Physical Education Health & Recreation (PEHR)

PEHR 1003. Sport and Performance Psychology. 1 Hour.
For students interested in psychological skills training. This course is designed to help students maximize their performance through mental skills training. In particular, this course will help students understand the building blocks for success, know what it means to be ready to play, and learn strategies to more effectively prepare for performance. This course is recommended for student-athletes, performing artists, musicians, and all other students looking to improve their performance. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain an understanding of the building blocks for success in performance environments through class discussions, quizzes and exams, at the introductory level. 2. Explain the use of mental skills strategies used to improve mental readiness for performance, through class discussions, quizzes and exams, at the introductory level. 3. Explain how performance enhancement strategies can translate to success in all aspects of life through activity participation in given scenarios, and class discussions at the introductory level. 4. Demonstrate a variety of mental skills (e.g., goal setting, management of emotions, imagery focus plans, coping plans, self-talk strategies, performance routines, etc.) through class participation, and class assignments, at the developmental level.

PEHR 1025. Intro to Sports Medicine. 3 Hours.
Designed for individuals interested in athletic training, physical therapy, orthopedics, coaching, or other physical education or fitness related careers, but open to all students. Includes the basics of sports medicine (prevention of injury, evaluation of injury, and management of injury) and lab component where students have hands-on, field experiences with athletic trainers and therapists. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Describe basic musculoskeletal anatomy. 2. Explain basic strategies for the prevention of athletic injury. 3. Discuss common athletic injuries. 4. Utilize basic techniques in the care of athletic injury. Course fee required. FA, SP.

PEHR 1340. Lifeguarding/First Aid. 3 Hours.
Activity course for students interested in furthering their knowledge and skills in swimming and getting their lifeguard training as well as first aid. Instruction is given in water rescue, water safety and skills. This course includes the Red Cross Exam, and successful students will be Red Cross certified. Students must demonstrate proficiency in two basic strokes (American Crawl and breaststroke). **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain the process of preventing potential threatening situations in a given scenario at the introductory level. 2. Recognize & respond to an emergency in a given situation at the introductory and mastery level. 3. Apply the knowledge of the first aid procedures by assessing & deciding the level of intervention for administering care in a given situation at the mastery level. 4. Perform life threatening and non-life threatening procedures in a pre-determined situations at the mastery level. 5. Master all skills and academic curriculum associated with National Lifeguard Certification requirements. Course fee required. FA, SP.

PEHR 1543. First Aid / Resp Emergencies. 3 Hours.
Designed for students desiring to learn about first aid, including instruction in the principles and practices in emergency care and first aid procedures for injuries and safety precautions. Successful completers will be certified through the American Red Cross in CPR and First Aid. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain the process of preventing potential threatening situations in a given scenario at the introductory level. 2. Recognize & respond to an emergency in a given situation at the introductory and mastery level. 3. Apply the knowledge of the first aid procedures by assessing & deciding the level of intervention for administering care in a given situation at the mastery level. 4. Perform life threatening and non-life threatening procedures in a pre-determined situations at the mastery level. FA, SP.

PEHR 2020. Introduction to Exercise Science. 3 Hours.
For students interested in exercise science. Course surveys the anatomical, physiological, nutritional, psychological, biomechanical, and developmental foundations of exercise science as an academic discipline. Careers and professional responsibilities within the exercise science field are also a focus of this course. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Describe the disciplines and careers that comprise Exercise Science. 2. Describe the contemporary base of Exercise Science knowledge. 3. Define the basic terminology used in the exercise science disciplines. FA, SP.

PEHR 2060. Sport and Exercise Psychology. 3 Hours.
For students interested in sport and exercise psychology. A study of the effects of psychological factors on performance in sport and exercise settings, including, but not limited to motivation, stress, leadership, group/team dynamics, imagery, and concentration. Course also covers the effects of sport/exercise participation on psychological well-being. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain & differentiate the essential elements of personality, exercise environments, and group processes as related to sport performance and exercise adherence through class discussions, quizzes, and exams, at the introductory level. 2. Explain and differentiate aspects of exercise and sport/activity participation as related to psychological effect (e.g., mood states, depression, and mental toughness), through class discussions, quizzes, and exams, at the introductory level. 3. Identify and develop methods of facilitating sport performance, exercise adherence, and psychological growth and development through activity participation in given scenarios, criticizing research abstracts, quizzes, and exams, at the introductory and developmental levels. 4. Synthesize information critical to the understanding of research in the field of sport psychology through cultural lenses scenarios, at the introductory and developmental levels. 5. Create a research study proposal that focuses on the discovery of new knowledge through a systematic approach utilizing scientific methodology, at a developmental level. FA, SP.
PEHR 2080. Management in Exercise & Health Promotion. 3 Hours.
Course provides knowledge essential to the operation of fitness centers. Practical skills related to the management of commercial and corporate fitness/wellness centers will be the primary focus of this course. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Develop an understanding of the skills required to supervise employees in a fitness / wellness facility. 2. Gain the knowledge and skill required to recruit and retain professional employees. 3. Gain the knowledge and skill required to necessary to operate and maintain a fitness facility while maintaining profitability. 4. Demonstrate knowledge of the legal liabilities and responsibilities related to the operation of a fitness/wellness facility.

PEHR 2120. Principles of Fitness and Lifestyle Management. 3 Hours.
Emphasize issues relative to fitness in youth/adult fitness, aging, physical activity program design and implementation, attrition, behavior modification, and the role of exercise in disease prevention and/or management. The goal is to promote fitness across an entire lifespan. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain the elements associated with a healthy lifestyle through class discussions, quizzes, and exams, at the introductory level. 2. Identify the outcomes of healthy and unhealthy behaviors on the human body through discussions, quizzes, and exams, at the introductory level. 3. Identify cultural, demographic, gender, and socioeconomic factors associated with the development and maintenance of a healthy lifestyle through discussions, and research assignments at the developmental level. 4. Identify training techniques to optimize desired health-related fitness results, and minimize safety hazards through discussions, labs, and exams, at the introductory and developmental levels. 5. Create a fitness training program based upon individualized goals through discussions and assignments at the developmental level. SP.

PEHR 2200. Nutrition for Sport and Exercise. 3 Hours.
This course provides an overview of the scientific foundations of sports nutrition. Areas of emphasis include basic nutritional concepts, energy expenditure during different types of exercise, optimal diets for various training and activities, timing and composition of pre and post competition meals, the use of nutritional supplements and ergogenic aids, and the specific needs of different athletic populations. The course can provide beneficial information to the recreational or competitive athlete, and to any individual wishing to incorporate nutrition in their active lifestyle. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain the pathways to digestion and absorption of macro and micro nutrients at a developmental level. 2. Explain the different fuel systems for energy production and needs during physical activity at the introductory and developmental level. 3. Explain the effectiveness of nutritional supplementation and ergogenic aids. 4. Interpret human nutrition research and its application to exercise performance. SP.

PEHR 2992. Seminar in Exercise Science. 0.5-3 Hours.
For students wishing instruction that is not available through other regularly scheduled courses in this discipline. Occasionally, either students request some type of non-traditional instruction, or an unanticipated opportunity for instruction presents itself. This seminar course provides a variable credit context for these purposes. As requirements, this seminar course must first be pre-approved by the department chair; second, it must provide at least nine contact hours of lab or lecture for each credit offered; and third, it must include some academic project or paper (i.e., credit is not given for attendance alone). This course may include standard lectures, travel and field trips, guest speakers, laboratory exercises, or other nontraditional instruction methods. Note that this course in an elective and does not fulfill general education or program requirements. Fees may be required for some seminar courses and instructor permission will be optional at the request of the instructor. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Demonstrate learning through original and creative ideas. 2. Collaborate with others to accomplish a shared purpose or goal. 3. Use appropriate strategies and tools to represent, analyze, and integrate seminar-specific knowledge. 4. Develop the ability to think critically about course content. 5. Apply knowledge from seminar to a range of contexts, problems, and solutions.

PEHR 2993. Seminar in Exercise Science. 0.5-3 Hours.
For students wishing instruction that is not available through other regularly scheduled courses in this discipline. Occasionally, either students request some type of non-traditional instruction, or an unanticipated opportunity for instruction presents itself. This seminar course provides a variable credit context for these purposes. As requirements, this seminar course must first be pre-approved by the department chair; second, it must provide at least nine contact hours of lab or lecture for each credit offered; and third, it must include some academic project or paper (i.e., credit is not given for attendance alone). This course may include standard lectures, travel and field trips, guest speakers, laboratory exercises, or other nontraditional instruction methods. Note that this course in an elective and does not fulfill general education or program requirements. Fees may be required for some seminar courses and instructor permission will be optional at the request of the instructor. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Demonstrate learning through original and creative ideas. 2. Collaborate with others to accomplish a shared purpose or goal. 3. Use appropriate strategies and tools to represent, analyze, and integrate seminar-specific knowledge. 4. Develop the ability to think critically about course content. 5. Apply knowledge from seminar to a range of contexts, problems, and solutions.
PEHR 2994. Seminar in Exercise Science. 0.5-3 Hours.
For students wishing instruction that is not available through other regularly scheduled courses in this discipline. Occasionally, either students request some type of non-traditional instruction, or an unanticipated opportunity for instruction presents itself. This seminar course provides a variable credit context for these purposes. As requirements, this seminar course must first be pre-approved by the department chair; second, it must provide at least nine contact hours of lab or lecture for each credit offered; and third, it must include some academic project or paper (i.e., credit is not given for attendance alone). This course may include standard lectures, travel and field trips, guest speakers, laboratory exercises, or other nontraditional instruction methods. Note that this course in an elective and does not fulfill general education or program requirements. Instructor permission will be optional at the request of the instructor. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Demonstrate learning through original and creative ideas. 2. Collaborate with others to accomplish a shared purpose or goal. 3. Use appropriate strategies and tools to represent, analyze, and integrate seminar-specific knowledge. 4. Develop the ability to think critically about course content. 5. Apply knowledge from seminar to a range of contexts, problems, and solutions.

PEHR 3000. Psychophysiology of Fitness and Nutrition. 3 Hours.
Provides students with an understanding of the interaction between psychological processes, nutritional practices and physiological adaptations associated with physical activity and nutritional practices. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Describe factors associated with wellness and physical activity. 2. Describe activity and nutritional behaviors which promote, maintain, and protect health and wellness. 3. Gain basic knowledge of how affective states and cognitive processes are related to physiological measures such as ECG, EMG, VO2, respiratory fitness, and body composition. 4. Describe how affective states and cognitive processes are related to nutritional practices. 5. Provide research evidence regarding the psychological and cognitive affects of acute versus chronic exercise. 6. Critically analyze research within the field of psychophysiology of fitness and nutrition.

PEHR 3052. Psychophysiology of Motor Control. 3 Hours.
Surveys the basic principles of control of human movement, including neuro-mechanics of human movement. These principles will be taught through application to sport, joint movement, and activities of daily living. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Be proficient in describing complex systems in terms of simplified, higher-order functions. 2. Be proficient in summarizing motor control research and applying it to course material. 3. Be proficient in describing neuromechanical factors of human movement and applying this knowledge to movement analysis. Course fee required. Prerequisite: PEHR 2020.

PEHR 3080. Advanced Sports Medicine. 3 Hours.
Advanced course for students who have successfully completed an Introduction to Sports Medicine course, or for individuals with previous experience in athletic training/sports medicine. Course includes field experience with athletic trainers. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Distinguish how the disciplines of motor development, motor learning, and motor control interrelate for an understanding of motor behavior across the lifespan, through class discussions, and exams, at the introductory and developmental levels. 2. Analyze aspects of physical growth and aging that affect the acquisition and maintenance of fitness and motor skills across the lifespan through class discussions, observations, quizzes, and exams, at the developmental level. 3. Analyze aspects of perceptual development that affect the acquisition and maintenance of fitness and motor skills across the lifespan through class discussions, observations, quizzes, and exams, at the developmental level. 4. Analyze social and cultural constraints associated with motor and fitness development across the lifespan through class discussions & interview activities, at the developmental level. 5. Differentiate factors associated with motor learning theory (e.g., movement preparation, attention, arousal, practice design), through class discussions, scenarios, and exams, at the introductory and developmental levels. 6. Research a selected topic, and apply new knowledge, in a practical way, to a contemporary issue in the field of health, physical education, or sport, at the mastery level. FA.

PEHR 3350. Motor Learning and Development. 3 Hours.
A study of how the development of physiological, perceptual, neurological, intellectual, and emotional factors affect motor learning. Knowledge from this course provides a framework for the establishment of programs that facilitate skill acquisition for all learners with a focus on children and adolescents. This course is required on most Exercise Science and/or Kinesiology degree plans. It is also a prerequisite for many graduate programs in Exercise Science, or physical/occupational therapy. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Distinguish how the disciplines of motor development, motor learning, and motor control interrelate for an understanding of motor behavior across the lifespan, through class discussions, and exams, at the introductory and developmental levels. 2. Analyze aspects of physical growth and aging that affect the acquisition and maintenance of fitness and motor skills across the lifespan through class discussions, observations, quizzes, and exams, at the developmental level. 3. Analyze aspects of perceptual development that affect the acquisition and maintenance of fitness and motor skills across the lifespan through class discussions, observations, quizzes, and exams, at the developmental level. 4. Analyze social and cultural constraints associated with motor and fitness development across the lifespan through class discussions & interview activities, at the developmental level. 5. Differentiate factors associated with motor learning theory (e.g., movement preparation, attention, arousal, practice design), through class discussions, scenarios, and exams, at the introductory and developmental levels. 6. Research a selected topic, and apply new knowledge, in a practical way, to a contemporary issue in the field of health, physical education, or sport, at the mastery level. FA.

PEHR 3370. Exercise Testing and Prescription. 3 Hours.
Teaches key concepts related to exercise testing and program design for healthy and diseased populations. Furthermore, usage of teams, groups, and individualized assessment and programming based activities will be used to explore principles in anatomy, exercise physiology, behavior modification, motivation, health promotion, fitness assessment and prescription. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Identify effective strategies to assess risk and appropriately stratify individuals at the developmental level. 2. Identify a variety of fitness assessments on different adult populations on an introductory level. 3. Discuss the results from fitness assessments to prescribe safe and effective exercise. 4. Obtain knowledge, skills, and abilities to pass the ACSM certification examination. Prerequisites: PEHR 3700 and PEHR 3705 (Grade C- or higher). SP.
PEHR 3400. Activity Programming for Special Populations. 3 Hours.
A comprehensive look at providing high-quality fitness, physical education, sport, and outdoor adventure experiences for individuals with disabilities. Students will learn best practices and applications for inclusion in classroom settings, as well as discover how to develop individualized fitness, competitive sport, and outdoor adventure experiences for individuals with special needs. This course is required on most Exercise Science and/or Kinesiology degree plans. It is also pre-requisite for many graduate programs in Exercise Science. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain the laws important to adapted physical education and sport through class discussions, quizzes, and exams, at the introductory level. 2. Identify and differentiating specific developmental, behavioral, sensory, and orthopedic conditions, through class discussions, quizzes, and exams, at the introductory and developmental levels. 3. Compare and contrast adapted physical activity services related to interscholastic models, and community-based models, through group discussions assigned scenarios, and community observation assignments, at the introductory and developmental levels. 4. Implement appropriate curricular/activity programming through lesson teaching assignments, and class discussions, at the developmental level. 5. Select appropriate venues for adapted athletic competition through investigative research, and student teaching presentations. FA.

PEHR 3500. Theories and Techniques for Teaching Fitness and Motor Skills. 3 Hours.
Content in this course will prepare students to design and implement quality physical education programs for elementary and secondary school students. In addition to developing the knowledge and skills to select and implement developmentally appropriate activities for children/adolescents, students enrolled in the course will also develop an understanding of curriculum design, public school policy and procedures (as related to P.E.), as well as national standards and guidelines affecting physical education programming. The curriculum is designed to meet the academic needs of Fitness trainers, community recreation directors, and physical education teachers in the public and private sector will benefit from the curriculum. In addition, the knowledge and skills developed in this course will address material covered in the Praxis exam. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain the relationship of pediatric and adolescent physical activity patterns to lifespan health and wellness through class discussions, research abstract presentations, quizzes, and exams, at the introductory level. 2. Identify essential elements of 'Quality' Physical Education Programs, through class discussions, class observations, quizzes, and exams, at the introductory level, and developmental levels. 3. Explain legal issues often associated with teaching fitness and motor skills to pediatric and adolescent in public and private school settings through class scenarios, discussions, quizzes, and exams, at the introductory level. 4. Demonstrate various techniques for teaching fitness and motor skills relative to theories associated with motor learning/development, and motivation. 5. Creating an optimal learning environment for physical education students K - 12th grades, through appropriate curricular/activity planning, teaching assignments, and class discussions, at the developmental and mastery levels. FA.

PEHR 3510. Applied Exercise Physiology. 3 Hours.
Focuses on an applied perspective of exercise physiology, designed to provide physical educators, coaches, and exercise professionals with the scientific foundations of exercise pertaining to areas such as energy metabolism, cardiovascular and neuromuscular physiology, nutrition, etc. with direct application in schools, health clubs and sport settings. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Identify the physiological adaptations to exercise observed in the following systems: skeletal, neuromuscular, cardiovascular, respiratory system, and endocrine on an introductory level. 2. Identify the effects of nutritional status, fluid balance, environment, and ergogenic aids on exercise training on an introductory level 3. Explain knowledge of exercise fitness tests and be able to measure and evaluate factors such aerobic fitness, anaerobic fitness, muscular strength and endurance, and body composition on an introductory level. 4. Describe appropriate programs for the benefit of health and athletic performance on an introductory level. SP (even).

PEHR 3700. Physiology of Exercise. 3 Hours.
This course provides a further overview of the physiology of exercise. It builds on the students' knowledge of human anatomy and physiology, and further focuses on the acute and chronic physiological adaptations of exercise on the human body. Various responses of functional systems, different populations, ergogenic aids, chronic diseases, physical activity, health and wellness, and environmental conditions will also be described from a physiological perspective. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain how each of the major organ systems (cardiovascular, respiratory, and musculoskeletal) responds to an acute bout of exercise on a developmental level. 2. Explain the adaptations that occur in each of the major organ systems to exercise training at the introductory and developmental level. 3. Explaining the influence of environmental conditions and ergogenic factors on exercise physiology on a developmental level. 4. Interpreting research topics in the field of exercise physiology and its application to exercise performance. Prerequisite: BIOL 2320 and BIOL 2325 (Grade C- or higher); and BIOL 2420 and BIOL 2425 (Grade C- or higher). Corequisite: PEHR 3705. FA, SP.

PEHR 3705. Physiology of Exercise Lab. 1 Hour.
A supplemental course to PEHR 3700, Physiology of Exercise. Emphasizes the demonstration of lecture concepts through hands on experiences. Assessments include maximal oxygen consumption, aerobic and anaerobic fitness assessment, body composition analysis, and pulmonary function testing in regards to chronic and acute exercise. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Investigate basic data collection and pretest screening on a developmental level. 2. Examine anaerobic and aerobic fitness. 3. Examine cardiovascular function and respiratory function on an introductory level. 4. Compare body composition. Course fee required. Prerequisites: BIOL 2320 and BIOL 2325 (Grade C- or higher); BIOL 2420 and BIOL 2425 (Grade C- or higher). Corequisite: PEHR 3700. FA, SP.

PEHR 3730. Biomechanics. 3 Hours.
Focuses on the investigation and application of the mechanical principles of movement relative to exercise and sport. Course includes an overview of the relationship of musculoskeletal anatomy to the mechanics of human movement. Methods of optimizing exercise and sport performance from a biomechanical perspective will also be addressed. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Apply mechanical analysis to biological systems. 2. Calculate basic kinematic and kinetic parameters. 3. Describe human movement in terms of muscle mechanics. 4. Adapt mechanical analysis to clinical and performance settings. Prerequisite: PEHR 2020. FA (odd), SP.
PEHR 3740. Clinical Biomechanics. 3 Hours.
Provides an introduction to the mechanical principles relevant to the understanding of human motion in the context of clinical populations, movement pathologies, and therapy. The focus will be on the mechanics and anatomical geometry of human movement, as well as muscular control and mechanics. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Describe the temporal and kinematic features of basic human movements. 2. Compare normal motion to pathological motion and discuss biomechanical influences on the latter. 3. Qualitatively analyze joint mechanics during activities of daily living. 4. Explain the effects of weight, muscle, and neural activity on pain and altered movement strategies. 5. Explain and measure anatomical alignment and the human gait cycle. 6. Explain electromyography. Prerequisite: PEHR 2020. SU.

PEHR 3800. Measurement & Evaluation in Physical Exercise & Sports. 3 Hours.
Provides students with the foundation of knowledge needed for administering and interpreting results from popular health and skill-related physical fitness tests. Test selection, administration, and interpretation will be emphasized. Students will use popular assessment instruments for data collection and computer analysis. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Measure basic quantities related to exercise science and sport, and performing basic, related calculations. 2. Critically evaluate and interpret research findings in exercise science disciplines. 3. Design basic studies, testing hypotheses, and reporting results. Prerequisite: PEHR 2020. FA, SP.

PEHR 3820. Sport Science and Technology. 3 Hours.
This course explores the current state of science and technology in sport, both for performance and safety. Materials and design of equipment will be covered, as well as new technologies and instrumentation for tracking performance and risk factors. Additionally, the use of common technology such as ‘smartphones’ and video will be explored. Basic computer software and methods for analyzing everyday sporting data with excel and other computing tools will be introduced. Students will be exposed to data collection and analysis using tools that are available to consumers, sport enthusiasts, and researchers. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Describe the basic instrumentation commonly used to acquire sport science data. 2. Utilize simple video tools to collect and analyze variables that may be of interest to spectators, coaches, or trainers. 3. Explain the evolution and development of equipment advances in sport - both from a safety and a performance standpoint. 4. Explain basic material properties that affect sporting equipment and game-play. 5. Critically evaluate consumer-available sensors and ‘smartphone’ apps that are marketed to coaches and enthusiasts for athlete development. 6. Employ Excel and similar computing platforms for simple calculations and analysis of collected data.

PEHR 3840. Measurement, Research, and Statistics in Exercise Science. 3 Hours.
Provides students with a foundation in measuring and collecting data associated with human movement science. Additionally, provides an introduction to statistical methods and experimental design, necessary to evaluate data collected from measurements commonly used in exercise science, health, and human performance. Topics will include sampling, sampling distribution, descriptive statistics, correlation and regression, t-tests, and ANOVA as well as the use of statistical software for conducting such analyses. This course can be used as an elective and it can substitute for PEHR 3800. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Measure basic quantities related to exercise science and sport, and performing basic, related calculations. 2. Critically evaluate and interpret research findings in exercise science disciplines. 3. Design basic studies, testing hypotheses, and reporting results. 4. Test hypotheses using statistical methods to include correlation, regression, t-tests, and ANOVA. Prerequisite: PEHR 2020 (Grade C or higher). FA.

PEHR 4100. Physiology and Techniques of Strength and Power. 3 Hours.
Covers physiological principles and training techniques used in strength and conditioning. A large emphasis is placed on the guidelines from the National Strength and Conditioning Association (NSCA) with an aim for preparing students to ultimately take the NSCA Certified Personal Trainer or NSCA Certified Strength and Conditioning Specialist exam. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Recall scientific knowledge to train athletes for the primary goals of improving athletic performance and fitness on a developmental level. 2. Describe how to design and implement safe and effective strength training and conditioning and personal training programs at an introductory level. 3. Define exercise prescription principles for training variation, injury prevention, and reconditioning. 4. Recall the knowledge, skills, and abilities to pass the NSCA certification examination. Prerequisites: PEHR 3700 and PEHR 3705 (Grade C- or higher). SP.

PEHR 4200. Healthy Aging. 3 Hours.
Emphasizes the basic physiological changes in older adults. Methods to improve the quality of life among older adults will be stressed. Additional content will include elements of health promotion, wellness programming, behavior change, lifelong learning and development, and relevant research findings pertaining to older adults. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Examine the changes in major organ systems pertaining to the aging population at the developmental level. 2. Identify selected disease and their relationship to the aging population at the developmental level. 3. Discuss research topics in the field of the aging population. 4. Conduct review of current literature on relevant topics. Prerequisites: PEHR 3700 and PEHR 3705 (both grade C- or higher). FA.
PEHR 4230. Applied Fitness Development for Aging and At-Risk Populations. 3 Hours.
This course provides students with the knowledge and skills to develop and provide fitness programs for at-risk populations and older adults. Course objectives include health related fitness assessments, interpretation and counseling based on results of fitness assessments, and the construction of individually tailored exercise prescriptions to meet the clients' unique needs and goals. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain the current demographics in the US and the attitudes toward aging through class discussions, scenarios, and exams, at the introductory level. 2. Distinguish the physiology of aging systems from young adults as well as and physical conditions requiring special consideration for exercise programming, through discussions, quizzes, and exams, at the developmental level. 3. Analyze psychosocial barriers and applying psychosocial concepts to exercise programming (inclusive of cultural, demographic, gender, and socioeconomic factors) associated with the development and maintenance of a healthy lifestyle through discussions, scenarios and research assignments at the developmental level. 4. Identify programming guidelines including components of a fitness class, safety training techniques to optimize desired health-related fitness results, and minimize safety hazards through discussions, labs, and exams, at the introductory and developmental levels. 5. Create a fitness training program based upon individualized goals through scenarios and assignments at the developmental level. 6. Apply skills in community-based and senior living environments through a course project, at the developmental level. SP.

PEHR 4300. Clinical Exercise Physiology. 3 Hours.
Emphasizes information and skills related to exercise testing and prescription in healthy and clinical populations. Teaches American College of Sports Medicine (ACSM) exercise testing guidelines. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Define the scope of practice and responsibilities of a clinical exercise physiology. 2. Examine the pathophysiology of multiple disorders in the areas of cardiovascular, pulmonary, immune, neuromuscular, and metabolism at the developmental level. 3. Identify commonly used medications for specific clinical conditions and their effects on exercise capacity at the developmental level. 4. Identify the limitations for physical activity in clinical populations, taking into consideration disease processes and methods to assess functional capacity. Prerequisites: PEHR 3700 and PEHR 3705 (Grade C- or higher). FA.

PEHR 4400. Pediatric and Adolescent Fitness & Nutrition. 3 Hours.
Provides future exercise science professionals with the knowledge, skills, and abilities to provide appropriate fitness and nutritional guidelines for the physiological responses and demands unique to children and adolescents. Appropriate measurement techniques to evaluate this population will also be covered. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Describe pediatric and adolescent responses to exercise, emphasizing their unique physiologic responses, compared to adults, through class discussions, presentations, quizzes, and exams, at the developmental level. 2. Describe pediatric and adolescent unique nutritional needs, compared to adults, through class discussions, class assignments, quizzes, and exams, at the introductory level. 3. Implement appropriate measurement techniques used to assess health-related and performance-related fitness in children/adolescents through lab activities and hands-on learning experiences at the developmental level. 4. Demonstrate the knowledge and skills necessary to design training and fitness programs tailored/optimized to meet the developmental needs of children and adolescents through lab activities and hands on learning, at the developmental level. 5. Demonstrate effects of physical activity on the prevention and treatment of chronic diseases in youth populations through class assignments and discussions, at the developmental level. SP.

PEHR 4500. Theories of Behavioral Change. 3 Hours.
Focuses on behavior change theory, principles, and predictive models, with their application to health behavior change programs and interventions. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain theories related to individual and group motivation, through class discussions, quizzes and exams, at the introductory level. 2. Demonstrate how leadership theories can be used to create an optimal learning environment, through class discussions and participation in scenarios, at the developmental level. 3. Develop appropriate, theory-driven intervention strategies for promoting a healthy lifestyle, through activity participation in given scenarios, at the developmental level. 4. Synthesize information critical to the understanding of research in Behavioral Change through cultural lenses scenarios, at the developmental level. 5. Analyze and utilize research for the development of optimal health promotion programs through proposed scenarios and class projects, at the developmental level.

PEHR 4600R. Exercise Science Internship. 1-3 Hours.
Designed to provide students with hands-on professional experience in the field of exercise science. May be repeated for a maximum of 6 credits toward graduation. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Apply classroom theory to real world decision making. 2. Increase proficiency in specific skills in relation to exercise science techniques. 3. Develop personal skills in communication, technology, teamwork, and quantitative reasoning. 4. Participate in professional operations and decision making. 5. Be afforded opportunities to meet and interact with professional role models and potential mentors. 6. Expand network of professional relationships and contact. Prerequisite: Instructor permission.

PEHR 4700. Motivation and Coaching. 3 Hours.
Course covers knowledge and theory related to coaching principles relative to sport psychology, sport pedagogy, and sport management. Also covers the integration of basic coaching skills into the work of health-care/fitness professionals to help clients achieve self-determined goals related to health and wellness. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain theories related to individual and group motivation, through class discussions, quizzes and exams, at the introductory level. 2. Demonstrate how leadership theories can be used to create an optimal learning environment, through class discussions and participation in scenarios, at the developmental level. 3. Investigate research related to leadership in sport, exercise, fitness, and health promotion, through activity participation in class discussions, and research abstract presentations at the developmental level. 4. Synthesize information critical to the understanding of research in Motivation and Coaching through cultural lenses scenarios, at the developmental level. 5. Outline the components of effective leadership, through class discussions and scenarios, at the developmental level.
PEHR 4890R. Undergraduate Research for Exercise Science. 1-3 Hours.
Provides students the opportunity to conduct research under the mentorship of a faculty member. Students will put in practice the theoretical knowledge gained in prior major courses. Students will create a significant intellectual or creative product that is characteristic of the Exercise Science discipline and worthy of communication to a broader audience. May be repeated for a maximum of 6 credits toward graduation. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Design a research study based upon existing literature in the field. 2. Qualify for the human subjects research certification and prepare a research study proposal for Institutional Review Board approval. 3. Prepare and execute a data collection according to a research study design protocol. 4. Analyze collected data and test study hypotheses. 5. Compose and prepare for dissemination the findings of a research study. Prerequisite: Instructor permission required. FA, SP, SU.

PEHR 4910R. Study Abroad in Exercise Science. 3 Hours.
This three-credit undergraduate-level course provides students a once in a lifetime opportunity to participate in a multi-week study abroad program led by the Exercise Science program at Dixie State University. Designed for students who want more hands-on emphasis and experiences regarding human physiological adaptations at differing environments while incorporating elements of independent research, data collection, data testing, data assessment, and international travel. For international travel, see studyabroad.dixie.edu for additional travel costs that may apply. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Explain the major changes that occur to human physiology during rest and exercise at varying locations and environments. 2. Collect sample data regarding physiological adaptations at varying locations and environments. 3. Analyze collected data regarding physiological adaptations at varying locations and environments. 4. Interpret collected data and explain the relevance of findings in relationship to the field of exercise science. SU.