

Integrative Biology/Physical Education C129
Human Physiological Assessment
SPRING 2014

Instructor: Sue Johannessen, M.A. (suejoh@berkeley.edu)
Office Hrs: Mon 9:00 - 10:30 am, after labs or by appt
200 Hearst Gymnasium (#205), 642-7152

Class Hours:

Lecture:	Mon/Wed	8:00 - 9:00 am	242 Hearst
Labs:	Wednesday	10:00 - 1:00 pm	3047 VLSB
	Wednesday	1:00 - 4:00 pm	3047 VLSB

Objectives: Provide an understanding of the issues surrounding physical activity, testing and conditioning to improve physiological fitness; summarize the strong association between physical activity and heart disease, obesity, diabetes and other chronic diseases; introduce various methods to measure health-related components of physical fitness: cardio-respiratory endurance, body composition, musculoskeletal fitness and flexibility. Laboratory objectives include mastering of principles and techniques of health appraisal, exercise testing and prescription. IB 132 is required; IB 123A is recommended.

Required Texts: Heyward, V.H., Advanced Fitness Assessment and Exercise Prescription, 6th edition, Human Kinetics, 2010.

IB/PE 129 Laboratory Manual - on sale at Copy Central

Grading:

Midterms (2)	35%	2/24 and 4/9
Case Study Q's* (3)	10%	2/24, 4/9, 5/12
Lab skill tests (2):	25%	3/5, 4/30
Final Exam:	20%	5/12 8-11 am
Attend/Participate:	10 %	

LECTURE/LABORATORY OUTLINE

<u>Date</u>	<u>Topic</u>	<u>Laboratory</u>	<u>Reading</u>
1/22	Course Overview	Orientation	
1/27	Physical Activity, Exercise, and Health - benefits/risks		1(1-7)
1/29, 2/3	Physiological Responses to Exercise - Review	Resting Heart Rate and Blood Pressure	<i>Brooks et al.</i>
2/5, 2/10	Screening Concepts: Health appraisal, CAD risk factors, informed consent, clearance	Field/single stage tests	1(8-15), 2, 3 (39-47), App A, B
2/10, 2/12	Assessing C-R Fitness: Concept of VO ₂ , modes and protocols, aerobic power	Submaximal bike test	4, App B
2/19	Prescribing exercise for C-R fitness, metabolic calculations	Submaximal treadmill, Wingate anaerobic test	3(47-57), 5, App E (381-384)
2/24	MIDTERM # 1/Case Studies I*		
2/26	Cardiac Anatomy	Measure Phys. Activity Lab Practical Review	<i>Brooks et al.</i>
3/3	ECG Fundamentals/(LPI, if needed)		A(294-302) <i>Dubin(1-90)</i>
3/5	LAB PRACTICAL I	LAB PRACTICAL I	
3/10, 3/12	ECG - Arrhythmias and Ischemia	Maximal exercise test with ECG	<i>Dubin</i> (101-134)

<u>Date</u>	<u>Topic</u>	<u>Laboratory</u>	<u>Reading</u>
3/17, 3/19	Body Composition and anthropometry	Body Composition tests	8, App D
3/31, 4/2	Weight Control: energy expenditure, caloric intake exercise prescription	Dietary Analysis (Bod Pod)	9, App E
4/7	MIDTERM # 2/Case Studies II*		
4/9	Assessing Muscular Fitness	Str/end tests	6, App C
4/14	Exercise for Muscular Fitness		7, App C
4/16	Posture and Back Mechanics	Posture evaluation Back fitness	11(283-96) F(389-408)
4/21	Flexibility and Stretching		10, 11(283- 96, 389-408)
4/23, 4/28	Special Populations physiol/ex trng/(LPII, if needed)	Flex tests, LP II review	5(108-115) A(303-305)
4/30	LAB PRACTICAL II	LAB PRACTICAL II	
5/5	<i>Case Study/Final Review (RRR)</i>	<i>Monday, 8-10 am</i>	
5/12	FINAL EXAM/Case Studies III*	8-11 am	