

# EXERCISE SCIENCE

The Department of Exercise Science integrates liberal arts and professional education while teaching its students to lead and influence. Hands on and integrated experiences form the core of how our faculty educate, emphasizing problem solving and critical thinking over content. The Department of Exercise Science develops expertise grounded in scientific research and evidence-based practice through an engaging and progressive curriculum, an active and collaborative research program, and a commitment to sustainability.

## Majors

- Applied Science in Exercise Science - BS (<http://catalog.stkate.edu/undergraduate/health/exercise-science/applied-science-exercise-science-ba-bs/>)
- Exercise and Sport Science - BS (<http://catalog.stkate.edu/undergraduate/health/exercise-science/exercise-sport-science-ba-bs/>)

## Minors

- Coaching - Minor (<http://catalog.stkate.edu/undergraduate/health/exercise-science/coaching-minor/>)
- Exercise and Sport Science - Minor (<http://catalog.stkate.edu/undergraduate/health/exercise-science/exercise-sport-science-minor/>)
- Longevity and Aging - Minor (<http://catalog.stkate.edu/undergraduate/health/exercise-science/longevity-and-aging-minor/>)

### EXSS 1100 Fitness and Wellness – 2 credits

This course will introduce and explore topics critical to Fitness and Health. EXSS 1100 is designed as a lecture/lab to help students develop foundational knowledge for a lifetime of fitness and wellness. Students will actively engage in the study and practice of sustained exercise and wellness. This course integrates current scientific research with practical application. Lectures and interdisciplinary convocations will examine research in fitness, wellness and related topics including cardio-respiratory fitness, strength training, stress management, and nutrition. Students will participate in a pre-and post fitness assessment. Students are required to engage in two additional activity sessions per week outside of class. Offered in the College for Women and the College for Adults.

### EXSS 2500 Foundations of Longevity and Aging: Aging in a Diverse America – 4 credits

This experiential course introduces seminal aging and emerging research about personal, racial, geographical, political and environmental factors that influence healthful aging in America. Selected research will focus on developing foundational skills needed to support future learning and research in longevity and aging. To prepare students for work in a bigger, aging and more diverse America, key diversity topics are explored including health disparities, future workforce needs, global health access, socioeconomic impact of health policy, cross-cultural communication, minority studies on age-related change, successful adaptation through use of technology, activity, and social supports and differences in end of life concerns. The course introduces students to research methods and data analysis including quantitative quasi-experimental research, qualitative thematic analysis and design thinking. Offered in the College for Women.

### EXSS 2650 Introduction to Exercise and Sport Science – 1 credit

Coursework includes exposure to the various disciplines, resources and career opportunities in the field of exercise science. Note: this is a major course and does not fulfill the Health and Fitness liberal arts core requirement.

### EXSS 2660 Introduction to Exercise and Sport Science – 4 credits

Coursework includes exposure to the various disciplines, resources and career opportunities in the field of exercise science, study of the principles and components of fitness, and the application of exercise science principles in fitness programming and education. Note: this is a major course and does not fulfill the Health and Fitness liberal arts core requirement.

### EXSS 2800W Introduction to Research Methods in Exercise Science – 4 credits

Methods and principles of testing and measurement in exercise science. Includes basic statistical methods, test construction, evaluation and measurement of anthropometrics, fitness, motor performance, skill levels and related functions. Does not meet the health and fitness liberal arts core requirement. Offered spring semester every year. Offered in the College for Women.

### EXSS 3200 Health Behavior Psychology – 4 credits

Introduces students to the fields of exercise and health psychology and the common theories and models used to explore health behaviors, with a strong emphasis on physical activity behavior. Learning outcomes include understanding individual health behaviors, facilitating psychological growth and development, comprehension of social, environmental and cultural impacts on health behaviors as well as applying these theories and models to enhance the health and well-being of others.

### EXSS 3350 Kinesiology and Biomechanics with Lab – 4 credits

This is a lecture/laboratory course on the study of human motion including anatomical foundations of the skeletal and muscle systems and the application of mechanical principles to the analysis of human motion in physical education, fitness activities, sport and activities of daily life. Does not meet the health and fitness liberal arts core requirement. Offered spring semester every year. Offered in the College for Women.

**Prerequisite:** BIOL 2610.

### EXSS 3400 Foundations of Sport Psychology – 4 credits

This course is designed to introduce students to the field of sport psychology by providing a broad overview of the major topics, theories, and research in the field. Offered every spring. Offered in the College for Women.

### EXSS 3450 Exercise Physiology with Lab – 4 credits

This is a lecture/laboratory course covering the theory and analysis of physiological responses and adaptations to exercise for fitness and human performance. Course topics include energy systems, exercise metabolism, circulatory and respiratory adaptations, blood pressure, oxygen consumption, acid-base balance, temperature regulation, body composition and nutrition, ergogenic aids. Does not meet the health and fitness liberal arts core requirement. Offered fall semester every year. Offered in the College for Women.

**Prerequisite:** BIOL 2610.

**EXSS 3500 Methods of Strength Training and Conditioning – 4 credits**

This course is designed to further students' understanding of anatomy and how to apply that understanding in the development of appropriate resistance training and conditioning programs. This course will further students' knowledge of exercise technique and the ability to instruct others appropriately. Students will examine resistance training and conditioning topics through discussion, demonstrations, and coaching sessions. Does not meet the health and fitness liberal arts core requirement. This course will prepare individuals to sit for the National Strength and Conditioning Association's (NSCA) Certified Strength and Conditioning Specialist (CSCS) exam. Offered in the College for Women.

**EXSS 3550 Exercise Testing and Prescription with Lab – 4 credits**

This course gives students experience with the equipment and procedures used for assessment, design and implementation of fitness programs. Procedures include: physical work capacity (V02/stress test), EKG, blood pressure, body composition (skin fold calipers, bioelectrical, and impedance), muscular strength and muscular endurance. Does not meet the health and fitness liberal arts core requirement. Offered winter semester every year. Offered in the College for Women.

**Prerequisites:** EXSS 3350, EXSS 3450.

**EXSS 3615 Motor Learning and Motor Control – 4 credits**

This course involves the study of human motor skill acquisition. Theories and applications related to skill acquisition, motor learning and control are examined with reference to the learner, the learning environment and individual differences. Does not meet the health and fitness liberal arts core requirement. Offered fall and spring semester every year. Offered in the College for Women.

**Recommended:** BIOL 2610 and BIOL 2620.

**EXSS 3700 Theory, Techniques and Psychology of Coaching Women's Sports – 2 credits**

A study of the principles and procedures involved in the organization, management and implementation of sports programs. Special consideration will be given to psychological aspects of motivation and ethics, including the interpersonal relationships involved with coaching. Does not meet the health and fitness liberal arts core requirement. Offered fall semester every other year. Offered in the College for Women.

**EXSS 3720 The Coaching Practicum – 2 credits**

The coaching practicum provides you with the opportunity to work in an observation participation setting under a qualified coach. The purpose is to provide supervision from a qualified coach in a particular area of interest. Does not meet the health and fitness liberal arts core requirement. Offered every semester. Offered in the College for Women.

**Prerequisite:** EXSS 3700 and instructor permission.

**EXSS 3750 Care and Prevention of Athletic Injuries – 2 credits**

An overview of problems (recognition, principles and responsibilities) related to athletic injuries to both upper and lower body. Emphasis on prevention, immediate care and rehabilitation. Does not meet the health and fitness liberal arts core requirement. Offered fall semester every year. Offered in the College for Women.

**Prerequisites:** BIOL 2610 and BIOL 2620.

**EXSS 4604 Internship – 4 credits**

Structured out-of-class learning experience that takes place on or off campus and includes a substantial work component. An internship involves students in a particular profession in an exploratory way to test career interests and potential. To initiate an internship experience, meet with the internship coordinator in the Career Development Office.

**Prerequisites:** Faculty sponsorship and approval by department chair.

**EXSS 4612 Fieldwork – 2 credits**

Exercise Science students registered for a 2 credit fieldwork program complete a structured out-of-class learning experience that takes place on- or off-campus and includes a substantial work component. Fieldwork involves students in a particular profession in an exploratory way to test careers and potential. To initiate a fieldwork experience, meet with the Director of Fieldwork. A semester long curricular component is part of this course and focuses on furthering the professional development of students in the Exercise Science program, particularly with respect to career development in fitness and wellness. The fieldwork experience allows students to engage in preparation for future opportunities and employment through shadowing and working with certified/licensed professionals practicing in the field. Offered in the College for Women.

**Prerequisite:** Approval from the director of fieldwork.

**EXSS 4614 Fieldwork – 4 credits**

Exercise Science students registered for a 4 credit fieldwork program complete a structured out-of-class learning experience that takes place on- or off-campus and includes a substantial work component. Fieldwork involves students in a particular profession in an exploratory way to test careers and potential. To initiate a fieldwork experience, meet with the Director of Fieldwork. A semester long curricular component is part of this course and focuses on furthering the professional development of students in the Exercise Science program, particularly with respect to career development in fitness and wellness. The fieldwork experience allows students to engage in preparation for future work experiences and employment through resume and cover letter writing, development of interviewing and presentation skills, job search strategies, professional writing, discussion of current key topics within the industry and a variety of other professional experiences. Offered in the College for Women.

**Prerequisite:** Approval from the director of fieldwork.

**EXSS 4681 Directed Study – 1 credit****EXSS 4682 Directed Study – 2 credits**

Directed study is provided for students whose unusual circumstances prohibit taking a regularly scheduled course but who need the material of that course to satisfy a requirement. Availability of this faculty-directed learning experience depends on faculty time and may be limited in any given term and restricted to certain courses.

**Prerequisites:** Faculty, department chair and dean approval.

**EXSS 4684 Directed Study – 4 credits**

Directed study is provided for students whose unusual circumstances prohibit taking a regularly scheduled course but who need the material of that course to satisfy a requirement. Availability of this faculty-directed learning experience depends on faculty time and may be limited in any given term and restricted to certain courses.

**Prerequisites:** Faculty, department chair and dean approval.

**EXSS 4754 Practicum – 4 credits**

A practicum is a brief period of work during which students practice a profession in a training status. Often required for licensing or entry into a profession.

**Prerequisites:** Instructor and department chair approval.

**EXSS 4850 Capstone – 1 credit**

A capstone course for seniors in the Exercise and Sport Science program, this course is designed to help students prepare for their future as professionals in the field.

**Prerequisites:** EXSS 2650, Senior status.

**EXSS 4860 Capstone – 2 credits**

A capstone course for seniors in the Exercise and Sport Science program, this course is designed to help students prepare for their future as professionals in the field.

**Prerequisites:** EXSS 2650, Senior status.

**EXSS 4951 Independent Study – 1 credit**

Independent study offers students the opportunity for specialized research not covered in a course offering, by the action project or thesis. Students work with a faculty advisor to develop a learning contract, which specifies the content and objectives of the study as well as the requirements and procedures for evaluation. The amount of credit earned for the study also is included in the learning contract.

**Prerequisites:** Permission of the faculty and department chair or program director.

**EXSS 4952 Independent Study – 2 credits**

Independent study offers students the opportunity for specialized research not covered in a course offering, by the action project or thesis. Students work with a faculty advisor to develop a learning contract, which specifies the content and objectives of the study as well as the requirements and procedures for evaluation. The amount of credit earned for the study also is included in the learning contract.

**Prerequisites:** Permission of the faculty and department chair or program director.

**EXSS 4954 Independent Study – 4 credits**

Independent study offers students the opportunity for specialized research not covered in a course offering, by the action project or thesis. Students work with a faculty advisor to develop a learning contract, which specifies the content and objectives of the study as well as the requirements and procedures for evaluation. The amount of credit earned for the study also is included in the learning contract.

**Prerequisites:** Permission of the faculty and department chair or program director.

**EXSS ELEC Exercise Science Elective – 1-5 credits****EXSS ELECU Exercise Science-Upper Div – 1-6 credits**