

# EXERCISE BIOLOGY (EXB)

## College of Biological Sciences

### EXB 090C – Research Conference (1 unit)

*Course Description:* Research findings and methods in exercise biology. Presentation and discussion of research by faculty and students.

*Prerequisite(s):* EXB 099 (can be concurrent); Lower division standing in Exercise Biology or related biological science and consent of instructor; EXB 099 required concurrently.

*Learning Activities:* Discussion 1 hour(s).

*Repeat Credit:* May be repeated.

*Grade Mode:* Pass/No Pass only.

### EXB 090X – Lower Division Seminar (1-2 units)

*Course Description:* Gives freshman or sophomore level students the opportunity to study a special topic in the general area of Exercise Biology in a small class setting.

*Prerequisite(s):* Consent of instructor; lower division standing.

*Learning Activities:* Lecture 1-2 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### EXB 092 – Exercise Biology Internship (1-5 units)

*Course Description:* Work experience in the application of physical activity programs to teaching, recreational, clinical or research situations under department faculty supervision.

*Prerequisite(s):* Consent of instructor; enrollment dependent on availability of intern positions.

*Learning Activities:* Internship 3-15 hour(s).

*Credit Limitation(s):* No internship units will be counted towards the Exercise Biology major.

*Repeat Credit:* May be repeated 1 time(s).

*Grade Mode:* Pass/No Pass only.

### EXB 097T – Tutoring in Exercise Biology (1-5 units)

*Course Description:* Assisting the professor by tutoring students in exercise biology course-related projects.

*Prerequisite(s):* Consent of instructor; lower division standing.

*Learning Activities:* Tutorial 3-15 hour(s).

*Credit Limitation(s):* No tutorial units will be counted towards the Exercise Biology major.

*Repeat Credit:* May be repeated 10 unit(s) including EXB 097TC, EXB 197T, EXB 197TC.

*Grade Mode:* Pass/No Pass only.

### EXB 097TC – Tutoring Exercise Biology in the Community (1-5 units)

*Course Description:* Tutoring in the community in exercise biology related projects under the guidance of the faculty.

*Prerequisite(s):* Consent of instructor and chairperson.

*Learning Activities:* Tutorial 3-15 hour(s).

*Repeat Credit:* May be repeated 1 time(s).

*Grade Mode:* Pass/No Pass only.

### EXB 098 – Directed Group Study (1-5 units)

*Course Description:* Directed group study.

*Prerequisite(s):* Consent of instructor and chairperson.

*Learning Activities:* Variable.

*Grade Mode:* Pass/No Pass only.

### EXB 099 – Special Study for Undergraduates (1-5 units)

*Course Description:* Special study for undergraduates.

*Prerequisite(s):* Consent of instructor.

*Learning Activities:* Variable.

*Grade Mode:* Pass/No Pass only.

### EXB 101 – Exercise Physiology (4 units)

*Course Description:* Physiology of Exercise; acute responses and adaptations to training. Neuromuscular function; bioenergetics; metabolic responses to acute exercise; adaptation to trainings; cardiorespiratory; and, applications to environmental physiology, and human health.

*Prerequisite(s):* NPB 101 or NPB 110C; or consent of instructor.

*Learning Activities:* Lecture 4 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### EXB 102 – Introduction to Motor Learning & the Psychology of Sport & Exercise (4 units)

*Course Description:* Theoretical and practical issues in motor learning, sport psychology, and exercise psychology are examined. Emphasis is placed on how motor skills are acquired and retained, and on the application of social psychology and human motivation studies to human performance.

*Prerequisite(s):* PSC 001 or PSC 001Y or PSC 001V recommended.

*Learning Activities:* Lecture 4 hour(s).

*Credit Limitation(s):* Only 2 units of credit allowed for students who have completed EXB 104; only 2 units of credit allowed for students who have completed EXB 105; not open for credit to students who have completed EXS 104 and EXS 105.

*Grade Mode:* Letter.

*General Education:* Social Sciences (SS).

### EXB 106 – Human Gross Anatomy (4 units)

*Course Description:* Detailed study of the gross anatomical structure of the human body, with emphasis on function and clinical relevance to students entering health care professions.

*Prerequisite(s):* BIS 002A; concurrent enrollment in EXB 106L or CHA 101L strongly recommended.

*Learning Activities:* Lecture 4 hour(s).

*Enrollment Restriction(s):* Upper division students only; Pass One open to upper division Exercise Biology or Anthropology majors only; Pass Two open to Seniors in any major; open enrollment at the start of the quarter for upper division students in any major.

*Cross Listing:* CHA 101.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**EXB 106L – Human Gross Anatomy Laboratory (3 units)**

*Course Description:* Detailed study of prosected human cadavers in small group format with extensive hands-on experience.

*Prerequisite(s):* BIS 002A; EXB 106 (can be concurrent) or CHA 101 (can be concurrent); must have completed EXB 106 or CHA 101 or required concurrently.

*Learning Activities:* Laboratory 9 hour(s).

*Enrollment Restriction(s):* Upper division students only; Pass One open to upper division Exercise Biology or Anthropology majors only; Pass Two open to Seniors in any major; open enrollment at the start of the quarter for upper division students in any major; mandatory attendance on first day of lab.

*Cross Listing:* CHA 101L.

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**EXB 110 – Exercise Metabolism (3 units)**

*Course Description:* Exercise metabolism, with emphasis on skeletal muscle and cardiac muscle metabolism during activity and inactivity. Basics of bioenergetics, substrate utilization, and cell signaling; mechanisms that regulate these properties, and differences between skeletal muscle and cardiac muscle metabolism.

*Prerequisite(s):* EXB 101 or NPB 101 or NPB 110C.

*Learning Activities:* Lecture 3 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**EXB 112 – Clinical Exercise Physiology (4 units)**

*Course Description:* Physical activity as a therapeutic modality in normal and diseased populations (cardiovascular, pulmonary, diabetic). Effects of exercise and inactivity in terms of normal physiology, pathophysiology, and therapeutic benefit. Exercise fitness and disease assessment methods.

*Prerequisite(s):* NPB 101 or NPB 110C; or consent of instructor.

*Learning Activities:* Lecture 3 hour(s), Discussion/Laboratory 3 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**EXB 115 – Biomechanical Bases of Movement (3 units)**

*Course Description:* Biomechanical bases of human movement investigated; topics include musculo-skeletal mechanics, tissue mechanics, electromyography, and measurement and analysis techniques. Application made to sport, clinical, and work environments, including extensive analysis of locomotion.

*Prerequisite(s):* EXB 103; or consent of instructor.

*Learning Activities:* Lecture 2 hour(s), Laboratory 3 hour(s), Discussion 1 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**EXB 116 – Nutrition for Physically Active Persons (3 units)**

*Course Description:* The role of nutrition and exercise in modifying metabolism, body composition, performance and health of humans.

*Prerequisite(s):* EXB 101; NPB 101.

*Learning Activities:* Lecture 3 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**EXB 117 – Exercise & Aging in Health & Disease (3 units)**

*Course Description:* Etiology of and standard therapy for various diseases associated with inactivity and aging; e.g., cardiovascular, pulmonary, diabetes, obesity, lipemias, etc. Exercise will then be considered as a protective and/or therapeutic modality.

*Prerequisite(s):* NPB 101 or NPB 110C; or consent of instructor.

*Learning Activities:* Lecture 2 hour(s), Discussion 1 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**EXB 121 – Advanced Sport Psychology (3 units)**

*Course Description:* Advanced study and consideration of major theoretical and practical issues in sport psychology. Emphasis on practical application to sport and human performance.

*Prerequisite(s):* EXB 102; (PSC 001 or PSC 001Y or PSC 001V recommended).

*Learning Activities:* Lecture 3 hour(s).

*Grade Mode:* Letter.

**EXB 122 – Psychological Effects of Physical Activity (3 units)**

*Course Description:* Physical activity is evaluated in terms of its ability to enhance the quality of life. Topics studied include: individual factors (self concept, type A); special populations (elderly, cardiovascular); and mental health changes (depression, anxiety).

*Prerequisite(s):* PSC 001 or PSC 001Y or PSC 001V.

*Learning Activities:* Lecture 3 hour(s).

*Enrollment Restriction(s):* Upper division standing.

*Grade Mode:* Letter.

**EXB 124 – Physiology of Maximal Human Performance (4 units)**

*Course Description:* Molecular mechanisms underlying adaptation to training. Learn how to exercise to maximize their own performance as well as learning how the frequency, intensity and timing of exercise and nutrition affect the molecular signals that underlie performance.

*Prerequisite(s):* EXB 101; or consent of instructor; BIS 101, BIS 102, and BIS 103 recommended.

*Learning Activities:* Lecture 3 hour(s), Practice 4 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

**EXB 125 – Neuromuscular & Behavioral Aspects of Motor Control (3 units)**

*Course Description:* Factors which affect control of movement from neuropsychological, physiological, behavioral, and mechanical viewpoints. Topics include central vs. peripheral control mechanisms, open and closed loop theories, motor programming, cognitive learning strategies, and the effects of biochemical and biomechanical influences.

*Prerequisite(s):* EXB 101.

*Learning Activities:* Lecture 2 hour(s), Discussion/Laboratory 2 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### EXB 148 – Theory & Practice of Exercise Testing (1 unit)

*Course Description:* Theory and practice of exercise testing applied to older adult populations. Physiological responses to and limitations of exercise testing. Application of exercise testing and training to healthy and diseased populations.

*Prerequisite(s):* EXB 112 (can be concurrent).

*Learning Activities:* Lecture/Discussion 1 hour(s).

*Grade Mode:* Pass/No Pass only.

*General Education:* Science & Engineering (SE).

### EXB 179 – Frontiers in Exercise Biology (3 units)

*Course Description:* Lectures by leading authorities and discussion of the latest research in newly emerging areas in exercise biology. Offered every fourth year.

*Prerequisite(s):* EXB 101; EXB 102; EXB 103 (can be concurrent); EXB 104L recommended.

*Learning Activities:* Lecture 2 hour(s), Discussion 1 hour(s).

*Grade Mode:* Letter.

*General Education:* Science & Engineering (SE).

### EXB 189 – International Perspectives in Exercise Biology (4 units)

*Course Description:* Compare and contrast exercise science issues between the US and an international location. Identify political, economic, cultural, technological and environmental issues that impact human exercise, physical activity, wellness, and sport from a global perspective.

*Prerequisite(s):* EXB 010; or upper division standing in Exercise Biology; consent of instructor: students will be accepted based upon academic merit, personal experience, and academic discipline in order to provide multidisciplinary perspectives.

*Learning Activities:* Lecture 4 hour(s).

*Enrollment Restriction(s):* Restricted to 22 students.

*Grade Mode:* Letter.

### EXB 190C – Research Conference (1 unit)

*Course Description:* Research findings and methods in exercise biology. Presentation and discussion of research by faculty and students.

*Prerequisite(s):* EXB 099 (can be concurrent); upper division standing in Exercise Biology or related biological science and consent of instructor; EXB 199 required concurrently.

*Learning Activities:* Discussion 1 hour(s).

*Enrollment Restriction(s):* Restricted to upper division students.

*Repeat Credit:* May be repeated.

*Grade Mode:* Pass/No Pass only.

### EXB 192 – Exercise Biology Internship (1-12 units)

*Course Description:* Work experience in the application of physical activity programs to teaching, recreational, clinical or research situations under program faculty supervision. Written report required.

*Prerequisite(s):* Consent of instructor; enrollment dependent on availability of intern positions.

*Learning Activities:* Internship 3-36 hour(s).

*Repeat Credit:* May be repeated 15 unit(s) including EXB 092.

*Grade Mode:* Pass/No Pass only.

### EXB 194H – Research Honors (2 units)

*Course Description:* Completion of individual honors research project in Exercise Biology, under the guidance of an Exercise Biology faculty advisor, culminating in written honors thesis.

*Prerequisite(s):* Senior standing; minimum of 6 units of EXB 199; 3.500 GPA or greater in major courses; consent of honors thesis advisor.

*Learning Activities:* Independent Study 6 hour(s).

*Grade Mode:* Pass/No Pass only.

*General Education:* Science & Engineering (SE).

### EXB 197T – Tutoring in Exercise Biology (1-5 units)

*Course Description:* Assisting the instructor by tutoring students in exercise biology course-related projects.

*Prerequisite(s):* Consent of instructor; upper division standing.

*Learning Activities:* Tutorial 3-15 hour(s).

*Credit Limitation(s):* No tutorial units will be counted towards the Exercise Biology major.

*Repeat Credit:* May be repeated 10 unit(s) including EXB 097T, EXB 097TC, EXB 197TC.

*Grade Mode:* Pass/No Pass only.

### EXB 197TC – Tutoring Exercise Biology in the Community (1-5 units)

*Course Description:* Tutoring in the community in exercise biology related projects under the guidance of the faculty.

*Prerequisite(s):* Consent of instructor and chairperson.

*Learning Activities:* Tutorial 3-15 hour(s).

*Repeat Credit:* May be repeated 10 unit(s) including EXB 097T, EXB 097TC, EXB 197T.

*Grade Mode:* Pass/No Pass only.

### EXB 198 – Directed Group Study (1-5 units)

*Course Description:* Directed group study.

*Prerequisite(s):* Consent of instructor and chairperson.

*Learning Activities:* Variable.

*Grade Mode:* Pass/No Pass only.

*General Education:* Science & Engineering (SE).

### EXB 199 – Special Study for Advanced Undergraduates (1-5 units)

*Course Description:* Special study for advanced undergraduates.

*Prerequisite(s):* Consent of chairperson.

*Learning Activities:* Variable.

*Grade Mode:* Pass/No Pass only.