NUTRITION AND EXERCISE SCIENCE

The Department of Nutrition and Exercise Sciences 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 Nutrition and Exercise Sciences 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 - BA, BS (http://catalog.stkate.edu/undergraduate/health/nutrition-exercise-science/applied-science-exercise-science-ba-bs/)
• Applied Science in Nutrition Science - BA, BS (http://catalog.stkate.edu/undergraduate/health/nutrition-exercise-science/applied-sci-nutrition-sci/)
• Dietetics - BA, BS (http://catalog.stkate.edu/undergraduate/health/nutrition-exercise-science/dietetics-ba-bs/)
• Exercise Science and Nutrition (combined major) - BA, BS (http://catalog.stkate.edu/undergraduate/health/nutrition-exercise-science/exercise-science-nutrition-ba-bs/)
• Exercise and Sport Science - BA, BS (http://catalog.stkate.edu/undergraduate/health/nutrition-exercise-science/exercise-sport-science-ba-bs/)
• Nutrition Science - BA, BS (http://catalog.stkate.edu/undergraduate/health/nutrition-exercise-science/nutrition-science-ba-bs/)

 Minors

• Coaching - Minor (http://catalog.stkate.edu/undergraduate/health/nutrition-exercise-science/coaching-minor/)
• Exercise and Sport Science - Minor (http://catalog.stkate.edu/undergraduate/health/nutrition-exercise-science/exercise-sport-science-minor/)
• Foods - Minor (http://catalog.stkate.edu/undergraduate/health/nutrition-exercise-science/foods-minor/)
• Nutrition - Minor (http://catalog.stkate.edu/undergraduate/health/nutrition-exercise-science/nutrition-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 cardiorespiratory 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 2750 Introduction to Exercise and Sport Science — 2 credits
Course work includes exposure to the various disciplines and career opportunities in the field of physical education and exercise science, study of the principles and components of physical fitness, and the application of exercise science principles in fitness programming and education. Does not meet the health and fitness liberal arts core requirement. Offered fall semester every year. Offered in the College for Women.

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 2992 Topics — 2 credits
The subject matter of the course is announced in the annual schedule of classes. Content varies from year to year but does not duplicate existing courses.

EXSS 2994 Topics — 4 credits
The subject matter of the course is announced in the annual schedule of classes. Content varies from year to year but does not duplicate existing courses.

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 (VO2/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 3610 Motor Learning — 2 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 spring semester every year. Offered in the College for Women.

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 4300 Advanced Biomechanics — 2 credits
This course is designed to give experience in the equipment and methodologies used in the field of biomechanics and kinesiology. Topic areas include the use of video data collection and reduction methods, force platform, electromyography, gait studies, anthropometric studies and other research in the field. Does not meet the health and fitness liberal arts core requirement. Offered in the College for Women.
Prerequisite: EXSS 3350.

EXSS 4602 Internship — 2 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 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.
Prerequisites: EXSS 3350, EXSS 3450, EXSS 3500, and EXSS 3550 plus 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 opportunities and employment through shadowing and working with certified/licensed professionals practicing in the field. Offered in the College for Women.
Prerequisites: EXSS 3350, EXSS 3450, EXSS 3500, and EXSS 3550 plus approval from the director of fieldwork.

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 4752 Practicum — 2 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. Offered in the College for Women.
Prerequisites: Instructor and department chair 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 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 4992 Topics — 2 credits
The subject matter of the course is announced in the annual schedule of classes. Content varies from year to year but does not duplicate existing courses.

EXSS 4994 Topics — 4 credits
The subject matter of the course is announced in the annual schedule of classes. Content varies from year to year but does not duplicate existing courses.

FSNU 2300 Nutrition Foundations — 4 credits
Introduction to the scientific principles of nutrition, including macro- and micro-nutrient functions and effects of nutrient deficiency and excess. This course emphasizes the role food plays in the health of individuals and families throughout the life cycle. The course includes a personal diet analysis, healthy diet planning, concepts of weight management/metabolism, and the relationship between food and the environment. Offered in the College for Women.
Recommended: High school biology and chemistry.

FSNU 2800 Intercultural and Community Nutrition with Lab — 4 credits
This course covers food patterns and foodways of various cultures around the world and in our community. Agricultural, social, nutrition, economic, religious, and cultural issues are discussed with a cultural sensitivity lens. Emphasis is placed on understanding the populations served through nutrition policy, community programming, and healthcare systems. Lecture and laboratory. Offered in the spring of even years.
FSNU 2900 Food Science — 4 credits
This course provides an introduction to food science and technology. The chemical and physical composition of foods will be examined along with the major principles of food processing, preservation and storage. Students will gain hands-on experience applying the technology of various food products in the lab, and conducting an investigation of current issues related to food and health through special project work. Lecture and laboratory. Offered in the College for Women.
Prerequisite: CHEM 1010 or CHEM 1110 or equivalent.

FSNU 3000 Nutrition — 4 credits
Scientific principles of nutrition, including the study of nutrient functions and interrelationships, effects of deficiencies, dietary allowances and application to food selection and meals of individuals and families throughout the life cycle are covered.
Prerequisite: CHEM 1010 or CHEM 1120 with a grade of C- or above.
Prerequisite with concurrency: BIOL 1720 or BIOL 2520 with a grade of C- or above, or permission of instructor.

FSNU 3150 Food Systems and Policy — 4 credits
The course provides a critical look into our food system and how food evolves from seed to grocery store shelves. It evaluates the way nutrition policies and recommendations are set, and how they may be influenced by the current food system. Offered in the College for Women.
Prerequisite: FSNU 2300.

FSNU 3250 Sports Nutrition — 2 credits
This course involves the study of the effect of nutrient intake on human energy and athletic performance; current use of ergogenics and dietary supplements; review of current literature, teaching resources and consumer publications. Nutritional recommendations for athletes through the life cycle. Offered fall semester. Offered in the College for Women and the College for Adults.
Recommended: FSNU 2300.

FSNU 3350 Lifelong Nutrition — 4 credits
This course includes an in-depth exploration into nutrition recommendations and concerns throughout the lifecycle. Topics covered include nutrition for pre-conception, pregnancy, lactation, infancy, childhood, adolescence, adulthood, and aging. This course also covers discussion of common chronic diseases and appropriate nutrition interventions. Offered in the College for Women.
Prerequisite: FSNU 2300.

FSNU 3550 Food and Nutrition Management — 4 credits
This course focuses on 4 main content areas: (1) design, layout and equipment for the institutional kitchen; (2) organization and management; (3) human resource management; and (4) financial resource management. Principles of marketing, entrepreneurship, and business plans are covered. Offered alternate years.

FSNU 3600 Foodservice Operations Management with Lab — 4 credits
Application of principles of food production and service to institutional practice: considerations of quality and quantity in volume feeding, methods of purchasing food for institutions, menu planning, recipe standardization, and portion control. Lecture, laboratory and field trips. This course includes approximately 45 hours of hands-on training in a variety of institutional settings. Offered in the College for Women.
Prerequisite: FSNU 2900.

FSNU 3770 Nutrition Education and Counseling — 4 credits
This course is designed to develop effective skills for presentations to a variety of audiences throughout the life cycle. Educational theory and techniques are emphasized. Students also learn and practice techniques for interviewing, counseling and group process. Use of media and preparation of written educational materials are included. Students design, develop and present various forms of nutrition education for a variety of audiences. Offered in the College for Women.
Prerequisite: FSNU 2300, Junior or Senior standing.

FSNU 3992 Topics — 2 credits
The subject matter of the course is announced in the annual schedule of classes. Content varies from year to year but does not duplicate existing courses.

FSNU 4100 Community Lifespan Nutrition — 4 credits
Study of the role of nutritionists in the community and the health and nutritional needs of individuals and groups within the different stages of the lifecycle. Nutrition concepts and interventions associated with each stage of the lifespan from pre-conception through older adulthood. Principles of epidemiology, the healthcare system, and the political process are explored. Planning, assessment, evaluation and legislative regulation of food and nutrition programs in the community are discussed. Students volunteer in and observe food and nutrition programs in the community. Lecture and laboratory. Offered in the College for Women.
Prerequisites: FSNU 2900, FSNU 2300, PSYC 2025.

FSNU 4220 Sensory Evaluation — 2 credits
This course involves sensory evaluation, theory and practice, psychophysics of the senses, sensory tests and data analysis. Oral presentations and written papers are required. Lecture and laboratory. Offered as needed.
Prerequisites: FSNU 2900 and a statistics course.

FSNU 4270 Current Issues in Foods and Nutrition — 4 credits
The focus of this course will be to research, evaluate, debate and think critically about the rapidly changing current issues in food, nutrition science, and health. This course will look at these issues from a variety of professional perspectives to gain a holistic view of the factors that influence and force change. Using contradictory statements and data from the scientific and lay sources we will carefully draw and defend arguments, in small and large debate formats, using multiple technologies to create engaging and informative content. Offered in the College for Women.
Prerequisite: FSNU 2900.
Prerequisite with concurrency: FSNU 2300.

FSNU 4300 Advanced Nutrition — 4 credits
This course includes digestion, transport and absorption of nutrients; hormonal aspects of nutrition; biochemical and physiological functions of nutrients; body composition, obesity and fat diets; herbs and supplements; critical analysis techniques for evaluation of scientific and popular literature in nutrition. Offered in the College for Women.
Prerequisite: FSNU 2300.

FSNU 4310W Experimental Foods and Nutrition with Lab — 4 credits
This course provides an introduction to the use of statistics and computers in food and nutrition research. Students will develop an original research project using sensory, physical and survey measurements. Oral scientific presentations and written papers required. The course contains both lecture and laboratory components. Offered in alternate years. Offered in the College for Women.
Prerequisites: FSNU 2900 and one statistics course.
FSNU 4350 Medical Nutrition Therapy I — 4 credits
This course involves principles of nutritional care related to clinical situations, including nutrition as therapy in selected diseases and application of these principles to daily living for prevention of disease and maintenance of health. Lecture and laboratory. Offered in the College for Women.
Prerequisite: FSNU 2300.
Prerequisites with concurrency: CHEM 2400 or CHEM 4400, or permission of instructor.

FSNU 4375 Medical Nutrition Therapy II with Lab — 4 credits
In this course students will discuss principles of nutritional care related to clinical situations, including nutrition as therapy in selected diseases and application of these principles to daily living for prevention of disease and maintenance of health. Lecture and laboratory. Offered in the College for Women.
Prerequisites: FSNU 2300, FSNU 4350.

FSNU 4602 Internship — 2 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.

FSNU 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.

FSNU 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.

FSNU 4752 Practicum: Diabetes Education — 2 credits
This is an interdisciplinary study of diabetes mellitus. Attend the workshop at the International Diabetes Center and complete several written assignments. Offered in the College for Women.
Prerequisites: FSNU 2300, faculty and department chair approval.

FSNU 4754 Practicum — 4 credits
FSNU 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.

FSNU 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.

FSNU 4992 Topics — 2 credits
The subject matter of the course is announced in the annual schedule of classes. Content varies from year to year but does not duplicate existing courses.

FSNU 4994 Topics — 4 credits
The subject matter of the course is announced in the annual schedule of classes. Content varies from year to year but does not duplicate existing courses.

FSNU 4992 Topics — 2 credits
The subject matter of the course is announced in the annual schedule of classes. Content varies from year to year but does not duplicate existing courses.

FSNU 4994 Topics — 4 credits
The subject matter of the course is announced in the annual schedule of classes. Content varies from year to year but does not duplicate existing courses.