

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.

- Athletic Development, Certificate (<https://bulletin.uakron.edu/graduate/colleges-programs/health-professions/sport-science-wellness-education/athletic-development-certificate/>)
- Dietetics Graduate Program, MPH (<https://bulletin.uakron.edu/graduate/colleges-programs/health-professions/sport-science-wellness-education/dietetics-graduate-program-mph/>)
- Exercise Physiology, MS (<https://bulletin.uakron.edu/graduate/colleges-programs/health-professions/sport-science-wellness-education/physical-education-exercise-physiology-adult-fitness-ms/>)
- Health and Wellness Coaching, Certificate (<https://bulletin.uakron.edu/graduate/colleges-programs/health-professions/sport-science-wellness-education/health-and-wellness-coaching-certificate/>)
- 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 (AAVCPR). (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 and 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 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)

Nutrition and Dietetics (NUTR)

NUTR 500 Nutrition Communication & Education Skills (4 Units)

Prerequisite: permission of instructor. Theory and development of communication and education skills essential to dietetics practice; interpersonal communication; interviewing; nutrition counseling, education techniques, media and current technology. (Formerly 7760:500)

NUTR 503 Advanced Food Preparation (3 Units)

Prerequisite: permission. Study of advanced techniques of food preparation. Introduction to and interpretation of classical and foreign cuisines. Emphasis on individualized experience, skill development and evaluation of procedures and results. (Formerly 7760:503)

NUTR 513 Food Systems Management II (3 Units)

Prerequisites: Acceptance into the graduate program or permission of the instructor. Advanced concepts in management of dietetic service systems relating to achievement of nutritional care goals. (Formerly 7760:513)

NUTR 524 Nutrition in Life Cycle (3 Units)

Prerequisite: permission of the instructor. Study of the physiological basis for nutritional requirements; interrelating factors which affect growth, development, maturation and nutritional status from conception through the elderly years. (Formerly 7760:524)

NUTR 526 Human Nutrition (3 Units)

Prerequisites: Acceptance into the graduate program or permission from the instructor. Corequisites: NUTR 543. Application of principles of nutrition, metabolism and assessment. Analysis and interpretation of current literature. (Formerly 7760:526)

NUTR 528 Nutrition in Medical Science II (5 Units)

Prerequisites: Acceptance into the graduate program or permission of instructor. Emphasizing nutritional implications of more complex metabolic and pathological conditions as well as nutrition support strategies. (Formerly 7760:528)

NUTR 529 Supervised Experiential Learning in Nutrition (3 Units)

Prerequisites: NUTR:624 and NUTR:616. Clinical experience in various clinical nutrition sites; application of principles of nutritional care. (Formerly 7760:529)

NUTR 543 Nutrition Assessment (3 Units)

Corequisites: NUTR 526. Application of principles of nutrition and assessment. Analysis and interpretation of current literature. Open to dietetics majors only. (Formerly 7760:543)

NUTR 544 Supervised Experiential Learning in Long Term Care (3 Units)

Prerequisites: NUTR:624 and NUTR:616. Clinical and foodservice experiences in long term care facilities for application of principles of nutritional care and foodservice management. (Formerly 7760:544)

NUTR 570 Food Industry: Analysis & Field Study (3 Units)

Prerequisite: permission. Role of technology in extending the food supply. Chemical, physical and biological effects of processing and storage, on-site tours of processing plants. (Formerly 7760:570)

NUTR 574 Cultural Dimensions of Food (3 Units)

An examination of cultural, geographical and historical influences on development of food habits. Emphasis on evolution of diets; effects of religion, education, gender roles, media. (Formerly 7760:574)

NUTR 576 Developments in Food Science (3 Units)

Prerequisite: Permission. Advanced study of the chemistry and physics of food components affecting characteristics of foods. Critical evaluation of current basic and applied research emphasized. (Formerly 7760:576)

NUTR 580 Community Nutrition (3 Units)

Socio-cultural aspects of community assessment, program implementation and evaluation, and rationales for nutrition services. (Formerly 7760:580)

NUTR 581 Community Nutrition I-Clinical (1 Unit)

Corequisite: NUTR 580. Field placement in area agencies offering nutrition services. Study of the agency's goals, organization, and philosophy of nutritional care. Credit/noncredit. (Formerly 7760:581)

NUTR 582 Community Nutrition II (3 Units)

Prerequisites: NUTR 580 (NUTR 581 for CP student only). Corequisite: NUTR 583 for CP student only. This course will focus on managing nutrition services for productivity (economic, community and labor resources, and evaluation), and educating the dietitians' 'various publics' about nutrition. (Formerly 7760:582)

NUTR 583 Supervised Experiential Learning in the Community (3 Units)

Prerequisites: NUTR:624 and NUTR:616. Field placement in area agencies offering nutrition services. Study of the agency's goals, organization, and philosophy of nutritional care. (Formerly 7760:583)

NUTR 585 Seminar in Health Professions (1-3 Units)

Prerequisite: Permission of instructor. Exploration and evaluation of current developments in selected areas. (Formerly 7760:585)

NUTR 587 Sports Nutrition (3 Units)

Prerequisite: Permission of instructor. In-depth study of energy metabolism and utilization before, during and after exercise. Factors affecting nutrient needs and peak performance of different athletic populations are emphasized. (Formerly 7760:587)

NUTR 588 Practicum in Dietetics (1 Unit)

Prerequisites: NUTR 529, NUTR 580, NUTR 610, NUTR 616, and NUTR 624. Practical experience in application of the principles of nutrition. (Formerly 7760:588)

NUTR 589 Professional Preparation for Dietetics (1 Unit)

Prerequisite: Open to those dietetics students in the Didactic Program or Graduate program who plan to apply for a Dietetic Internship. Historical aspects of dietetics and where the profession is going. Specialty areas of dietetic practice are explored. Students prepare the application for dietetic internship. (Formerly 7760:589)

NUTR 593 Nutrition for Athletes (3 Units)

Study of metabolism before, during, and after exercise. Factors affecting nutrient needs and peak performance of different athletic populations are emphasized. (Formerly 7760:593)

NUTR 604 Orientation to Graduate Studies in Health Professions (1 Unit)

Introduction to the concepts and processes necessary for graduate study in health professions. (Formerly 7760:604)

NUTR 610 Food Systems Management (3 Units)

Theoretical concepts in the management of dietetic food service systems, and application of principles and procedures to achieve nutritional goals. (Formerly 7760:610)

NUTR 616 Clinical Nutrition (3 Units)

Prerequisite: NUTR 624. Study of Medical Nutrition Therapy (MNT) and its relationship to metabolic and pathological conditions, as well as nutrition support strategies. (Formerly 7760:616)

NUTR 624 Advanced Human Nutrition (3 Units)

Prerequisites: Undergraduate or graduate-level courses in nutrition and biochemistry. In-depth study of human nutrition emphasizing metabolism physiological functions, and interrelationships of carbohydrate, protein and lipids and the determinants of human energy requirements. (Formerly 7760:624)

NUTR 625 Advanced Human Nutrition II (3 Units)

Prerequisite: NUTR 624 or equivalent. In-depth study of human nutrition with and emphasis in the utilization, physiological functions and interrelationships of vitamins and minerals. (Formerly 7760:625)

NUTR 680 Current Issues in Nutrition (3 Units)

Study of current issues in the field of nutrition science. Each semester that it is offered, this course will explore a specific issue relevant to current research and practice in the field of nutrition as it relates to biology, immunology, applied nutrition, and epidemiology. (Formerly 7760:680)

NUTR 685 Research Methods in Health Professions (3 Units)

A study of health sciences research methods emphasizing concept and theory development, quantitative and qualitative methodologies. (Formerly 7760:685)

NUTR 688 Practicum in Nutrition and Dietetics (3 Units)

Prerequisites: NUTR:529, NUTR:544, NUTR:580, NUTR:610, NUTR:616, and NUTR:624. Practical experience in application of the principles of nutrition. (Formerly 7760:688)

NUTR 690 Thesis Research/Reading (3 Units)

Prerequisite: Permission of thesis advisor. Supervised reading and research related to approved thesis topic. May be repeated once. (Formerly 7760:690)

NUTR 694 Masters Project (5 Units)

Prerequisite: Permission of advisor. The development, implementation and evaluation of a community-based supervised project which makes a significant contribution to the field and may lead to publication. (Formerly 7760:694)

NUTR 696 Individual Investigation in Nutrition and Dietetics (1-3 Units)

Prerequisite: Permission of advisor. Individual Investigation and analysis of a specific topic in student's area of specialization of interest under direction of a faculty advisor. (Formerly 7760:696)

NUTR 699 Masters Thesis in Health Professions (5 Units)

Prerequisite: permission of advisor. Supervised research in a specialized area of the health profession which makes a contribution to the field and may lead to publication. (Formerly 7760:699)

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 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 600 Coaching and Leadership Development (3 Units)

This course will integrate leadership principles with coaching practices to enhance student understanding of coaching as a profession and a discipline. The course aims to equip students with the knowledge, skills, and values necessary to become ethical, effective, and reflective coaches who contribute positively to athlete development and the broader coaching profession.

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 Athlete Lifespan Development (3 Units)

Coaching education principles related to the application of motor behavior and motor skill learning in sport. Focus is on effective practices for learning, coaching and evaluating skills in sport at all levels of development. (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 Coaching (3 Units)

This course explores contemporary challenges and emerging trends in sport and coaching, examining their impact on athlete development, team dynamics, and organizational success. Students will engage in critical analysis of topics such as ethical dilemmas, technological advancements, and diversity in sports. Through case studies and discussions, the course prepares future leaders to navigate the complexities of modern sports environments. (Formerly 5550:604)

SPRT 605 Leadership in Athletics and Administration (3 Units)

This course is designed to provide students with a comprehensive understanding of the principles, theories, and practices essential for effective leadership in the fields of sport and athletics administration. This course explores the multifaceted roles of leaders within educational and athletic institutions, emphasizing the development of strategic leadership skills tailored to the unique demands of these settings.

SPRT 606 Support and Inclusion in Sport Disability (3 Units)

This course will introduce theory of remedial exercise, sport and individualizing of physical activities to meet the needs of the physically, mentally and emotionally disabled individuals. This course will provide students with experience and knowledge in assisting individuals with special needs by creating activities that are engaging and will enhance motor abilities for all.

SPRT 607 Athlete Performance and Well-Being (3 Units)

This course will investigate the interconnectedness of athletic performance and overall well-being by studying physical conditioning, mental health, nutrition strategies, recovery techniques, and lifestyle factors of the athlete.

SPRT 608 Sport Technology (3 Units)

Students will examine how technology enhances athletic performance, aids in injury prevention, and transforms sport management and fan engagement.

SPRT 609 Psychological Aspects of Sport (3 Units)

This course will review psychological components of physical activity and sport coaching. There will be a review of psychological mechanisms that influence healthy levels of physical activity and influence athletes positively. (Formerly 5550:609)

SPRT 610 Sport Programming and Supervision (3 Units)

This course will focus on improving organizational and administrative efficiency in sport programs. The course will emphasize event planning/management, budgeting, clinics, fundraising and public relations. It will also emphasize the development of effective procedures for personnel and program evaluation.

SPRT 611 Tactics and Strategies in Sport Coaching (3 Units)

This course is designed to provide an in-depth exploration of the changing landscape of coaching, with a specific focus on the tactics and strategies that drive success in coaching across diverse sports.

Training coaches to have an understanding of the important concepts, strategies, key pedagogical, physiological, and psychological concepts in teaching sport is crucial in the development of expert coaches and sport educators.

SPRT 680 Special Topics in Athletic Development and Coaching (3 Units)

Special topics in athletic development and coaching are presented. Special topics courses may be repeated with a change in topic for no more than 6 credits.