative instruction and providing individualized mentoring.

Visit the School of Exercise and Nutrition Sciences website (<https://www.uakron.edu/sens/>) to learn more about its faculty and facilities.

- Dietetics Graduate Program, MPH (<https://bulletin.uakron.edu/graduate/colleges-programs/health-professions/sport-science-wellness-education/dietetics-graduate-program-mp/>)
- Exercise Physiology, MS (<https://bulletin.uakron.edu/graduate/colleges-programs/health-professions/sport-science-wellness-education/physical-education-exercise-physiology-adult-fitness-ms/>)
- Physical Education, Sport Science/Coaching, MS (<https://bulletin.uakron.edu/graduate/colleges-programs/health-professions/sport-science-wellness-education/physical-education-sport-science-coaching-ms/>)

## Exercise Science/Exercise Physiology (EXER)

### EXER 500 Musculoskeletal Anatomy I: Upper Extremity (3 Units)

Prerequisites: BIOL 200, BIOL 201, BIOL 202, BIOL 203 and EXER 201. Designed to address the upper portions of the musculoskeletal system in comprehensive detail. Includes articulations, cytology, histology, and neurological integration with lab and practical experiences. (Formerly 5550:500)

### EXER 501 Musculoskeletal Anatomy II: Lower Extremity (3 Units)

Prerequisites: BIOL 200, BIOL 201, BIOL 202, BIOL 203 and EXER 201. Designed to address the lower portions of the musculoskeletal system in comprehensive detail. Includes articulations, cytology, histology, and neurological integration with lab and practical experiences. (Formerly 5550:501)

### EXER 505 Advanced Strength and Conditioning (3 Units)

This course teaches strength and conditioning programs design for heterogeneous populations. The course covers high-level sport specific exercise prescriptions that aids injury prevention and performance enhancement. (Formerly 5550:505)

### EXER 518 Cardiorespiratory Function (3 Units)

This course is designed to study the normal structure and function of the respiratory system and how it is affected by different types of disease. (Formerly 5550:518)

### EXER 526 Nutrition for Sports (3 Units)

This course will provide an explanation of the consumption, absorption, and recommendation for diet of athletes and the physically active individual. (Formerly 5550:526)

### EXER 538 Cardiac Rehab Principles (3 Units)

This course will teach students the core competencies for cardiac rehab professionals, based upon the American Association of Cardiovascular and Pulmonary Rehabilitation Specialists (AAVCP). (Formerly 5550:538)

### EXER 540 Injury Management for Teachers & Coaches (2 Units)

This course challenges the graduate student to understand ways to provide and care for the safety of individual they teach. (Formerly 5550:540)

### EXER 541 Advanced Athletic Injury Management: Upper Extremity (4 Units)

Prerequisites: BIOL 200, BIOL 201, BIOL 202, BIOL 203 and EXER 240. This course is designed to cover recognition, evaluation, and rehabilitation of upper extremity injuries as well as general medical pathologies of the upper extremity. (Formerly 5550:541)

### EXER 565 Psychology of Injury Rehabilitation (2 Units)

Prerequisites: BIOL 200, BIOL 201, BIOL 202, and BIOL 203. This course will address the cognitive and affective aspects of injury and rehabilitation of injury. Specifically the stages of rehabilitation and techniques to aid in the rehabilitation process. (Formerly 5550:565)

### EXER 570 Orthopedic Injury and Pathology (3 Units)

Prerequisites: BIOL 200, BIOL 201, BIOL 202, and BIOL 203. This course will discuss common musculoskeletal pathology and surgical procedure associated with a physically active population. (Formerly 5550:570)

### EXER 600 Biomechanics Applied to Sport and Physical Activity (4 Units)

Training future professionals in an integrated approach to qualitative diagnosis of motor skills for a variety of professional settings. Required clinical/field experiences. (Formerly 5550:600)

### EXER 605 Physiology of Muscular Activity & Exercise (3 Units)

Functions of body systems and physiological effects of exercise. Laboratory experiences, lectures, discussions. (Formerly 5550:605)

### EXER 606 Statistics: Quantitative & Qualitative Methods (3 Units)

Prerequisite: EDFN 640. Research methods/designs, statistics (application and interpretation), use of computers and appropriate software as they relate to various disciplines in the area of physical activity. (Formerly 5550:606)

### EXER 607 Health Behavior Change: Theory to Practice (3 Units)

This course provides an overview of the CAAHEP performance domains and associated competencies related to behavioral strategies for exercise/physical activity adoption, adherence and maintenance. This course prepares students to assess client readiness to change behavior, and to recommend strategies for behavior modification based on fitness level, disease status, and client goals. (Formerly 5550:607)

### EXER 611 Health & Wellness Coaching (4 Units)

Prerequisite: Permission of department. This course meets the National Board of Health & Wellness Coaching's (NBHWC) published standards for health and wellness coach training programs and meets partial requirements for national certification exam eligibility. The course will facilitate the development of skills in coaching techniques based on behavior change theories and models, including establishing a positive client-centered approach, exploring client values and strengths, and cultivating client's intrinsic motivation to make lasting lifestyle changes.

### EXER 612 General Medical Aspects (3 Units)

This course covers topics relevant to students who are preparing to be health care practitioners of physically active individuals. The course material covers common systemic disease pathology including characteristics of diseases, diagnostic and laboratory testing, and clinical decision making tools with respect to general medical conditions. The material is presented in a systematic manner using a problem-based learning approach. Students will gain clinical reasoning and problem solving skills with course activities such as labs, speaker presentations, simulation activities, and research. (Formerly 5550:612)

**EXER 615 Exercise Pathophysiology (3 Units)**

This course prepares students for theoretical and practical aspects of applying physical activity as therapeutic exercise for a wide array of conditions and diseases. Course content explores the epidemiology, etiology, pathophysiology, disease implications and therapeutic interventions of cardiovascular, pulmonary, metabolic, immunological, neuromuscular, psychological, sensory and cognitive disorders consisting of both classroom lectures and hands-on laboratory skills. Course material will cover performance domain standards and guidelines aligning with the recommendation of the CAAHEP Committee on Accreditation for Exercise Sciences (CoAES) to prepare students for the Exercise Physiology profession. Focus on clinical contraindications and safety precautions for each disease and illness will be highlighted. The course is designed to provide the student with understanding of the pathophysiology and exercise responses in these populations in preparation for professional work in the community as an applied or clinical exercise physiologist. (Formerly 5550:615)

**EXER 618 Clinical Exercise Testing & Prescription (3 Units)**

This course provides the framework to prepared both the Applied and Clinical Exercise Physiologists for theoretical and practical aspects of fitness assessments, evaluations, testing and prescription. Students will become competent in electrocardiography interpretation and exercise testing protocols. This course will cover performance domain standards and guidelines aligning with the recommendation of the CAAHEP Committee on Accreditation for Exercise Sciences (CoAES) to prepare students for the Exercise Physiology profession. (Formerly 5550:618)

**EXER 620 Laboratory Instrumentation Techniques in Exercise (3 Units)**

This is a course designed to provide hands-on laboratory experiences for students in the area of exercise science. (Formerly 5550:620)

**EXER 680 Special Topics in Health & Physical Education (2-4 Units)**

(May be repeated) Prerequisite: permission of instructor. Group study of special topics in health and physical education and sports medicine. (Formerly 5550:680)

**EXER 680-1 Coaching and Leadership Development (2-4 Units)**

Prerequisite: permission of instructor. The purpose of the course is to provide the students with resources to help better their leadership skills, coaching practices, and interaction with individuals in a sports setting. Students should gain a better understanding of why they coach, how they coach, strategies to help build a better team environment, and other coaching strategies and tools.

**EXER 680-2 Art of Communication (2-4 Units)**

Prerequisite: permission of instructor. This course will discuss the need for communication skills. Students will examine methodologies and practical means of positive and effective communication skills within their sport programs.

**EXER 695 Field Experience: Masters (1-6 Units)**

Prerequisite: permission of advisor. Participation in a work experience related to physical education. The experience may not be part of current position. Documentation of project required. (Formerly 5550:695)

**EXER 697 Independent Study: Physical Education (1-3 Units)**

Prerequisite: Permission of advisor. In-depth analysis of current practices or problems related to physical education. Documentation of the study required. (Formerly 5550:697)

**EXER 698 Masters Problem (2-4 Units)**

Prerequisite: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in physical education. (Formerly 5550:698)

**EXER 699 Masters Thesis (4-6 Units)**

Prerequisite: permission of advisor. In-depth research investigation. Student must be able to demonstrate necessary competencies to deal with a research problem in physical education. (Formerly 5550:699)

## Physical Education (PHED)

**PHED 528 Nutrition for Teachers and Coaches (3 Units)**

Covers nutritional basics and current topics related to teaching physical education/health and coaching athletes. (Formerly 5550:528)

**PHED 536 Foundations & Elements of Adapted Physical Education (3 Units)**

Principles, components, and strategies necessary in providing motor activities for handicapped students via application of a neuro-developmental model and alternative methods. Three hour lecture. (Formerly 5550:536)

**PHED 546 Instructional Techniques in Secondary Physical Education (3 Units)**

Instructional strategies for secondary physical education. The course content is to improve the teaching skills of students who will be teaching physical education at the secondary level. It is a required course for the physical education licensure. (Formerly 5550:546)

**PHED 547 Instructional Techniques for Children in Physical Education (3 Units)**

Instructional strategies for elementary physical education. The course content is to improve the teaching skills of students who will be teaching physical education for children. It is a required course for the physical education licensure. (Formerly 5550:547)

**PHED 550 Organization & Administration of Physical Education, Intramurals and Athletics (3 Units)**

General concepts of administration and organization in physical/health education, intramural, and athletic programs. (Formerly 5550:550)

**PHED 552 Foundations of Sport Science, Physical and Health Education (3 Units)**

Overview of the emergence of sport science, physical and health education as a profession and the supporting role of underlying scholarly and scientific disciplines. (Formerly 5550:552)

**PHED 562 Legal Aspects of Physical Activity (2 Units)**

Overview legal and ethical elements of greatest concern to specialists in sport and physical activity. Cases used to illustrate specific points. Topics vary. (Formerly 5550:562)

**PHED 590 Workshop: Physical Education (1-3 Units)**

Practical, intensive, and concentrated involvement with current curricular practices in areas related to physical education. (Formerly 5550:590)

**PHED 592 Workshop: Physical Education (1-3 Units)**

Practical, intensive, and concentrated involvement with current curricular practices in areas related to physical education. (Formerly 5550:592)

**PHED 594 Student Teaching Colloquium (for Master's Plus Initial Lic.) (2 Units)**

Prerequisites: required physiological foundations courses, required historical/philosophical foundations courses, required program studies courses. Corequisite: PAUS 595. Students who have a bachelor's degree but no teaching licensure and who are completing the master's plus initial licensure program will meet while completing student teaching to discuss concerns about the student teaching experience, to analyze previous learning as it relates to this and future teaching. (Formerly 5550:594)

**PHED 595 Practicum: Student Teaching (8 Units)**

Prerequisites: Core courses and program studies courses, each with a 2.5 grade point average. Corequisite: PAUS 594. Student teaching for 16 weeks in primary and secondary school settings. (Formerly 5550:595)

**PHED 610 Mastering Teaching and Coaching (3 Units)**

To learn about becoming master teachers and coaches, students will apply effective teaching skills, focus on context, and reflect on the teaching/coaching process. Additional 10 clinical/field hours required. (Formerly 5550:610)

**PHED 611 Research & Analysis of Effective Teaching in P.E. (3 Units)**

For the new professional, this course concentrates on research and analysis of skills and professional competencies needed to become an effective teacher of physical education. (Formerly 5550:611)

**Sport Studies/Sport Science (SPRT)****SPRT 510 Intro: Sport Sociology (3 Units)**

Provides information to students about the sociological aspects of sport. (Formerly 5550:510)

**SPRT 522 Sport Planning/Promotion (3 Units)**

Analysis of marketing/promotions from a sport manager's perspective. Emphasis on marketing strategy, tactics and development in sport delivery systems. (Formerly 5550:522)

**SPRT 524 Sports Leadership (3 Units)**

Introduces students to current issues related to leadership, management, and supervision. Examines current sport leadership research and governance structure of amateur and professional sport organizations. (Formerly 5550:524)

**SPRT 553 Principles of Coaching (3 Units)**

Basics for becoming a successful coach. Discussion of principles applying to most sports, players and coaches. (Formerly 5550:553)

**SPRT 601 Sports Administration & Supervision (3 Units)**

Organizational and administrative efficiency in implementing sports programs (event management, budgeting, public relations); objective and effective procedures for evaluation/selection of personnel; periodic program reviews. (Formerly 5550:601)

**SPRT 602 Motor Behavior Applied to Sports (3 Units)**

Coaching education principles related to motor development and motor skill learning. Focus on effective practices for learning and advanced skills teaching for coaches. (Formerly 5550:602)

**SPRT 603 Tactics & Strategies in the Science of Coaching (3 Units)**

Course focuses on coaching and teaching the skills, tactics, and strategies in individual and team sports. (Formerly 5550:603)

**SPRT 604 Current Issues in Sport and Physical Education (3 Units)**

This course represents a planned experience in interpretation and articulation of information within the context of selected issues in sport. (Formerly 5550:604)

**SPRT 609 Motivational Aspects of Physical Activity (3 Units)**

Analysis of factors influencing motivation of motor performance with emphasis on competition, audience effects, aggression. (Formerly 5550:609)

**SPRT 630 Business of Sport (3 Units)**

The focus of this course is related to the important knowledge that administrators should have related to the sport business field. (Formerly 5550:630)