

POINT LOMA NAZARENE UNIVERSITY

Department of Kinesiology

KIN340L Physiology of Exercise Lab (1 Unit)

Fall 2018

Instructor:	Brandon J. Sawyer, PhD, Associate Professor of Kinesiology and Biology
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Time:	R 1:45 – 3:40 pm
Location:	Kinesiology Trailer

Dr. Sawyer's Office Hours:

MWF: 8:30-10:45am
MW: 12:15-1:15

If you have any questions about the material in this course, feel free to stop by during my office hours as listed above. Either set up an appointment or simply drop by. I do get meetings scheduled during these office hours so I am not always available at these times. I will also be in my office at other, unscheduled times. If my office hours don't work for your schedule, e-mail or stop by and we can set up an appointment to meet.

I am here to help you in whatever way you need. Feel free to come to me with questions about the course, your life, your future, your career, or anything else that comes up. **You all matter greatly to me.

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. Catalog 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/PLNU Policies

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%. If the assignment is two weeks late or more the grade will be docked 40%.
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.

5. **Academic Honesty:** I expect that each of you will do your own work. Cheating will not be tolerated in this course on quizzes, exams, lab write-ups, or other assigned course work. The penalty for cheating can result in the reduction of the final course grade by two full letter grades (e.g., a “B” to a “D”) and referral for discipline to the Academic Vice President of the University.
6. **Laptop Computers:**
Every student in this class will need access to a laptop computer with Microsoft excel. This computer will need to be brought to class most days and definitely on the lab practical days.
7. **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.
8. **Academic Accommodations**
If you have a diagnosed disability, please contact PLNU’s Disability Resource Center (DRC) within the first two weeks of class to demonstrate need and to register for accommodation by phone at 619-849-2486 or by e-mail at DRC@pointloma.edu. See [Disability Resource Center](#) for additional information.
9. **PLNU Attendance Policy:**
It is the student’s responsibility to maintain his/her class schedule. Should the need arise to drop this course (personal emergencies, poor performance, etc.), the student has the responsibility to follow through (provided the drop date meets the stated calendar deadline established by the university), not the instructor. Simply ceasing to attend this course or failing to follow through to arrange for a change of registration (drop/add) may easily result in a grade of F on the official transcript.
10. **Communication:**
Email will be the main form of communication used by the professor outside of class. Students are expected to check their @pointloma.edu email at least on a daily basis. If you know of issues with your @pointloma.edu account please notify the professor immediately. Any information I communicate via email I will expect you to know.
11. **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.
12. **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.

V. Course Grading:

Learning Tool	Number and Point Value of Each	Points
Worksheets/Questions	4 @ 25 points and 4 @ 50 points	300
Practical	1 @ 100 points	100
Final Exam	1 @ 150 points	150
Total		550

<u>Grade</u>	<u>Percentage Points</u>
A	94-100
A-	90-93
B+	88-89
B	84-87
B-	80-83
C+	78-79
C	74-77
C-	70-73
D+	68-69
D	64-67
D-	60-63
F	0-59

VI. Tentative Course Schedule:

Date	Topic	Assignments Due
Sept 6 th	Lab 1: Instrumentation, calculations, and terminology	
Sept 13 th	Lab 2: Muscle length tension relationship/2 Mile Run	Lab 1
Sept 20 nd	Lab 3: Wingate	Lab 2
Sept 27 th	Lab 4: Metabolic Cart Familiarization	Lab 3
Oct 4 th	Lab 4: Resting and Submaximal Energy Expenditure	
Oct 11 th	Lab 5: Maximal Oxygen Uptake	Lab 4
Oct 18 st	Lab 5: Maximal Oxygen Uptake	
Oct 25 th	Review for Lab Practical #1	Lab 5
Nov 1 th	Lab Practical #1	
Nov 8 th	Lab 6: Body composition and Critical Power Testing	
Nov 15 th	Lab 7: Anaerobic/Lactate Threshold	Lab 6
Nov 22 th	No Lab! Happy Thanksgiving	
Nov 29 th	Lab 8: Exercise Prescription Based on Exercise Tests	Lab 7
Dec 6 th	Lab 8: Exercise Prescription Based on Exercise Tests	
Dec 13 th	Lab Final @ 1:45pm	Lab 8