

POINT LOMA NAZARENE UNIVERSITY

Department of Kinesiology

KPE340L Physiology of Exercise Lab

Spring 2018

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Time:	T 7:30 – 9:20 am
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Office Hours:	Monday/Friday 12pm-2pm

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 becomes an expression of faith. Being of Wesleyan heritage, we aspire to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

I. Catalogue Description: Practical experiences in assessing human physiological responses to exercise and training.

II. Learning Objectives:
After successful completion of this course students will be able to:

1. Demonstrate an understanding of muscle physiology by testing the basic principles (and analyzing the results) including: active and passive length-tension relationships, 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. Calibrate and operate the following pieces of laboratory equipment: metabolic measurement system, Monark mechanically and electronically braked cycle ergometers, and a motor driven treadmill.
4. Measure and interpret the results of both anaerobic power and capacity testing.
5. Measure and interpret the results of an anaerobic/lactate threshold test.
6. 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.

7. Demonstrate mastery of graphing data in Microsoft excel.

III. Educational Opportunities

1. **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.
2. **Lab Worksheets and Integration Questions:** After completion of the laboratory activities during each lab section you will have some questions to answer that will guide you in analyzing and interpreting the physiological data that you collected during lab. The questions will also be designed to invite you to applied your individual data collected in 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.
3. **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 on.

IV. Course Grading:

Learning Tool	Number and Point Value of Each	Points
Worksheets/Questions	5 @ 25 points and 4 @ 50 points	325
Practical	1 @ 100 points	100
Final Exam	1 @ 150 points	150
Total		575

<u>Grade</u>	<u>Percentage Points</u>
A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	0-59

V. Course Guidelines

1. **Attendance:** Students are required to attend class every class period unless they notify the professor in advance. Since class only meets once per week missing class will drastically put you behind. Please make all efforts to come to every lab. If you miss a lab and are unable to complete the worksheet because of the lab missed you will receive a 0 on that lab. If the missed lab is one that you can complete even though you missed the lab (multiple meetings for the same lab, etc) session you will be docked 40% on your grade of the lab report.
2. **Tardiness:** If you are late to lab (>5 min) you will be deducted 10% of your grade for the current lab write up.
3. **Late Work:** Assignments not turned in the day they are due will immediately be docked 20%. Any assignment or lab turned in after 1-week will receive a 0.
4. **Fixed 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 returned. Labs must be complete in order to make corrections. You cannot “fix” what has not been answered. If you are absent the day a lab is due, your assignment will be marked as late and you will not have the opportunity to make corrections.
5. **Make-Ups:** No make-up labs will be allowed.
6. **Email:** Email will be the main form of communication used by the professor outside of class. Students are expected to check their email at least on a daily basis. If you know of issues with your @pointloma.edu account please notify the professor immediately.

ATTENDANCE AND PARTICIPATION

Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member has the option of filing a written report which may result in de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice. If the date of de-enrollment is past the last date to withdraw from a class, the student will be assigned a grade of W or WF consistent with university policy in the grading section of the catalog. See [Academic Policies](#) in the (undergrad/graduate as appropriate) academic catalog.

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.

ACADEMIC HONESTY

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. As explained in the university catalog, 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. Violations of university academic honesty include cheating, plagiarism, falsification, aiding the academic dishonesty of others, or malicious misuse of university resources. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for a) that particular assignment or examination, and/or b) the course following the procedure in the university catalog. Students may appeal also using the procedure in the university catalog. See [Academic Policies](#) for further information.

ACADEMIC ACCOMMODATIONS

While all students are expected to meet the minimum academic standards for completion of this course as established by the instructor, students with disabilities may request academic accommodations. At Point Loma Nazarene University, students must request that academic accommodations by filing documentation with the [Disability Resource Center](#) (DRC), located in the Bond Academic Center. Once the student files documentation, the Disability Resource Center will contact the student's instructors and provide written recommendations for reasonable and appropriate accommodations to meet the individual needs of the student. See [Academic Policies](#) in the (undergrad/graduate as appropriate) academic catalog.

FERPA POLICY

In compliance with federal law, neither PLNU student ID nor social security number should be used in publicly posted grades or returned sets of assignments without student written permission. This class will meet the federal requirements by (Note: each faculty member should choose one strategy to use: distributing all grades and papers individually; requesting and filing written student permission; or assigning each student a unique class ID number not identifiable on the alphabetic roster.). Also in compliance with FERPA, you will be the only person given information about your progress in this class unless you have designated others to receive it in the "Information Release" section of the student portal. See [Policy Statements](#) in the (undergrad/ graduate as appropriate) academic catalog.

FINAL EXAMINATION POLICY

Successful completion of this class requires taking the final examination **on its scheduled day**. The final examination schedule is posted on the [Class Schedules](#) site. No requests for early examinations or alternative days will be approved.

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.

VI. Tentative Course Schedule:

Date	Topic	Assignments Due
Jan 16th	Lab 1: Instrumentation, calculations, and terminology	
Jan 23rd	Lab 2: Muscle length tension relationship/2 Mile Run	Lab 1
Jan 30th	Lab 3: Wingate	Lab 2
Feb 6th	Lab 4: Metabolic Cart Familiarization	Lab 3
Feb 13th	Lab 4: Resting and Submaximal Energy Expenditure	
Feb 20th	Lab 5: Maximal Oxygen Uptake	Lab 4
Feb 27th	Lab 5: Maximal Oxygen Uptake	
Mar 13th	Review for Lab Practical #1	Lab 5
Mar 20th	Lab Practical #1	
Mar 27th	Lab 6: Anaerobic/Lactate Threshold	
Apr 3rd	Lab 7: 1RM and Muscle Girth Testing	Lab 6

	Critical Power Testing	
Apr 10th	Lab 8: Body Composition	Lab 7
Apr 17th	Lab 9: Exercise Prescription Based on Exercise Tests	Lab 8
Apr 24th	Lab 9: Exercise Prescription Based on Exercise Tests	
May 1st	Lab Final @ 7:30am	Lab 9