

Spring 2019

Meeting days: Mon/Wed/Fri	Instructor title and name: Dr. Heidi Lynch, PhD, RDN
Meeting times: 8:30-9:25	Phone: 619-849-3306
Meeting location: KIN 2	E-mail: hlynch@pointloma.edu
Final Exam: Fri 5/3 7:30-10:00 am	Office location and hours: Mondays and Wednesdays 10:30-11:30 am, or by appointment; Kinesiology office 7

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 completing 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)

COURSE SCHEDULE AND ASSIGNMENTS

DATE PRESENTED	CLASS CONTENT OR ASSIGNMENT	ASSIGNMENT DUE DATE	REQUIRED READING
Tues 1/8	Introduction/Skeletal Muscle		Chapter 1
Wed 1/9	Skeletal muscle	Quiz 1	Chapter 1
Fri 1/11	Neural control		Chapter 3
Mon 1/14	Metabolism/Bioenergetics	Quiz 2	Chapter 2
Wed 1/16	Metabolism/Bioenergetics		Chapter 2
Fri 1/18	TBL: Hormonal control	iRAT/tRAT 1	Chapter 4
Mon 1/21	MLK DAY: NO CLASS		
Wed 1/23	TBL: Gallery Walk Review	Concept Map 1 due by 11:59 pm on Canvas	Chapter 4
Fri 1/25	Exam 1	Exam 1	
Mon 1/28	Energy Expenditure/Fatigue	Quiz 3	Chapter 5
Wed 1/30	EE/EPOC Lab		
Fri 2/1	Energy Expenditure/Fatigue		Chapter 5
Mon 2/4	Cardiovascular system	Quiz 4	Chapter 6
Wed 2/6	Cardiovascular system	Lab 1 due	Chapter 6
Fri 2/8	Respiratory system	Quiz 5	Chapter 7
Mon 2/11	Respiratory system		Chapter 7
Wed 2/13	VO2max test lab		
Fri 2/15	Respiratory system		Chapter 7
Mon 2/18	Cardiopulmonary response to exercise	Quiz 6	Chapter 8
Wed 2/20	TBL: Cardiopulmonary response to exercise	iRAT/tRAT 2	Chapter 8

Fri 2/22	TBL activity 1: Cardiopulmonary response to exercise	Lab 2 due	Chapter 8
Mon 2/25	TBL activity 2: Cardiopulmonary response to exercise		Chapter 8
Wed 2/27	TBL: Gallery Walk Review	Concept Map 2 due by 11:59 pm on Canvas	
Fri 3/1	Exam 2	Exam 2	
Mon 3/4-Fri 3/8	SPRING BREAK: NO CLASSES		
Mon 3/11	Training principles		Chapters 9, 14
Wed 3/13	Adaptations to resistance training	Quiz 7	Chapter 10
Fri 3/15	Adaptations to resistance training		Chapter 10
Mon 3/18	Adaptations to resistance training		Chapter 10
Wed 3/20	Adaptations to endurance training	Quiz 8	Chapter 11
Fri 3/22	Adaptations to endurance training		Chapter 11
Mon 3/25	Adaptations to endurance training		Chapter 11
Wed 3/27	Exercise in the heat	Quiz 9	Chapter 12
Fri 3/29	TBL: heat and altitude	iRAT/tRAT 3	Chapters 12, 13
Mon 4/1	TBL activity 3: heat		Chapter 12
Wed 4/3	TBL activity 4: altitude		Chapter 13
Fri 4/5	TBL: Gallery Walk Review		
Mon 4/8	Exam 3		
Wed 4/10	Health benefits of exercise	Quiz 10	Gaesser article
Fri 4/12	Health benefits of exercise	Final concept map DRAFT due by 11:59 pm on Canvas	Chapter 21
Mon 4/15	Health benefits of exercise		
Wed 4/17	Obesity	Quiz 11	Chapter 22
Fri 4/19-Mon 4/22	EASTER BREAK: NO CLASS		
Wed 4/24	Obesity	Final concept map due by 11:59 pm on Canvas	Chapter 22
Fri 4/26	Review for final exam	TBL peer eval due by 11:59 pm through email link	
Fri 5/3 7:30-10:00 am	Final exam		

REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES

1. **Textbook:** Kenney WL, Wilmore JH, and Costill DL. Physiology of Sport and Exercise. Human Kinetics Publishing Co., Champaign, IL, **6th Edition**, 2015.
2. iClicker2.

ASSESSMENT AND GRADING

Item	Points	Total Points
Quizzes	11@10 points each	100 (drop lowest grade)
Exams	3@100	300
Concepts maps 1 & 2	2@25	50
Clicker participation	20@1	20
iRATs/tRATs	3@20	60
Gallery walks	3@10	30
TBL peer evaluation	1@20	20
TBL activities	4@5	20
Lab reports	2@25	50
Final concept map	1@100	100
Final exam	1@150	150
Total points possible		900

Grade scale:

A=93-100	C=73-76
A-=92-90	C-=70-72
B+=87-89	D+=67-69
B=83-86	D=63-66
B-=80-82	D-=60-62
C+=77-79	F=0-59

INCOMPLETES AND LATE ASSIGNMENTS

Assignments and quizzes not turned in by the **day and time** they are due will immediately lose 50% (this includes assignments turned in minutes after the 11:59pm deadline). Technology difficulties are NOT a valid excuse for turning in work late. Please plan ahead and do not wait until the last minute to turn in your work!

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.

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 (a) 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.

PLNU ATTENDANCE AND PARTICIPATION POLICY

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 can file a written report which may result in 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. See [Academic Policies](#) in the Undergraduate Academic Catalog.