Exercise Science Minor

What is the Exercise Science minor?
The minor is designed to provide students with content from a breadth of disciplines in the exercise science field. The minor is ideal for students who are interested in broadening their experience and knowledge base in the study and analysis of principles related to human movement. Students will acquire new information on key domains of the field including exercise physiology, psychological approach to physical activity, acquisition of motor skills, nutrition principles and injury prevention and treatment strategies. Specifically, the minor provides students with an introductory grounding in physiologic principles that help us understand not only how human systems respond to exercise stress, but also how the body changes with chronic exercise stress. Students also benefit from applied learning experiences in all classes. Such opportunities allow students to apply course principles and to develop new skills.

How can I prepare for the Exercise Science minor?
Students are required to complete successfully two prerequisite courses prior to applying for the Exercise Science minor. The two prerequisites are: Human Biology (BIO 150) and General Psychology (PSY 101). Students interested in the minor will need a minimum grade of a “C” in both prerequisite courses to be accepted into the minor.

The following four courses are the core classes

ESC 243 Physiological Basis of Sport (3 Credits)
Involves the study of physiological basis for sport performance with a focus on how the body responds to acute exercise and how it adapts to chronic exercise. Prerequisite: BIO 150
Open only to Coaching and Exercise Science Minors until schedule clean-up.

ESC 244 Mechanical Analysis of Sport Skills (3 Credits)
Provide studies and experiences in the anatomical and mechanical principles of sport skills. Open only to Coaching Minors and Exercise Science Majors/Minors until schedule clean-up.

ESC 250 Introduction to Kinesiology (3 Credits)
Serve as an introduction to a variety of sub-disciplines within the discipline of Kinesiology. The introduction may include the sub-disciplines of Biomechanics, Exercise Physiology, Motor Learning and Control, Sport and Exercise Psychology and Sport Sociology. Open to Exercise Science Majors/Minors only until schedule clean-up.

Required Exercise Science Minor
Course Descriptions

The following two courses must be completed before declaring the Exercise Science minor.

BIO 150 Human Biology
Involves a study of the structure and function of the human organism. Major diseases and contemporary factors which adversely affect human existence are also discussed. NOTE: Biology Majors must take BIO350 Human Physiology instead of BIO150 before applying for the Exercise Science Minor

PSY 101 General Psychology
Survey of major principles, research results, and applications of contemporary psychology. Topics traditionally covered include learning, memory perception, motivation, personality and social behavior.

What is the curriculum?
The Exercise Science minor is a total of 18 semester hours in addition to the two prerequisite courses. The minor consists of four required courses and two elective courses. In order to complete the Exercise Science minor students will need a minimum grade of a “C” in each of the six Exercise Science courses.
**ESC 352 Psychology of Physical Activity (3 Credits)**
Provide the student with content on four major topic areas: (1) research methods and potential biases in the behavioral sciences, (2) the effects of exercise and physical activity on mental health, (3) behavioral approaches and theories to understanding and influencing physical activity, and (4) psychosocial factors as they relate to health, chronic disease, and pain. This course emphasizes a biopsychosocial approach to health and illness. Issues unique to children, older adults, those with chronic disease and disability, women, and people of color will be highlighted. Sensitivity to diversity, including race, class, ethnicity, and gender will be emphasized throughout the course.
Prerequisites: ESC 250 & PSY 101. Open to Exercise Science Majors/Minors only until schedule clean-up.

**Choose two of the following three courses:**

**ESC 340 Prevention and Care of Athletic Injuries (3 Credits)**
Provide knowledge and competencies in the prevention and care of athletic injuries. The course also provides training techniques in first aid and CPR (Cardio-Pulmonary Resuscitation). Open to Coaching and Exercise Minors.
Prerequisite: BIO 150

**ESC 336 Motor Behavior (3 Credits)**
Sub-discipline of exercise science concerned with the understanding of the processes responsible for the acquisition, performance, and retention of motor skills. This will be explored through motor learning, motor control, and motor development throughout a lifespan.
Prerequisite: ESC 250
Open to Exercise Science Majors/Minors only until schedule clean-up.

**ESC 350 Nutrition for Sport & Fitness (3 Credits)**
Provide current and accurate recommendations regarding the role of nutrition in fitness and sport performance. Nutrition can help "maximize performance, prevent injury, enhance recovery from exercise, achieve and maintain optimal body weight, improve daily training workouts, and maintain overall good health." Prerequisites: ESC 243 or ESC 321. Open to Exercise Science Majors/Minors until schedule clean-up. Health science students will be admitted during schedule adjustment with permission of instructor if seats are available.

**Why should I take the Exercise Science Minor at Shippensburg University?**
- Exercise Science Minor classes at Shippensburg University are small, typically 20 students.
- Lectures and labs are taught by seasoned professors; not by graduate students.
- Faculty-directed student research is highly encouraged at Shippensburg University.
- Faculty are accessible in and out of class.

**Where can I get more information about the Exercise Science Minor at Shippensburg University?**
For specific program information, contact:

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