Course Syllabus

Jump to Today ✎ Edit

POINT LOMA NAZARENE UNIVERSITY	**Department of Kinesiology** **College of Health Science** **KIN 3040-2 The Physiology of Exercise** **3 units**
Fall 2022	

Meeting days: **M, W, F**	**Brandon Sawyer, PhD** **Professor of Kinesiology and Biology** **Department Chair of Undergraduate Kinesiology**
Meeting times: **11 - 11:55am**	**Phone: 619-849-2283**
Meeting location: Kinesiology 2	**Email: bsawyer@pointloma.edu**
Final Exam: Take home final: Monday	**Office location and hours:** **Kinesiology Office #5** ***Office hours:**

Monday May 2nd by 11:59 PM	Sign up here! (https://calendar.google.com/calendar/selfsched?sstoken=UUoyaUFkU0Z3UE1LfGRlZmF1bHR8MTJlNDI4NjY2ZGQ4OWFhNDJlNDJlNTUxY2l2

*If you have any questions about the material in this course, feel free to stop by during my office hours as listed above or as listed on canvas for my zoom office hours. 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.

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.

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

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

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. **Concept Maps 1 & 2:** Information from class notes and the textbook will be used to create flow diagrams explaining the formation of ATP (#1) and the control of heart rate during 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.	Concept Maps 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 Peer Eval	1 @ 20 points	20
7.	TBL Activities	4 @ 5 points	20
8.	Lab Reports	2 @ 25 points	50
9.	Final Concept Map	1 @ 100 points	100
10.	Final Exam	1 @ 80 Points	80
11.	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 (https://www.pointloma.edu/offices/office-institutional-effectiveness-research/disclosures)** 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 (https://catalog.pointloma.edu/content.php?catoid=41&navoid=2435#Academic_Honesty)** 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 (https://mail.google.com/mail/?view=cm&fs=1&tf=1&to=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.

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 (https://catalog.pointloma.edu/content.php?catoid=46&navoid=2650#Class_Attendance)** 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 (https://www.pointloma.edu/offices/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*** **(https://help.pointloma.edu/TDClient/1808/Portal/KB/ArticleDet?ID=108349)** 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** **(https://mail.google.com/mail/?view=cm&fs=1&tf=1&to=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.

KIN 3040 Course Schedule : Full Calendar

Week	Date	**Topic**	**Assignment Due**	**Required Reading**	**Link to Video of Class**
1	Tue, Jan 11, 2022	Skeletal Muscle		Ch. 1	https://youtbe/208Y2wahl
	Wed, Jan 12, 2022	Skeletal Muscle/Nervous System	**Quiz #1**	Ch. 1	
	Fri, Jan 14, 2022	Nervous System	**Honorlock practice quiz**	Ch. 3	
2	Mon, Jan 17, 2022	Martin Luther King Day No Class			
	Wed, Jan 19, 2022	Metabolism	**Quiz #2**	Ch. 2	
	Fri, Jan 21, 2022	Metabolism		Ch. 2	
3	Mon, Jan 24, 2022	TBL: Endocrine	**iRAT/tRAT #1**	Ch. 3	
	Wed, Jan 26, 2022	Cardiovascular	**Quiz #3**	Ch. 6	
	Fri, Jan 28, 2022	Cardiovascular/Respiratory		Ch. 6 and 7	
4	Mon, Jan 31, 2022	Respiratory	**Quiz #4 Concept Map #1**	Ch. 7	
	Wed, Feb 2, 2022	TBL: Gallery Walk Review		Ch. 4	
	Fri, Feb 4, 2022	**Exam #1**	**Exam #1**	Ch. 4	
5	Mon, Feb 7, 2022	Energy Expenditure/Fatigue	**Quiz #5**	Ch. 5	
	Wed, Feb 9, 2022	EE/EPOC Lab		Ch. 5	
	Fri, Feb 11, 2022	Energy Expenditure/Fatigue		Ch. 5	
6	Mon, Feb 14, 2022	Cardio/Pulmonary Response to exercise	**Quiz #6**	Ch. 8	
	Wed, Feb 16, 2022	Cardio/Pulmonary Response to exercise	**Lab #1**	Ch. 8	
	Fri, Feb 18, 2022	TBL: Cardio/Pulmonary Response to exercise	**iRAT/tRAT #2**	Ch. 8	
7	Mon, Feb 21, 2022	TBL (activity 1): Cardio/Pulmonary Response to exercise		Ch. 8	
	Wed, Feb 23, 2022	VO2max Test Lab			
	Fri, Feb 25, 2022	TBL (activity 2): Cardio/Pulmonary Response to exercise		Ch. 8	

		Response to Exercise			
	Mon, Feb 28, 2022	Cardiovascular Disease	**Quiz #7 Concept Map #2**	Gaesser Article; Ch. 21	
8	Wed, Mar 2, 2022	Cardiovascular Disease and Type 2 Diabetes	**Lab #2**	Ch. 21	
	Fri, Mar 4, 2022	Cardiovascular Disease and Type 2 Diabetes		Ch. 21	
	Mon, Mar 7, 2022	Spring Break!			
9	Wed, Mar 9, 2022	Spring Break!			
	Fri, Mar 11, 2022	Spring Break!			
	Mon, Mar 14, 2022	TBL: Gallery Walk Review			
10	Wed, Mar 16, 2022	**Exam #2**	**Exam #2**		
	Fri, Mar 18, 2022	Training Principles		Ch. 9, 14	
	Mon, Mar 21, 2022	Adaptations to resistance training	**Quiz #8**	Ch. 10	
11	Wed, Mar 23, 2022	Adaptations to resistance training		Ch. 10	
	Fri, Mar 25, 2022	Adaptations to resistance training		Ch. 10	
	Mon, Mar 28, 2022	Adaptations to endurance training	**Quiz #9**	Ch. 11	
	Wed, Mar 30, 2022	Adaptations to endurance training		Ch. 11	
12	Fri, Apr 1, 2022	Adaptations to endurance training	**Final Concept Map and Paper Rough Draft**	Ch. 11	
	Mon, Apr 4, 2022	Exercise in the heat	**Quiz #10**	Ch. 12	
13	Wed, Apr 6, 2022	TBL: Heat and Altitude	**iRAT/tRAT #3**	Ch. 12, 13	
	Fri, Apr 8, 2022	TBL(Activity #3): Altitude		Ch. 12	
	Mon, Apr 11, 2022	TBL(Activity #4): Heat		Ch. 13	
14	Wed, Apr 13, 2022	TBL: Gallery Walk Review			
	Fri, Apr 15, 2022	Easter Break!			
	Mon, Apr 18, 2022	Easter Break!			
15	Wed, Apr 20, 2022	**Exam #3**	**Exam #3**		
	Fri, Apr 22, 2022	Obesity	**Quiz #11**	Ch. 22	
16	Mon, Apr 25, 2022	Obesity	**Final Concept Map and Paper Due 11:59PM**	Ch. 22	
	Wed, Apr 27, 2022	Obesity			
	Fri, Apr 29, 2022	Catch up/review	**TBL Peer Eval Due 11:59 pm**		
17	Mon, May 2, 2022	Final Take Home Exam Due	**Due by 11:59 pm**		

Full Calendar

Course Summary:

Date	Details	Due

Date	Details	Due
Tue Jan 11, 2022	Week 1 Overview	to do: 8am
	WK1 | Course Orientation	to do: 8am
	Meet Your Instructor: Dr. Brandon Sawyer	to do: 11:59pm
Wed Jan 12, 2022	Quiz 1 (https://canvas.pointloma.edu/courses/60618/assignments/751973)	due by 11am
Mon Jan 17, 2022	Week 2 Overview	to do: 8am
Wed Jan 19, 2022	Quiz 2 (https://canvas.pointloma.edu/courses/60618/assignments/751967)	due by 11am
Mon Jan 24, 2022	Week 3 Overview	to do: 8am
	tRAT 1 (https://canvas.pointloma.edu/courses/60618/assignments/751994)	due by 11am
	iRAT 1 (https://canvas.pointloma.edu/courses/60618/assignments/751955)	due by 11:15am
Wed Jan 26, 2022	Quiz 3 (https://canvas.pointloma.edu/courses/60618/assignments/751968)	due by 11am
Mon Jan 31, 2022	Week 4 Overview	to do: 8am
	Quiz 4 (https://canvas.pointloma.edu/courses/60618/assignments/751965)	due by 11am
	Concept Map 1 (https://canvas.pointloma.edu/courses/60618/assignments/751978)	due by 11:59pm
Wed Feb 2, 2022	Gallery Walk 1 (https://canvas.pointloma.edu/courses/60618/assignments/751983)	due by 11am
Fri Feb 4, 2022	Exam 1 (https://canvas.pointloma.edu/courses/60618/assignments/751976)	due by 1pm

Date	Details	Due
Mon Feb 7, 2022	Week 5 Overview	to do: 8am
	Quiz 5 (https://canvas.pointloma.edu/courses/60618/assignments/751975)	due by 11am
Mon Feb 14, 2022	Week 6 Overview	to do: 8am
	Quiz 6 (https://canvas.pointloma.edu/courses/60618/assignments/751977)	due by 11am
Wed Feb 16, 2022	Lab 1 (https://canvas.pointloma.edu/courses/60618/assignments/751986)	due by 11:59pm
Fri Feb 18, 2022	tRAT 2 (https://canvas.pointloma.edu/courses/60618/assignments/751995)	due by 11am
	iRAT 2 (https://canvas.pointloma.edu/courses/60618/assignments/751963)	due by 11:15am
Mon Feb 21, 2022	Week 7 Overview	to do: 8am
	TBL Activity 1 (https://canvas.pointloma.edu/courses/60618/assignments/751988)	due by 11am
Wed Feb 23, 2022	TBL Activity 2 (https://canvas.pointloma.edu/courses/60618/assignments/751989)	due by 11am
Mon Feb 28, 2022	Week 8 Overview	to do: 8am
	Quiz 7 (https://canvas.pointloma.edu/courses/60618/assignments/751957)	due by 11am
	Concept Map 2 (https://canvas.pointloma.edu/courses/60618/assignments/751979)	due by 11:59pm
Wed Mar 2, 2022	Lab 2 (https://canvas.pointloma.edu/courses/60618/assignments/751987)	due by 11:59pm
Sun Mar 6, 2022	Mid-Course Survey (https://canvas.pointloma.edu/courses/60618/assignments/751962)	due by 11:59pm

Date	Details	Due
Mon Mar 7, 2022	Week 9 Overview	to do: 8am
Mon Mar 14, 2022	Week 10 Overview	to do: 8am
	Gallery Walk 2 (https://canvas.pointloma.edu/courses/60618/assignments/751984)	due by 11am
Wed Mar 16, 2022	Exam 2 (https://canvas.pointloma.edu/courses/60618/assignments/751970)	due by 1pm
Mon Mar 21, 2022	Week 11 Overview	to do: 8am
	Quiz 8 (https://canvas.pointloma.edu/courses/60618/assignments/751959)	due by 11am
Mon Mar 28, 2022	Week 12 Overview	to do: 8am
	Quiz 9 (https://canvas.pointloma.edu/courses/60618/assignments/751958)	due by 11am
Fri Apr 1, 2022	Final Concept Map Draft (https://canvas.pointloma.edu/courses/60618/assignments/751982)	due by 11:59pm
Mon Apr 4, 2022	Week 13 Overview	to do: 8am
	Quiz 10 (https://canvas.pointloma.edu/courses/60618/assignments/751966)	due by 11am
Wed Apr 6, 2022	iRAT 3 (https://canvas.pointloma.edu/courses/60618/assignments/751964)	due by 11:15am
	tRAT 3 (https://canvas.pointloma.edu/courses/60618/assignments/751996)	due by 11:59pm
Fri Apr 8, 2022	TBL Activity 3 (https://canvas.pointloma.edu/courses/60618/assignments/751990)	due by 11:59pm
Mon Apr 11, 2022	Week 14 Overview	to do: 8am

Date	Details	Due
	TBL Activity 4 (https://canvas.pointloma.edu/courses/60618/assignments/751991)	due by 11:59pm
Wed Apr 13, 2022	Gallery Walk 3 (https://canvas.pointloma.edu/courses/60618/assignments/751985)	due by 11am
Mon Apr 18, 2022	Week 15 Overview	to do: 8am
Wed Apr 20, 2022	Exam 3 (https://canvas.pointloma.edu/courses/60618/assignments/751956)	due by 1pm
Fri Apr 22, 2022	Quiz 11 (https://canvas.pointloma.edu/courses/60618/assignments/751974)	due by 11am
Mon Apr 25, 2022	Week 16 Overview	to do: 8am
	Final Concept Map (https://canvas.pointloma.edu/courses/60618/assignments/751981)	due by 11:59pm
Fri Apr 29, 2022	TBL Peer Eval (https://canvas.pointloma.edu/courses/60618/assignments/751992)	due by 11:59pm
Mon May 2, 2022	Take Home Final Exam (https://canvas.pointloma.edu/courses/60618/assignments/751993)	due by 11:59pm
	Extra Credit (https://canvas.pointloma.edu/courses/60618/assignments/751980)	