



INTEG BIO/PHYS ED c129 – Human Physiological Assessment (3 units)

Instructor:	Sue Johannessen, M.A.
Class Times:	Lecture: Monday/Wednesday 8:00-9:00 am Labs: Wednesdays 10:00-1:00 pm and 1:00-4:00 pm
Location:	245 Hearst Gymnasium (lec); 3047 VLSB (lab)
Contact:	Email: suejoh@berkeley.edu
Office:	205 Hearst Gymnasium (inside room 200)
Office Hours:	Tuesday, 1:00-2:00 pm, or by appointment
Required Texts:	Gibson, AL, DR Wagner, and VH Heyward, <u>Advanced Fitness Assessment and Exercise Prescription</u> , 8 th edition, Human Kinetics, 2019 <u>IntegBio/PhysEd c129 Laboratory Manual</u> - @ Copy Central, 2411 Telegraph Numerous articles posted on bCourses
Course Website:	https://bcourses.berkeley.edu (check site regularly)

I. Course Description: This course examines the principles, theories and application of human physiological assessments in relation to physical activity, methodology of testing, and the design of conditioning programs for health, fitness and the treatment of chronic disease. The laboratory activities include procedures to measure and interpret health-related components of physiological fitness (e.g., cardio-respiratory endurance, body composition, musculoskeletal fitness).

II. Statement of Course Goal and Learning Objectives: By the conclusion of this cross-listed course in human physiological assessment, students shall be able to:

- Recognize the role of physical activity and exercise in reducing risk of chronic disease and improving health
- Understand the body's acute response and chronic adaptations to exercise, in both the cell and physiologic systems.
- Identify common assessments and practice skills in their administration to measure health-related components of physical fitness
- Design safe and effective exercise programs for healthy populations and those with health concerns
- Analyze a normal electrocardiogram; interpret common arrhythmias, ischemia
- Analyze a healthy eating plan and understand the health risks of obesity
- Identify lifestyle factors that contribute to successful weight management
- Discuss behavioral modifications and risk management to promote wellness and prevent disease in healthy and special populations

III. Method of Assessment and Evaluation:

GRADING: 65% Midterms (2), Case Study Questions (3) and Final Exam
35% Laboratory – Attendance/Participation, Homework, Lab Practical Exam (2)

Grading is determined using straight percentages (e.g., A= 93-100%; A-= 90-92.99%; B+= 87-89.99%; B= 83-86.99%; B-= 80-82.99%, etc.). If necessary, midterms and the final exam may be scaled to yield a higher grade. *There is no extra credit.*

COMPONENT	POINTS	TOTAL POINTS (%)
Midterm Exams (2)	105 points each (2/24, 4/6)	210 points (35%)
Case Study Questions (3)	20 points each (2/24,4/6,5/11)	60 points (10%)
Final Exam	120 points (5/11)	120 points (20%)
Lab Attend (10)/Homework (3)	5 points weekly; 10 pts total	60 points (10%)
Lab Practical Exams (2)	75 points each	150 points (25%)
COURSE GRADE		600 points (100%)

Grading is determined using straight percentages (e.g., A= 93-100%; A-= 90-92.99%; B+= 87-89.99%; B= 83-86.99%; B-= 80-82.99%, etc.). If necessary, midterms and the final exam may be scaled to yield a higher grade. *There is no extra credit.*

Two midterm exams (Module I and Module II) and a final exam (Module III plus integrative questions from entire course) will be written from material presented in lecture, textbook chapters, bCourses articles and laboratory activities. In addition, three sets of Case Study Questions will review important concepts from each lecture topic in challenging practical scenarios. All exams will be a combination of true/false, multiple choice and short answer questions. A 2-hr final review session will be held Monday morning of RRR week. Office hours are held weekly; extra hours will be added during RRR week.

Attendance and participation in weekly laboratories allow for practice in methods assessing fitness (cardio-respiratory endurance, muscular fitness, body composition, flexibility and balance) and the interpretations of that data. Attendance is crucial; students will serve as both subject and technician during our laboratories. You cannot make up points for missed labs. Three homework assignments, totaling 10 points, are assigned during the semester and are due by 4:00 pm on Wednesday the week the topic is presented.

Two 20-minute Laboratory Practical exams (cardio-respiratory fitness; remaining fitness assessments) will evaluate each students' skills in administering fitness assessments during hands-on testing with the instructor and a subject.

IV. Course Policies

- Students should be prepared for each lecture by having read the appropriate materials in accordance with the course schedule.
- The use of laptops is encouraged during class; all tasks being conducted or viewed should be related to the course and not distracting to others. Please turn cell phones off.
- Attendance in lecture is expected, but not graded; students are graded on their laboratory attendance and participation, along with performance on all examinations and written assignments.
- Each student is consenting to participate as a subject in all laboratories which may involve light-to-moderate-to-vigorous physical activity. Please dress appropriately. Inform the instructor should you have a limitation that precludes your active participation.
- The written assignments must be submitted digitally through bCourses by the posted due dates. Late assignments are not accepted. Extra credit is not available.
- All examinations must be completed according to the university's policies and by the posted due dates within bCourses.
- Each student must abide by the university's honor code: <https://teaching.berkeley.edu/berkeley-honor-code>. "As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others." Violation of the Honor Code shall result in a grade of "F" for the course.

CLASS SCHEDULE: (subject to change)

<u>Module I:</u>	<u>Topics covered in Lecture and Laboratory</u>	<u>Reading</u>
1/22, 1/27	Introduction; Physical Activity, Health and Disease No Lab this week	Chapter 1
1/29, 2/3	Physiological Responses to Exercise - Review Measuring Resting Heart Rate and Blood Pressure	bC article (H/T)
2/5, 2/10	Pre-Test Screening Procedures Field and Single-Stage tests for C-R Endurance	Chapters 1, 2
2/10, 2/12	Assessing C-R Endurance Submaximal Bicycle Ergometer Test; MC quiz due	Chapters 3, 4
2/19	Prescribing Exercise for C-R Endurance Submaximal Treadmill Test	Chapters 3, 5
2/24	MIDTERM #1/Case Study I Questions due	

<u>Module II:</u>	<u>Topics covered in Lecture and Laboratory</u>	<u>Reading</u>
2/26	Cardiac Anatomy Lab Practical #1 review; Physical Activity Tracker due	bC article (H/T)
3/2	ECG Fundamentals	Chapter 2
3/4	[LAB PRACTICAL EXAM #1]	Dubin (p1-90)
3/9, 3/11	ECG Arrhythmias and Ischemia Maximal Exercise Test with ECG	bC article (H/T) Dubin (p101-134)
3/16, 3/18	Body Composition and Anthropometry Body Composition Tests	Chapter 8
3/30	Weight Management – Diet and Exercise BodPod Assessment; ECG quiz review; MPP due	Chapter 9 bC article (H/T)
4/6	MIDTERM # 2/Case Study II Questions due	
<u>Module III:</u>	<u>Topics covered in Lecture and Laboratory</u>	<u>Reading</u>
4/8, 4/13	Assessing and Prescribing Muscular Fitness Muscular Fitness Tests	Chapters 6, 7 bC article (H/T)
4/15	Posture and Back Mechanics Posture Evaluation, Low Back Tests and Exercises	Chapters 11, 7
4/20	Flexibility, Balance and Stretching Flexibility and Balance Tests; Lab Practical #2 review	Chapters 6,10,11,12
4/22, 4/27	Special Populations	bC article (H/T)
4/29	[LABORATORY PRACTICAL EXAM #2]	(p. 213-216; p. 69-79; p. 360-363), Appendix B
5/4 (RRR)	Final Review Session, 8-10 am Extra office hours – TBA	
5/11	FINAL EXAM – 8-11 am/Case Study III Questions due	

V. Official Policies of the University of California at Berkeley

All students must abide by the *Berkeley Campus Code of Student Conduct*

<https://sa.berkeley.edu/code-of-conduct>

Statement of Accommodation. The University of California at Berkeley provides reasonable accommodations to students with disabilities through the Disabled Students' Program (<https://dsp.berkeley.edu>). For more information regarding these services, please contact the DSP staff via telephone at 510.642.0518, email, or visit in person at 260 Cesar Chavez Student Center.

Accommodation of Religious Creed. The University of California at Berkeley is compliant with Education code, Section 92640(a) and permits any student to undergo a test or examination, without penalty, at a time when that activity would not violate the student's religious creed, unless administering the examination at an alternative time would impose an undue hardship which could not reasonably have been avoided (see <https://sa.berkeley.edu/uga/religion> for detailed information).

Academic Integrity. You are a member of an academic community at one of the world's leading research universities. Universities like Berkeley create knowledge that has a lasting impact in the world of ideas and on the lives of others; such knowledge can come from an undergraduate paper as well as the lab of an internationally known professor. One of the most important values of an academic community is the balance between the free flow of ideas and the respect for the intellectual property of others. Researchers don't use one another's research without permission; scholars and students always use proper citations in papers; professors may not circulate or publish student papers without the writer's permission; and students may not circulate or post materials (handouts, exams, syllabi – any class materials) from their classes without the written permission of the instructor.

Scheduling Conflicts. Please notify the instructor in writing by the second week of the term about any known or potential extracurricular conflicts (such as religious observances, graduate or medical school interviews, or team activities). The instructor shall try his or her best to help you with making accommodations but cannot promise them in all cases. In the event there is no mutually workable solution, you may be dropped from the course. (See *Guidelines Concerning Scheduling Conflicts with Academic Requirements* <https://academic-senate.berkeley.edu/sites/default/files/guide-acad-sched-conflicts-final-2014.pdf>).

VI. Safety and Emergency Preparedness. In the event of an emergency, the following information may be helpful. See <http://emergency.berkeley.edu/contacts.shtml>

- Emergency Contacts <http://emergency.berkeley.edu/contacts.shtml>
 - WarnMe/Nixle emergency alerts <https://warnme.berkeley.edu>
 - Campus Emergency Management Areas <http://emergency.berkeley.edu/emerg-mgmt-areas.shtml>
 - Campus Map <http://emergency.berkeley.edu/lib/img/campusmaps.pdf>
- Safe and Well by the American Red Cross** <https://safeandwell.comunitvos.org/cms/>