

	Department of Kinesiology College of Health Science KIN 3040-2 The Physiology of Exercise 3 units
Spring 2023	

Meeting days: M, W, F	Sophie Mirth, MS Professor of Kinesiology and Biology
Meeting times: 11 - 11:55am	
Meeting location: Kinesiology 2	Email: smirth@pointloma.edu
Final Exam: Take home final: Wednesday May 3rd by 11:59 PM	Office location and hours: Rohr Science #110 (Located within the biology offices) *Office hours: Monday, Wednesday, Friday: 2-4pm Sign up here!Links to an external site.

*If you have any questions about the material in this course, feel free to set up an appointment for my office hours as listed above. 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 and we can set up an appointment to meet.

My Commitment to you

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. You all belong in this class!

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.

COURSE LEARNING OUTCOMES

After completion of this course you will be able to:

1. Demonstrate a working knowledge of the structure, function, and physiological concepts surrounding exercising skeletal muscle.
2. Demonstrate a working knowledge of the essentials of human metabolism and bioenergetics with a special focus on how they relate to physical activity.
3. Demonstrate the skills necessary to measure and compute energy expenditure.
4. Demonstrate a working knowledge of physical fatigue.
5. Demonstrate a working knowledge of the physiology of the cardiovascular system with special emphasis on how it works under conditions of vigorous physical activity.
6. Demonstrate a working knowledge of the physiology of the respiratory system with special emphasis on how it works under conditions of vigorous physical activity.
7. Demonstrate a working knowledge of the muscular, cardiovascular, and respiratory acute and chronic responses to physical activity.
8. Demonstrate a working knowledge of the general principles of endurance and resistance exercise training.
9. Describe the adaptations to resistance and endurance exercise training.
10. Manipulate a resistance training program to invoke different physiological responses.
11. Demonstrate a working knowledge of the effects of exercise in heat and altitude extremes.
12. Demonstrate a working knowledge of the immense health benefits of physical activity.
13. Describe the pathogenesis of type 2 diabetes and cardiovascular disease.
14. Describe the physiological effects of exercise on the pathogenesis of cardiovascular disease and type 2 diabetes.

Core Competencies Assessed in this course

1. Quantitative literacy is assessed with the “VO2max lab worksheet” (see assignments below)
2. Critical Thinking is assessed with the “Final Concept Map Paper” (see assignments below)
3. Information Literacy “Final Concept Map Paper” (see assignments below)
4. Writing Communication “Final Concept Map Paper” (see assignments below)

REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES

Note:

1. **Textbook:** Kenney WL, Wilmore JH, and Costill DL. Physiology of Sport and Exercise. Human Kinetics Publishing Co., Champaign, IL, **7th Edition**, 2020.

COURSE CREDIT HOUR INFORMATION

In the interest of providing sufficient time to accomplish the stated Course Learning Outcomes, this class meets the PLNU credit hour policy for a 3 unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirement can be provided upon request. (Based on 37.5 hours of student engagement per credit hour.)

LEARNING OPPORTUNITIES AND ASSIGNMENTS

1. **Quizzes:** Quizzes will be administered via canvas. The quiz will be on the required reading for the day. Quizzes will be available on canvas 2 days before the quiz. Students are to complete the quiz at home while reading and record their answers on a sheet of paper. Students will have the first 5 minutes of class to “turn in” their quizzes via canvas on the day of the quiz. There will be 11 quizzes given over the course of the semester and the lowest quiz score will be dropped. **This will take the place of retaking quizzes for unexcused absences. If you are late you get a 0 on the quiz.**
2. **Team Based Learning (TBL):** TBL is an innovative teaching method that has proven to improve learning. You will all be placed into teams at the beginning of the semester. We will have 2 TBL days in which you will study on your own before class, take a short quiz by yourself (iRAT) on that material when you arrive to class, and then take the same quiz with your team (tRAT). We will follow up for the rest of the class and the following class with some exercises based on that material that you just learned. The gallery walk days will also be part of the team based learning

3. **Unit Projects 1 & 2:** Information from class notes and the textbook will be used to create **concept maps OR scientific narratives** explaining the formation of ATP (#1) and how the variables of the Fick Equation change during acute exercise (#2). Students will use the free concept map website bubbl.us. For each account made on bubbl.us you can make 3 mind maps. The maps must be exported as an image and uploaded to canvas before the due date and time.

4. **Final Concept Map:** This will be a more detailed concept map explaining in detail the effects of prolonged (3 months at least) endurance exercise training on one of the following: atherosclerosis or blood glucose control. The map will be accompanied with a research paper. See assignment instructions for more details.

5. **Lab Reports:** There will be a short lab report due 1 week after each laboratory experience in the class. Most labs will consist of volunteers from class participating in the exercise testing then each student individually completing the report. You will be given one chance to correct and return your first lab report after the first grading.

6. **Lecture Exams:** The exams will be designed to test the students' comprehension of the material presented via lectures and independent studying of the textbook. Questions will be all short answer format.

7. **Final Exam:** The final exam will be worth 80 points. The cumulative portion will be in a "Major Concepts" format. Information from the entire semester will be tested. The Major Concepts format means that student will only be tested on the large and most important concepts of the course

COURSE POINTS AND GRADING

Your most up to date grade in the class will always be available for your viewing on canvas. As soon as I finish grading an assignment or exam I will post it to canvas.

Item	Points	Total Points
1. Quizzes	11 @ 10 points each	100 (drop lowest)

2.	Exams	3 @ 75 points each	225
3.	Unit Projects 1&2	2 @ 25 points each	50
4.	iRATs/tRATs	3 @ 20 points each	60
5.	Gallery Walks	3 @ 10 points each	30
6.	TBL Activities	4 @ 5 points	20
7.	Lab Reports	2 @ 25 points	50
8.	Final Concept Map	1 @ 100 points	100
9.	Final Exam	1 @ 100 Points	100
10.	Honorlock Practice	1 @ 3 points	3
Total			738

Final grades will be posted within one week of the end of the class. Grades will be based on the following:

Standard Grade Scale Based on Percentages

A 93.5-100	B+ 87.5-89.4	C+ 77.5-79.4	D+ 67.5-69.4	F Less than 59.4
A- 89.5-93.4	B 83.5-87.4	C 73.5-77.4	D 63.5-67.4	
	B- 79.5-83.4	C- 69.5-73.4	D- 59.5-63.4	

Course and PLNU Policies:

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 assigned in extremely unusual circumstances. An assignment will be docked 20% for being up to 2 weeks late then 40% if later than 2 weeks late.

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

While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments, modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the Disability Resource Center (DRC), located in the Bond Academic Center (DRC@pointloma.edu or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Section 504 prohibits discrimination against students with special needs and guarantees all qualified students

equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.

If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

SEXUAL MISCONDUCT AND DISCRIMINATION

Point Loma Nazarene University faculty are committed to helping create a safe learning environment for all students. If you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that help and support are available through the Title IX Office at pointloma.edu/Title-IX. Please be aware that under Title IX of the Education Amendments of 1972, it is required to disclose information about such misconduct to the Title IX Office.

If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services at counselingservices@pointloma.edu or find a list of campus pastors at pointloma.edu/title-ix

PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all **synchronous** class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions (virtual or face-to-face), 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. In some courses, a portion of the credit hour content will be delivered **asynchronously** and attendance will be determined by submitting the assignments by the posted due dates. See [Academic Policies](#) in the Undergraduate Academic Catalog. If absences exceed these limits but are due to university excused health issues, an exception will be granted.

Asynchronous Attendance/Participation Definition

A day of attendance in asynchronous content is determined as contributing a substantive note, assignment, discussion, or submission by the posted due date. Failure to meet these

standards will result in an absence for that day. Instructors will determine how many asynchronous attendance days are required each week.

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](#)

USE OF TECHNOLOGY

In order to be successful in the online environment, you'll need to meet the minimum technology and system requirements; please refer to the [Technology and System Requirements](#) information. Additionally, students are required to have headphone speakers compatible with their computer available to use. If a student is in need of technological resources please contact student-tech-request@pointloma.edu.

Problems with technology do not relieve you of the responsibility of participating, turning in your assignments, or completing your class work.