

SYLLABUS
Biology 325 The Physiology of Exercise and Health

Fall '08

CRN 40645 Mon/Wed 11:30-12:45 PM, room KELLOGG 1109

CRN 40648 Mon/Wed 1:00-2:15 PM, room KELLOGG 1109

Instructor: Michael Burg, Ph.D.

Email: mburg@csusm.edu

Office Hours: Mon/Wed 9:00-10:00 AM SCI2 Rm 115

Course Description

This course will integrate concepts in functional anatomy and physiology that accompany acute and chronic exercise with current concepts in health and medicine. Topics discussed will include nutrition as the basis for human performance; systems for energy delivery and utilization; enhancement of energy capacity; physiology of pulmonary system, cardiovascular system, muscle systems, nervous system, and endocrine system pertaining to the physical movement of exercise; anatomy of musculature associated with physical exertion; environmental influence on exercise performance; body composition, energy balance, and weight control; health and aging. Emphasis will be placed on preventative health care, exercise and health of women, and gender differences in physiology and health.

Course Objectives

- 1) To integrate fundamental concepts and relevant scientific information to provide the foundation for understanding nutrition, energy transfer, exercise and training.
- 2) To develop a fuller appreciation and understanding of the physiological responses and adaptations that occur when a subject undergoes a single bout of strenuous exercise, or performs regular progressive exercise over a period of time.
- 3) To become aware of physical fitness and the methodologies for assessing physical fitness.
- 4) To acquire knowledge and understanding of common health problems and the extent to which exercise and lifestyle influence their incidence and prognosis in terms of health-related fitness.
- 5) To promote good health and the importance of educating the mind, body, and spirit.
- 6) To foster the development of critical thinking skills, reasoning, and problem-solving skills, scientific attitudes and values.

Required Texts, Materials, and Web-Enhancement

- WILMORE – Physiology of Sports and Exercise– 4th edition
- Scantron Answer Sheets (Form 882-ES).



Attendance, class ethics, and additional considerations:

1. Attendance is a minimal requirement for your successful understanding of the material. **Be respectful:** Please arrive on-time, turn off your cell phones, and don't chat!

2. **Academic dishonesty and plagiarism (the unauthorized or uncredited use of someone else's work) will result in a grade of "F" for the assignment. Its continued practice will be reported to the appropriate deans for possible disciplinary action and will result in an "F" for the course.**

GRADING

Exams

1. There will be 4 exams (each worth 100 points) on the material stipulated in the study sheets, textbook, other assigned reading, and lecture. Handouts for all lectures are available on WEBCT. There is no cumulative final (however, see 2), but information you learn builds upon previous knowledge so you will be expected to integrate your previous knowledge with the new material.
2. All exams count; There will be 1 makeup exam for those who missed a test or did very poorly. This will be a cumulative test covering the all material through the first four tests and will be conducted on date and time to be determined.

Other assignments

1. There will be various in-class and homework assignments throughout the semester. These will total around 100 points

Extra credit.

1. maximum of 20 points;- choose two of the following opportunities worth 10 points each
- 1) Run/bike/walk/volunteer from a sponsored organization (more information can be obtained at www.active.com): proof of participation included race number or registration receipt.
- 2) CSUSM Student Health Services or personal physician cholesterol screening: proof of participation includes complete lipid panel report.
- 3) CSUSM Student Health Services or community body composition assessment: proof of participation includes complete body composition report.

Grading summary and calculation:

Written Exams (4x100)	400
Assignments	around 100
<hr/>	
TOTAL POINTS	around 500

Letter grades will be assigned as follows:

GRADING

Your grade is based upon a percentage of the total points you accumulate during the semester.

- A = 90% - 100% of the total possible points
- B = 80% - 89% of the total possible points
- C = 70% -79% of the total possible points
- D = 60% -69%of the total possible points
- F = Less than 59% of the total possible points

Biology 325 Lecture FALL 08

Date	Lecture Topic	Readings	Assignments
Aug 25	General introduction and overview	Introduction:pp1-3 and "Genetic Engineering in sport"	
Aug 27	Homeostasis	Chpt. 14 p.328-352	
Sept 3	Nutrition and Metabolism	"Liquid Candy"	
Sept 8	Nutrition and Metabolism		
Sept 10	Optimal Nutrition for Exercise	Food Pyramid Article in SciAm Eating to Live	You are what you drink
Sept 15	Optimal Nutrition for Exercise		Food Pyrramid
Sept 17	Fat: Humanity's best friend	"What fuels fat" article	Fat:Humanity's best friend and What fuels fat
Sept 22	Performance enhancers	Chapter 15 and "Spice Healer" and "Getting to know Nutraceuticals in SciAmer Body"	
Sept 24	TBA		Spice healer and Getting to know nutraceuticals handouts
Sept 29	Exam #1		
Oct 1	Human Energy Transfer	Chpt. 2 p50-59	
Oct 6	Human Energy transfer during exercise	Chpt. 2 p50-59	
Oct 8	Fitness assessment		
Oct 13	Measuring energy capacity during exercise	Chpt. 4	
Oct 15	Energy expenditure during rest and exercise	Chpt. 4	
Oct 20	Exam #2		
Oct 22	Pulmonary system and exercise	Chpt. 6	
Oct 27	Pulmonary system and exercise	Chpt. 6	
Oct 29	Cardiovascular system and exercise	Chpt. 5	
Nov 3	Cardiovascular system and exercise	Chpt. 7	
Nov 5	TBA		
Nov 10	Exam #3		
Nov 12	Neuromuscular system and exercise I	Chpt. 1	
Nov 17	Neuromuscular system and exercise II	Chpt. 3	
Nov 19	Exercise training	Chpt. 11	
Nov 24	Exercise training	Chpt. 13	
Nov 26	Men vs Women	Chpt. 18	
Nov 26	TBA		
Dec 1	Men vs Women	Video	
Dec 3	Exam #4		
Dec 8-13	MAKEUP EXAM during scheduled		

	exam time		
--	-----------	--	--