

University of Southern California – Department of Biological Sciences
Human Biology 250 – The Pharmacology of Performance Enhancing Drugs (4 units)
Fall 2015

Instructor: Erik M. Kolb, Ph.D.
Office Hours: Monday & Wednesday 11:00am-1:00pm (AHF B39)
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Lecture: Monday, Wednesday, Friday 10:00-10:50 am; THH 210

Course Description:

Evaluation of drugs, nutritional supplements, and ergogenic aids that are purported to enhance human athletic performance to promote weight and fat loss.

Learning Objectives:

1. To develop a broad comprehension of the principles of pharmacology and pharmacokinetics.
2. To inculcate critical thinking by using the application of knowledge in pharmacology to solve both real-world and conceptual problems in sports physiology and performance enhancement.
3. To place performance enhancement in sports into a physiological, sociological, and evolutionary context.

I. Texts (Required):

- 1) **Drugs in Sport.** 6th edition, Mottram, D. R., and N. Chester (editors). Routledge, New York, NY, 2015.
- 2) **Run, Swim, Throw, Cheat: The Science Behind Drugs in Sport.** Cooper, C. Oxford University Press, Oxford, UK, 2012.

II. Grading Outline:

15%	Midterm 1	150 pts.
20%	Midterm 2	200 pts.
20%	Midterm 3	200 pts.
30%	Final	300 pts.
10%	Quizzes/Participation	100 pts.
5%	Active Learnings	<u>50 pts.</u>
		Total = 1000 pts.

▪ Exams and assignments will not be given a letter grade. Only the final grade will be given a letter grade. The grading scale will be based on a traditional grading scale as follows:

A (≥94%)	A- (≥90%)	
B+ (≥88%)	B (≥84%)	B- (≥80%)
C+ (≥78%)	C (≥74%)	C- (≥70%)
D+ (≥68%)	D (≥64%)	D- (≥60%)
F (≤59.9%)		

▪ A request to take a make-up exam must be accompanied by evidence of a university-sanctioned excused absence (i.e.: letter from a doctor, athletic release) and must be made before the date of the scheduled exam. Make-up exams will be different from the scheduled exam (e.g., essay) and may be proctored by personnel who do not have extensive knowledge in the area being tested.

IV. Tentative Lecture Schedule:

Date	Lecture Topic	Mottram	Cooper
Aug. 24	Introduction and Expectations		
Aug. 26	What is a Drug?	Ch. 1	Ch. 1
Aug. 28	Pharmacology I		
Aug. 31	Pharmacology II		
Sep. 2	Pharmacokinetics I		
Sep. 4	Pharmacokinetics II		
Sep. 7	Labor Day Holiday		
Sep. 9	Anabolic Agents I	Ch. 5	Ch. 6
Sep. 11	Anabolic Agents II		
Sep. 14	Anabolic Agents III		
Sep. 16	Anabolic Agents IV; Active Learning I		
Sep. 18	MIDTERM I		
Sep. 21	Peptide Hormones I	Ch. 6	Ch. 6
Sep. 23	Peptide Hormones II		
Sep. 25	β -2 Agonists	Ch. 7	
Sep. 28	Diuretics and Masking Agents; Active Learning II	Ch. 9	
Sep. 30	Oxygen Transport (Hemoglobin / RBCs / EPO)		Ch. 4
Oct. 2	Blood Doping	Ch. 10	
Oct. 5	Oxygen-Carriers		
Oct. 7	EPO; Active Learning III		
Oct. 9	Gene Doping I	Ch. 12	Ch. 8
Oct. 12	Gene Doping II		
Oct. 14	MIDTERM II		
Oct. 16	Stimulants	Ch. 13	Ch. 7
Oct. 19	Stimulants / Narcotics	Ch. 13/14	
Oct. 21	Narcotics	Ch. 14	
Oct. 23	Cannabinoids / Glucocorticoids	Ch. 15/16	
Oct. 26	Alcohol I	Ch. 17	
Oct. 28	Alcohol II; Active Learning IV		
Oct. 30	Beta Blockers	Ch. 18	
Nov. 2	Supplements for High-Intensity Exercise		Ch. 3
Nov. 4	Supplements	Ch. 21	
Nov. 6	Caffeine I		Ch. 7
Nov. 9	Caffeine II		
Nov. 11	MIDTERM III		
Nov. 13	OTC Drugs / Herbals	Ch. 21	
Nov. 16	NSAIDS I	Ch. 19	
Nov. 18	NSAIDS II		
Nov. 20	NSAIDS III		

Nov. 23	Melatonin		
Nov. 25-27	Thanksgiving Holiday		
Nov. 30	Artificial Environments I		
Dec. 2	Artificial Environments II		
Dec. 4	TBA		
Dec. 14	FINAL EXAMINATION 8:00-10:00am		

V. Academic Accommodations:

Any student requesting academic accommodations based on a disability are required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (the instructor) as early in the semester as possible. DSP is located in Student Union (STU) 301 and is open 8:30-5:00pm Monday – Friday. The phone number for DSP is (213) 740-0776.

VI. Academic Integrity:

Students who violate University standards of academic integrity are subject to disciplinary sanctions, including failure in the course and suspension from the University. Since dishonesty in any form harms the individual, other students and the University, academic integrity policies will be strictly enforced. I expect you will familiarize yourself with the Academic Integrity guidelines found in the current SCampus.

VII. Academic Integrity Violations:

- Academic dishonesty/misconduct (plagiarism, cheating, unauthorized collaboration, etc.) will not be tolerated. All academic integrity violations will result in a grade sanction and will be reported to the Office for Student Judicial Affairs. It is your responsibility to “reasonably” protect your own work from the plagiarism of others.
- If plagiarism is detected on a group project, all members of the group will be held responsible.
- You are expected to be familiar with the Academic Integrity guidelines found in the current SCampus (student guidebook). An electronic version is available at <http://usc.edu/scampus>.

VIII. Disruptive and Threatening Student Behavior:

Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students’ ability to learn and an instructor’s ability to teach. A student responsible for disruptive behavior may be required to leave class pending discussion and resolution of the problem and may be reported to the Office of Student Judicial Affairs for disciplinary action.

IX. Blackboard

Notes will be periodically posted on blackboard. However, the information posted on blackboard is not the only material that will be on the exam. If you attend class regularly you will be updated on the status of lecture notes and course material/announcements.

X. Electronic Devices

Please turn off or disable all cell phones or other electronic communication devices during class time. Using a laptop in class to take lecture notes is permitted. However, please turn off your browser, email, messaging and any other programs that do not involve the course material.