



Department of Kinesiology

KIN 3040L Physiology of Exercise Lab

1 Unit

Fall 2021

Meeting days: Mondays	Instructor title and name: Dr. Heidi Lynch, PhD, RDN
Meeting times: 1:30-3:30 pm	Phone: 619-806-0822
Meeting location: Rohr Science building room 195	Email: hlynch@pointloma.edu
Final Exam: during your normal lab class time (Monday, 12/6). Sign up for a timeslot here: https://docs.google.com/spreadsheets/d/1ZkoTp9am-cxYX7UemUKfVPSnYmP7CNJmTlcldQKTUUc/edit#gid=0	Office location and hours: Mondays 10:30-11:30 am or by appointment

PLNU Mission

To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

COURSE DESCRIPTION

A study of the effects of vigorous physical activity upon the systems of the body; development of an understanding of factors which constitute training of the human body for high levels of health and physical performance.

Specifically, this course will provide students the opportunity to learn how to use equipment in the laboratory, such as the metabolic cart; to collect, analyze, and interpret data from submaximal and maximal exercise tests; and to become proficient using Excel to analyze and visually display data.

COURSE LEARNING OUTCOMES

1. Demonstrate an understanding of muscle physiology by testing the basic principles (and analyzing the results) including active and passive length-tension relationships and types of contractions (eccentric, concentric, isometric).
2. Measure and interpret the results of the following tests: resting energy expenditure, submaximal exercise test, and maximal exercise test.
3. Measure and interpret the results of both anaerobic power and capacity testing.

4. Measure and interpret the results of an anaerobic/lactate threshold test.
5. Apply the results of maximal oxygen uptake and anaerobic threshold testing to the prescription of continuous vigorous exercise as well as high-intensity interval training.
6. Be able to convert between various units of measure commonly used in exercise physiology.
7. Demonstrate mastery of graphing data in Microsoft Excel.

REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES

Materials posted on Canvas

ASSESSMENT AND GRADING

Educational Opportunities

Hands on Laboratory Experiences: Each week in lab you will either be exercising in some way or conducting physiological measurements on a lab partner while he/she is exercising. This will be your primary means of learning in the course. Take advantage of the wonderful equipment available to you and the laboratory experiences designed by your instructor.

Lab Worksheets and Integration Questions: After completion of the laboratory activities, you will have some questions to answer that will guide you in analyzing and interpreting the data that you collected during lab. The questions are designed to invite you to apply your individual data collected in the lab and the interpretations that you arrived at to a broader scale that may be applicable to your future careers in an exercise and sports science or allied health field. **Lab worksheets are due on Canvas by the specified day/time (usually one week after completing the lab, before the next class session).**

Lab Practicals: There will be two lab practicals in this course. Students will sign up for individual time slots and be asked to conduct laboratory measures that were learned in lab. Students will be graded on their ability to autonomously conduct the lab procedures as taught by the lab instructor. Students will also be asked to serve as subjects for their classmates to conduct the testing.

Grades will be based on the following percentages:

A	B	C	D	F
A 93-100	B+ 87-89	C+ 77-79	D+ 67-69	F \leq 59
A- 90-92	B 83-86	C 73-76	D 63-66	
	B- 80-82	C- 70-72	D- 60-62	

Attendance: Students are required to attend class every class session unless they receive permission from the professor in advance, or due to extenuating circumstances. Since class only meets once per week, missing class will put you behind severely. Please make all efforts to come to every lab. If you miss a lab and are therefore unable to complete the worksheet, you will receive a 0 on that lab.

STATE AUTHORIZATION

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point

Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on [State Authorization](#) to view which states allow online (distance education) outside of California.

INCOMPLETES AND LATE ASSIGNMENTS

All assignments are to be submitted/turned in by the beginning of the class session when they are due—including assignments posted in Canvas. Incompletes will only be accepted in extremely unusual circumstances. Late assignments incur a 50% deduction in earned grade on that assignment.

Corrected work: You will have **one chance** to correct your lab reports to still receive full credit. Corrected reports are due the week after they were graded. Assignments turned in late will *not* be eligible for this correction opportunity.

PLNU COPYRIGHT POLICY

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU ACADEMIC HONESTY POLICY

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See [Academic Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

PLNU ACADEMIC ACCOMMODATIONS POLICY

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities. Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will issue an academic accommodation plan ("AP") to all faculty who teach courses in which the student is enrolled each semester.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course and/or if they do not wish to utilize some or all of the elements of their AP in that course.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation.

SPIRITUAL CARE

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith.

If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the Office of Spiritual Development.

TENTATIVE COURSE SCHEDULE

Week	Date	Topic	Assignment due
1	TUESDAY 8/31	Lab 1: Instrumentation, calculations, and terminology	
2	Mon 9/6	NO CLASS: LABOR DAY	
3	Mon 9/13	Lab 2: Muscle length tension relationship / 2 Mile Run	Lab 1
4	Mon 9/20	Lab 3: Wingate test	Lab 2
5	Mon 9/27	Lab 4: Exercise energy expenditure & EPOC	Lab 3

6	Mon 10/4	Lab 5: Maximal oxygen uptake	Lab 4
7	Mon 10/11	Lab 5: Maximal oxygen uptake, continued	
8	Mon 10/18	Review for Lab Practical #1	Lab 5
9	Mon 10/25	Lab Practical (Midterm)	
10	Mon 11/1	Lab 6: 3-Minute All-Out & Critical Power Tests	
11	Mon 11/8	Lab 7: Lactate Threshold & Ventilatory Threshold	Lab 6
12	Mon 11/15	Lab 8: Exercise Prescription Based on Exercise Tests	Lab 7
13	Mon 11/22	NO CLASS: HAPPY THANKSGIVING!	
14	Mon 11/29	Review for Lab Practical #2	Lab 8
15	Mon 12/6	Lab Practical (Final exam)	

Final exams: week of Dec 13-17 (we will not meet this week)