Exercise Science

Stamford, Tereshko, Worrell.

**Major:** Exercise Science courses – EXS 215, 225, 230, 327, 341, 471, and three additional units at or above the 300 level.

Cognates: Bio 161 or 165, Che 161 and Che 185 and Math 217.

Comprehensive evaluation, with at least a C-. Total of 9 units in the major plus four cognate courses.

**Minor:** Exercise Science courses – EXS 215, 230, 327, and two units from the following: EXS 225, 326, 345.

Cognate: Bio 161 or 165.

**EXS 215. Human Anatomy.** A structural survey of the human body covering the muscular, skeletal, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, reproductive, and integumentary systems. Laboratory. Not recommended for first-year students. Prerequisite: Bio 161 or 165.

**EXS 225. Nutrition.** The study of the nutrients in foods and of the body’s handling of them, including: ingestion, digestion, absorption, transport, metabolism, interaction, storage, and excretion. Emphasis will be placed on the effect nutrition plays on health and weight management.

**EXS 230 Physiology.** An introduction to principles of vertebrate physiology, with special emphasis on humans, using an integrative approach to basic physiology of cells through considerations of major organs and organ systems. Prerequisite: EXS 215.

**EXS 260. Special Topics.**

**EXS 307. Directed Study.** .50 unit.

**EXS 325. Advanced Concepts of Personal Training.** This course requires in-depth analysis of anatomical, physiological, nutritional and biomechanical principles necessary for the design and implementation of personal training programs for individuals. Emphasis will be placed on physical activity as an effective tool for enhancement of health, fitness and disease prevention. Prerequisite: EXS 327 or EXS 345.

**EXS 326. Biomechanics.** The study of motion and the effect of forces on biological systems, using the principles of mechanics for solving problems related to the structure and function of living organisms. The course will include analyzing human movement by both quantitative and qualitative means. Laboratory. Prerequisite: EXS 215.

**EXS 327. Physiology of Exercise.** The description and explanation of functional changes brought about by acute or chronic exercise. Topics include bioenergetics, neuromuscular concepts related to exercise, cardio-respiratory considerations, physical training, nutrition and body composition, and the use of ergogenic aids in improving the exercise response. Laboratory. Prerequisite: EXS 230.

**EXS 341 Research Methods and Data Analysis.** Scientific measurement approaches used in exercise science research, including research design and interpretation of data. Prerequisite: EXS 327; Math 217.

**EXS 345 Exercise Testing and Prescription.** Examines the theoretical and applied aspects of exercise testing and exercise prescription. Modes of exercise testing used in predicting disease and assessing fitness levels. Emphasis on collection and interpretation of data from fitness testing and the design of personalized exercise programs. Laboratory. Prerequisite: EXS 230.
EXS 357. Internship. Off-campus field experience of applied nature in exercise science, recreation/fitness leadership, or coaching. Specific experience to be determined by student and faculty consideration of available positions and student interest and competencies. Prerequisite: Consent of the Department.

EXS 360. Special Topics.

EXS 370. Directed Study.

EXS 465. Capstone Seminar. Course content will reflect the topic for the annual Capstone. Open to all juniors and seniors and may be repeated once for credit. Students may enroll in only one Capstone seminar in a given term.

EXS 471. Independent Study. Supervised individual research and writing in an area of exercise science selected by the student with approval of the instructor. Prerequisite: 341; senior major status.