

EXERCISE AND REHABILITATIVE SCIENCES

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The Exercise and Rehabilitative Sciences Department is comprised of the undergraduate Exercise Science program, the graduate Master of Science in Athletic Training (<https://catalog.sru.edu/graduate/health-engineering-sciences/exercise-rehabilitative-sciences/athletic-training-ms/>) program, and the graduate Doctor of Occupational Therapy (<https://catalog.sru.edu/graduate/health-engineering-sciences/exercise-rehabilitative-sciences/occupational-therapy-dot/>) program.

Exercise Science Program Website URL (<https://www.sru.edu/academics/colleges-and-departments/ches/departments/exercise-science/>)

Exercise Science Program Fact Sheet URL (<https://www.sru.edu/documents/programs/factsheets/undergraduate/exsci-fs.pdf>)

Exercise Science Program Email: exercise.science@sru.edu

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Programs

All first-year students who enter SRU in the Summer and Fall terms of 2019 and after will follow Rock Studies. Students who entered SRU before Spring 2019 will follow Liberal Studies. All new transfer students beginning Summer 2019 and after will follow Liberal Studies. We anticipate that transfer students will begin to enter under Rock Studies during the Summer/Fall term of 2021.

Majors

- Exercise Science, Bachelor of Science (BS) (<https://catalog.sru.edu/undergraduate/health-engineering-sciences/exercise-rehabilitative-sciences/exercise-science-bs/>)
- Exercise Science, Bachelor of Science (BS) / Pre-Athletic Training (SRU) (3+2) (<https://catalog.sru.edu/undergraduate/health-engineering-sciences/exercise-rehabilitative-sciences/exercise-science-bs-pre-athletic-training/>)
- Exercise Science, Bachelor of Science (BS) / Pre-Athletic Training (SRU) (Traditional) (<https://catalog.sru.edu/undergraduate/health-engineering-sciences/exercise-rehabilitative-sciences/exercise-science-bs-pre-athletic-training-traditional/>)
- Exercise Science, Bachelor of Science (BS) / Pre-Occupational Therapy (SRU) (3+3) (<https://catalog.sru.edu/undergraduate/health-engineering-sciences/exercise-rehabilitative-sciences/exercise-science-bs-pre-occupational-therapy/>)
- Exercise Science, Bachelor of Science (BS) / Pre-Occupational Therapy (SRU) (Traditional) (<https://catalog.sru.edu/undergraduate/health-engineering-sciences/exercise-rehabilitative-sciences/exercise-science-bs-pre-occupational-therapy-traditional/>)
- Exercise Science, Bachelor of Science (BS) / Pre-Physical Therapy (SRU) (3+3) (<https://catalog.sru.edu/undergraduate/health-engineering-sciences/exercise-rehabilitative-sciences/exercise-science-bs-physical-therapy/>)
- Exercise Science, Bachelor of Science (BS) / Pre-Physical Therapy (SRU) (Traditional) (<https://catalog.sru.edu/undergraduate/health-engineering-sciences/exercise-rehabilitative-sciences/exercise-science-bs-physical-therapy-traditional/>)
- Exercise Science, Bachelor of Science (BS) / Pre-Physician Assistant (SRU) (3+2) (<https://catalog.sru.edu/undergraduate/health-engineering-sciences/exercise-rehabilitative-sciences/exercise-science-bs-pre-physician-assistant/>)
- Exercise Science, Bachelor of Science (BS) / Pre-Physician Assistant (SRU) (Traditional) (<https://catalog.sru.edu/undergraduate/health-engineering-sciences/exercise-rehabilitative-sciences/exercise-science-bs-pre-physician-assistant-traditional/>)

[engineering-sciences/exercise-rehabilitative-sciences/exercise-science-bs-pre-physician-assistant-traditional/](https://catalog.sru.edu/undergraduate/health-engineering-sciences/exercise-rehabilitative-sciences/exercise-science-bs-pre-physician-assistant-traditional/))

Courses

ERS 100 - Introduction to Exercise Science: Careers and Content

This course introduces students to the exercise science discipline and the numerous sub-disciplines of exercise science. Opportunities are provided to identify the various content areas of exercise science, characteristics of exercise science professionals and current trends in the field. Emphasis is placed on career planning and employment opportunities.

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Enrollment is limited to students with a major in Exercise Science.

ERS 101 - Applied Anatomy/Lab

This course focuses on the structure of the human body with emphasis on the musculoskeletal, cardiorespiratory, and nervous systems. The role of the musculoskeletal system in human movement is explored. Laboratory included.

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Enrollment is limited to students with a major in Exercise Science.

ERS 107 - Introduction to Athletic Training

Introduction to Athletic Training addresses the historical development of athletic training and the scope of present programs, including personnel, space and equipment, necessary supplies, conditioning, pharmacology, classification of sports injuries and tissue response to injuries.

Credits: 3

ERS 117 - Prevention and Emergency Care in Athletic Training

This course is designed to facilitate learning of the cognitive and psychomotor knowledge, skills and abilities utilized in prevention and emergency care in Athletic Training. This course integrates cognitive concepts into progressively higher functional and practical application.

Prerequisites: ERS 101^B and ERS 107^B

^B Requires minimum grade of B.

Credits: 3

Enrollment is limited to students with a program in Athletic Training.

Enrollment limited to students with department of Exercise & Rehabilitative Sci.

ERS 139 - University Seminar

University Seminar serves as the entry point to the Slippery Rock University general education program. With its strong faculty-student interaction, the course promotes intellectual inquiry, critical and creative thinking, and academic excellence. Through varied content, the course introduces students to academic discourse and information literacy while exploring topics such as diversity and inclusion and global awareness. This course will set students along the path to becoming engaged with issues and scholarship important to a 21st century education while they learn about themselves and their place in the world.

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Enrollment limited to students with a semester level of Freshman 1 or Freshman 2.

Enrollment limited to students with the ROCK STUDIES STUDENT attribute.

ERS 190 - Experimental

A unique and specifically focused course within the general purview of a department which intends to offer it on a "one time only" basis and not as a permanent part of the department's curriculum.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

ERS 195 - Workshop

A workshop is a program which is usually of short duration, narrow in scope, often non-traditional in content and format, and on a timely topic.

Credits: 1-6

Term(s) Typically Offered: Offered as Needed

ERS 198 - Selected Topics

A Selected Topics course is a normal, departmental offering which is directly related to the discipline, but because of its specialized nature, may not be able to be offered on a yearly basis by the department.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

ERS 201 - Exercise Physiology with Lab

This course focuses on the physiological bases of exercise with emphasis on the responses and adaptations of the human body to a variety of exercise stimuli. Laboratory included. Grade of C or better is required in this course.

Prerequisite: ERS 101 (may be taken concurrently)^C

^C Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Enrollment is limited to students with a major in Exercise Science.

ERS 202 - Biomechanics with Lab

This course examines human movement using mechanical principles. Human anatomy and basic physics are combined to understand and analyze human movement with specific emphasis on physical activity and exercise. Laboratory included.

Prerequisite: ERS 101 (may be taken concurrently)^C

^C Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Enrollment is limited to students with a major in Exercise Science.

ERS 204 - Introduction to Esports

Do you like video games? This course will introduce students to the exciting world of competitive video gaming, known as "esports." Topics covered may include history, terminology, games, genres, developers, events, leagues, and venues, with a focus on health and performance implications of esports and esports-related career possibilities.

Credits: 3

Thematic Thread(s): Arts & Popular Culture, The Future, Innovation, Entrepreneurship, and Positive Change, Transfer Thread Completion Course

ERS 220 - Clinical Experiences in Athletic Training - I

This course is designed to provide opportunities for students to apply previously acquired athletic training knowledge, skills and abilities in the clinical setting under the direct supervision of a program approved preceptor. Emphasis is placed on practicing and implementing the current NATA Education Competencies designated at Level I in the learning over time model.

Prerequisite: ERS 117^C

^C Requires minimum grade of C.

Credits: 1

Enrollment is limited to students with a program in Athletic Training.

Enrollment limited to students with department of Exercise & Rehabilitative Sci.

ERS 221 - Lower Extremity Pathology, Diagnosis and Manual Techniques in Athletic Training

This course is designed to integrate cognitive and psychomotor knowledge, skills and abilities, and facilitate practical application of the psychomotor skills specific to competent diagnosis and management of various injuries, conditions and pathologies incurred to the lower extremity.

Prerequisite: ERS 117^C

^C Requires minimum grade of C.

Credits: 4

Enrollment is limited to students with a program in Athletic Training.

Enrollment limited to students with department of Exercise & Rehabilitative Sci.

ERS 222 - Fundamentals of Research in Athletic Training

This course is designed to introduce a foundational knowledge of research, the types of research, and the role it plays in athletic training. Emphasis is placed on developing library research skills, identifying research, demonstrating basic scientific writing skills, and becoming a knowledgeable consumer of research in order to apply it in the clinical environment.

Credits: 3

Enrollment is limited to students with a program in Athletic Training.

Enrollment limited to students with department of Exercise & Rehabilitative Sci.

ERS 230 - Stress Management

This course examines intrapersonal and interpersonal stressors, the effect of stress on the body and the key concepts and theories of stress management. Effective stress evaluations and coping strategies for preventing and managing stress will be integrated. After taking this course, students will be able to demonstrate an understanding of the personal and societal impact of stress management.

Credits: 3

Term(s) Typically Offered: Offered Every Term

Thematic Thread(s): 21st Century Healthcare, Healthy Body, Mind & Environment, Leadership Development, Transfer Thread Completion Course

ERS 231 - Group Exercise Instruction

This course provides opportunities for practical skills and instruction in various group exercise activities. Emphasis is placed on physiological principles related to group exercise, as well as choreography, safety and modification for diverse populations. Current group exercise trends and research are explored.

Prerequisite: ERS 201^D

^D Requires minimum grade of D.

Credits: 3

Term(s) Typically Offered: Offerings Vary

ERS 241 - Upper Extremity Pathology, Diagnosis and Manual Techniques in Athletic Training

This course is designed to integrate cognitive and psychomotor knowledge, skills and abilities, and facilitate practical application of the psychomotor skills specific to competent diagnosis and management of various injuries, conditions and pathologies incurred to the upper extremity.

Prerequisite: ERS 221^C

^C Requires minimum grade of C.

Credits: 4

Enrollment is limited to students with a program in Athletic Training.

Enrollment limited to students with department of Exercise & Rehabilitative Sci.

ERS 250 - Medical Terminology

This course is designed to provide the students with a basic understanding of the language of medicine. Emphasis is placed on basic medical word construction and medical language derivation related to health care.

Credits: 3

Term(s) Typically Offered: Offered Every Term

Thematic Thread(s): 21st Century Healthcare, Transfer Thread Completion Course

ERS 277 - Integrative Approach to Athletic Training

Integrate cognitive concepts into progressively higher functional and practical application. This integration is to be achieved after completion of selected athletic training classes and by direct supervision and mentoring.

Credits: 3

Enrollment is limited to students with a major in Athletic Training.

ERS 290 - Experimental

A unique and specifically focused course within the general purview of a department which intends to offer it on a "one time only" basis and not as a permanent part of the department's curriculum.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

ERS 295 - Workshop

A workshop is a program which is usually of short duration, narrow in scope, often non-traditional in content and format, and on a timely topic.

Credits: 1-6

Term(s) Typically Offered: Offered as Needed

ERS 298 - Selected Topics

A Selected Topics course is a normal, departmental offering which is directly related to the discipline, but because of its specialized nature, may not be able to be offered on a yearly basis by the department.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

ERS 300 - Research Methods in Exercise Science

This course examines the scientific method and the role of research in developing knowledge in Exercise Science. Students develop skills to become critical consumers of research and other publicly disseminated information. Students design a data collection project using the concepts learned in the class. Grade of C or better is required in this course.

Prerequisites: ERS 201^C and ERS 202^C and STAT 152^C

^C Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 301 - Aerobic Exercise Leadership

This course provides opportunities for the development of practical skills to instruct and lead aerobic exercise. Emphasis is placed on construction of a session utilizing various equipment and modes based upon appropriate physiological theories and biomechanical principles. Safety, effectiveness, intensity monitoring and modifications will be addressed. Grade of C or better is required in this course.

Prerequisites: ERS 201^C and ERS 202^C

^C Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Exercise Science.

ERS 302 - Exercise Leadership: Resistance Training

This course provides both the theoretical knowledge and practical skills to safely and effectively design and implement resistance training programs for health and sports performance. Emphasis is placed on physiological and biomechanical principles associated with resistance exercise techniques. Current trends and research in resistance training are explored. Grade of C or better is required in this course.

Prerequisites: ERS 201^C and ERS 202^C

^C Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Exercise Science.

ERS 304 - Current Issues in Esports Health and Society

This course is designed to critically examine the current issues confronting esports and video gaming within our increasingly digitized global society, including topics relating to health, performance, and the latest trends in the esports industry.

Credits: 3

Thematic Thread(s): Healthy Body, Mind & Environment, Transfer Thread Completion Course, Well-Being of Children and Youth

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 305 - The Truth About Weight Loss

This course provides the opportunity to understand how body weight is lost or gained in a healthy and sustainable way. Students will demonstrate understanding of fraudulent practices and products related to weight loss will be explored. Emphasis is placed on individualized practical approaches to weight management, and students will create behavior change strategies related to a personal weight management plan.

Credits: 3

Term(s) Typically Offered: Offered Every Term

Thematic Thread(s): 21st Century Healthcare, Healthy Body, Mind & Environment, Transfer Thread Completion Course

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 307 - Concepts of General Medicine in Athletic Training

This course is designed to integrate cognitive knowledge and abilities with the practical application of psychomotor skills specific to the assessment and management of general medical conditions. This course will provide foundational knowledge and application related to pharmacology.

Prerequisite: ERS 117^C

^C Requires minimum grade of C.

Credits: 4

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 310 - Clinical Experiences in Athletic Training - II

This course is designed to provide opportunities for students to apply previously acquired athletic training knowledge, skills and abilities in the clinical setting under the direct supervision of a program approved preceptor. Emphasis is placed on practicing and implementing the current NATA Education Competencies designated at Level II in the learning over time model.

Credits: 1

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a program in Athletic Training.

ERS 317 - Therapeutic Modalities Theory and Techniques

This course is designed to integrate cognitive knowledge and abilities with the practical application or psychomotor skills specific to the use of contemporary physical modalities. This course will provide foundational knowledge and application related to the indications, contraindications and methods of application.

Prerequisite: ERS 221^C

^C Requires minimum grade of C.

Credits: 4

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Athletic Training.

ERS 320 - Clinical Experiences in Athletic Training - III

This course is designed to provide opportunities for students to apply previously acquired athletic training knowledge skills and abilities in the clinical setting under the direct supervision of a program approved preceptor. Emphasis is placed on practicing and implementing the current NATA Education Competencies designated at Level III in the learning over time model.

Prerequisite: ERS 310^C

^C Requires minimum grade of C.

Credits: 1

Term(s) Typically Offered: Offered Fall Terms

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a program in Athletic Training.

Enrollment limited to students with department of Exercise & Rehabilitative Sci.

ERS 327 - Therapeutic Modalities Procedures

Familiarizes the athletic training student with the appropriate application and maintenance of therapeutic modalities. To be taken concurrently with ERS 317.

Prerequisite: ERS 317 (may be taken concurrently)^D

^D Requires minimum grade of D.

Credits: 3

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 337 - Physical Examination of the Athlete

Presents knowledge and skills for orthopedic evaluation of the spine and extremities. Includes evaluation of the internal organs as well.

Prerequisites: ERS 264^D or ERS 101^D

^D Requires minimum grade of D.

Credits: 3

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Athletic Training.

ERS 340 - Clinical Experiences in Athletic Training - IV

This course is designed to provide opportunities at an increasing professional level for students to apply previously acquired athletic training knowledge, skills and abilities in the clinical setting under the direct supervision of a program approved preceptor. Students will practice and implement the current NATA Education Competencies designated at Level IV in the learning over time model.

Prerequisite: ERS 320^C

^C Requires minimum grade of C.

Credits: 1

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a program in Athletic Training.

Enrollment limited to students with department of Exercise & Rehabilitative Sci.

ERS 347 - Therapeutic Rehabilitation in Athletic Training

this course is designed to facilitate learning specific to the theory and application of therapeutic rehabilitation techniques for a diverse population. Emphasis is placed on the planning and implementation of therapeutic rehabilitation protocols for the prevention and/or care of various injuries.

Prerequisite: ERS 221^C

^C Requires minimum grade of C.

Credits: 4

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Athletic Training.

ERS 350 - Advanced Application of Resistance Training

This course is designed to address advanced theories in the application of resistance training. Selected activities will allow for the application of concepts to individuals with specific goals and considerations (e.g. athletes, diseased populations, etc.). Topics of consideration will include the location and analysis of peer-reviewed resources, individualized needs analysis and the selection of muscular fitness assessments, chronic adaptations to long-term resistance training, and long-term client development and periodization.

Prerequisite: ERS 302^C

^C Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered Summer & Winter Terms

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 357 - Application of Therapeutic Techniques

Enables students to develop the application of therapeutic techniques for the prevention of injury and/or care of the athlete. To be taken concurrently with ERS 347.

Prerequisite: ERS 347 (may be taken concurrently)^D

^D Requires minimum grade of D.

Credits: 3

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Athletic Training.

ERS 387 - Practicum in Athletic Training

Provides educational experiences/assessments in the area of athletic training psychomotor domain, to be coordinated/supervised/mentored in a varied athletic training practicum (totaling a minimum of 1,000 hours). Students will establish/maintain portfolios, develop proper medical documentation and record keeping skills, and be provided opportunities for orthopedic surgery observation.

Credits: 3

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Athletic Training.

ERS 390 - Experimental

A unique and specifically focused course within the general purview of a department which intends to offer it on a "one time only" basis and not as a permanent part of the department's curriculum.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 395 - Workshop

A workshop is a program which is usually of short duration, narrow in scope, often non-traditional in content and format, and on a timely topic.

Credits: 1-6

Term(s) Typically Offered: Offered as Needed

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 398 - Selected Topics

A Selected Topics course is a normal, departmental offering which is directly related to the discipline, but because of its specialized nature, may not be able to be offered on a yearly basis by the department.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 400 - Wellness coaching and Program Management

This course examines the concepts of health, wellness and resilience. Emphasis placed on developing wellness coaching skills and the ability to utilize behavior change theories to develop wellness programming for individuals and groups. Fundamentals of business administration, as they relate to wellness programming, are also covered. Grade of C or better is required in this course.

Prerequisites: ERS 300^C and ERS 301^C and ERS 302^C and BIOL 216^C

^C Requires minimum grade of C.

Corequisite(s): ERS 401, ERS 402 and ERS 403

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Exercise Science.

ERS 401 - Fitness Assessment

This course provides practical experiences in the selection, administration, and interpretation of various health-related fitness tests. Emphasis is placed on proper technique and communication throughout the assessment process. Grade of C or better is required in this course.

Prerequisites: ERS 300^C and ERS 301^C and ERS 302^C and BIOL 216^C

^C Requires minimum grade of C.

Corequisite(s): ERS 400, ERS 402 and ERS 403

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Exercise Science.

ERS 402 - Exercise Prescription

This course provides the theoretical knowledge and practical skills to design personalized exercise programs that elicit specific physiologic responses and adaptations. Emphasis is placed on prescribing safe and effective individualized cardiorespiratory, musculoskeletal and weight management programs. Grade of C or better is required in this course

Prerequisites: ERS 300^C and ERS 301^C and ERS 302^C and BIOL 216^C
^C Requires minimum grade of C.

Corequisite(s): ERS 403

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Exercise Science.

ERS 403 - Advanced Exercise Physiology

This course provides in depth inquiry into the acute responses and long term adaptations of the human body to various types of exercise from the cellular level to the entire system. Emphasis is placed on the physiological demands of exercise and exercising at terrestrial extremes. Laboratory included. Grade of C or better is required in this course.

Prerequisites: ERS 300^C and ERS 301^C and ERS 302^C and BIOL 216^C
^C Requires minimum grade of C.

Corequisite(s): ERS 400, ERS 401 and ERS 402

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Enrollment limited to students with a semester level of Junior 1, Junior 2, Senior 1 or Senior 2.

Enrollment is limited to students with a program in Exercise Science.

ERS 407 - Healthcare Administration in Athletic Training

Studies topics relevant to management, organization, administration, and professional development in the profession of athletic training. Topics will include discussions specific to diversity in the health care system.

Credits: 3

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Athletic Training.

Enrollment limited to students with the DEPT. EXER SCIENCE ACCEPTANCE attribute.

ERS 410 - Clinical Exercise Physiology

This course examines cardiopulmonary exercise physiology, the pathophysiology of selected cardiovascular and respiratory diseases, cardiopulmonary rehabilitation, electrocardiography and clinical graded exercise testing. The influence of age, sex, culture, and ethnicity on risk factors for, prevalence of, and outcomes associated with selected cardiovascular and respiratory diseases are emphasized. Grade of C or better is required in this course.

Prerequisites: ERS 400^C and ERS 401^C and ERS 402^C and ERS 403^C and BIOL 217^C

^C Requires minimum grade of C.

Corequisite(s): ERS 411 and ERS 412

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Exercise Science.

ERS 411 - Exercise Science: Special Populations and Conditions

This course evaluates the impact of physical activity and exercise on youth, older adults, and individuals with various health conditions and controlled diseases. Changes that occur during growth, development, maturation and the aging process in relation to physical activity/ exercise are examined. Pathophysiology, disease management, medications, exercise testing, and acute responses and chronic adaptations of physical activity/exercise programs for individuals with various health conditions and controlled diseases are identified. Special considerations for health, disease, and physical activity / exercise programming for diverse populations are explored. Grade of C or better is required in this course

Prerequisites: ERS 400^C and ERS 401^C and ERS 402^C and ERS 403^C and BIOL 217^C

^C Requires minimum grade of C.

Corequisite(s): ERS 410 and ERS 412

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Exercise Science.

ERS 412 - Exercise Science: Senior Synthesis

This course provides the opportunity to synthesize knowledge, skills and abilities in both classroom and supervised practical settings. Emphasis is placed on developing, implementing and evaluating comprehensive exercise programs for diverse clientele. Opportunities to enhance professional and personal development are provided. Valid CPR/AED certification and proof of professional liability insurance required. Grade of C or better is required in this course.

Prerequisites: ERS 400^C and ERS 401^C and ERS 402^C and ERS 403^C and ERS 424^{*C} and BIOL 217^C (may be taken concurrently).

^C Requires minimum grade of C.

Corequisite(s): ERS 410 and ERS 411

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Exercise Science.

ERS 417 - Wellness and Reconditioning in Athletic Training

This course is designed to facilitate learning specific to safe and effective health-related wellness screening, and the design and implementation of fitness programs for a diverse population. Incorporates theoretical knowledge and skills of health and wellness.

Prerequisite: ERS 117^C

^C Requires minimum grade of C.

Credits: 3

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a program in Athletic Training.

Enrollment limited to students with department of Exercise & Rehabilitative Sci.

ERS 424 - Nutrition and Exercise

This course provides an understanding of the dietary standards that dictate nutritional requirements for apparently healthy adults. Emphasis is placed on the evaluation of an recommendations for macronutrients, micronutrients, and hydration status for health, physical activity, and human performance. Grade of C or better is required in this course

Prerequisites: (HLTH 314^C or ERS 300^C) and ERS 301^C and ERS 302^C
^C Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered Every Term

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment limited to students in the Coll of Health, Engineer & Sci college.

ERS 427 - Mastery in Athletic Training

A capstone course that allows the student to synthesize and apply knowledge and skills of an entry-level athletic trainer in a comprehensive manner.

Credits: 3

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Athletic Training.

ERS 430 - Seminar in Strength and Conditioning

This course analyzes advanced strength and conditioning theory and practice. Topics include musculoskeletal and cardiorespiratory physiology, metabolism and nutrition, acute responses to exercise and chronic adaptations to training, biomechanical concepts, measurement and evaluation, resistance training techniques, exercise prescription, speed development, and plyometric training. In addition, this course prepares students to take the Certified Strength and Conditioning Specialist (CSCS) examination provided by the National Strength and Conditioning Association (NSCA).

Prerequisite: ERS 302^D

^D Requires minimum grade of D.

Credits: 3

Term(s) Typically Offered: Offerings Vary

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 431 - Health and Fitness in the Older Adult

This course examines wellness promotion and health fitness programs for the older adult, particularly people age fifty and above. Emphasis is placed upon prevention or delay of chronic diseases or disorders.

Prerequisites: ERS 401^C and ERS 402^C

^C Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offerings Vary

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 432 - Pediatric Exercise Science

This course examines health, physical activity, and physical fitness status of children and adolescents. Physiological responses to exercise, methodologies for assessing physical fitness and physical activity, and promotion of physical activity are discussed. Current research in various topics related to exercise in children and adolescents are explored.

Prerequisites: ERS 401^C and ERS 402^C

^C Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offerings Vary

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 434 - Physiology of Aging and Physical Activity

This course examines the physiology of the aging process with emphasis on the effects of physical activity on health and on the degenerative process of aging. Emphasis is placed on the physiological responses to aging that are influenced by physical activity.

Prerequisites: ERS 401^C and ERS 402^C

^C Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offerings Vary

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 435 - Exercise Programming for Cancer

This course provides a foundation for an integration of knowledge and skills regarding the components of cancer, cancer treatments, and the concepts of rehabilitating cancer patients using exercise interventions. Emphasis is placed on physiological alterations that occur during and following cancer therapy and the effects that exercise has on eliminating or reducing these effects. Opportunities to develop individualized exercise programs for cancer patients will be provided.

Prerequisites: ERS 201^C and ERS 301^C and ERS 302^C and ERS 402^C

^C Requires minimum grade of C.

Credits: 3

Students with a semester level of Freshman 1, Freshman 2, Sophomore 1 or Sophomore 2 may **not** enroll.

ERS 450 - Exercise Science Internship

This course provides the opportunity for students to develop and apply exercise science knowledge, skills, and abilities in a supervised university approved setting. Valid CPR/AED certification and proof of professional liability insurance required. Grade of C or better is required in this course

Prerequisites: ERS 400 (may be taken concurrently)^C and ERS 401^C and ERS 402^C and ERS 403^C and ERS 410^C and ERS 411^C and ERS 412^C and ERS 424^C

^C Requires minimum grade of C.

Credits: 3-12

Term(s) Typically Offered: Offered Fall, Spring, & Summer

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a major in Exercise Science.

ERS 490 - Independent Study

Independent Study courses give students the opportunity to pursue research and/or studies that are not part of the university's traditional course offerings. Students work one on one or in small groups with faculty guidance and are typically required to submit a final paper or project as determined by the supervising professor.

Credits: 1-3

Term(s) Typically Offered: Offerings Vary

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 495 - Workshop

A workshop is a program which is usually of short duration, narrow in scope, often non-traditional in content and format, and on a timely topic.

Credits: 1-6

Term(s) Typically Offered: Offered as Needed

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

ERS 497 - Clinical Synthesis in Athletic Training

This course provides the students with decision-making opportunities to synthesize and integrate all previously acquired athletic training knowledge, skills and abilities in the classroom and clinical setting under the direct supervision of a program approved preceptor. Students will practice and implement all the current NATA Education Competencies designated at the clinical integration proficiency level.

Prerequisite: ERS 340^C

^C Requires minimum grade of C.

Credits: 3

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.

Enrollment is limited to students with a program in Athletic Training.

Enrollment limited to students with department of Exercise & Rehabilitative Sci.

ERS 498 - Selected Topics

A Selected Topics course is a normal, departmental offering which is directly related to the discipline, but because of its specialized nature, may not be able to be offered on a yearly basis by the department.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

Students with a semester level of Freshman 1, Freshman 2 or Sophomore 1 may **not** enroll.