

San José State University
CHHS/Department of Kinesiology
KIN 187-01, 02 Clinical Exercise Physiology
SPRING 2022

Course and Contact Information

Instructor: Areum Jensen, Ph.D.

Office Location: SPX 175 (if in person)/Zoom (if online, Check Canvas)

Telephone: (408) 924-8153 (This is my office phone.)

Email: areum.jensen@sjsu.edu
DO NOT USE CANVAS MESSAGING.

Expect a response from me within 48 hours during the week (Monday-Friday, 9am-5pm). Please use proper title and respectful language in your email.

Office Hours: Tuesday and Thursday 12pm-1pm, or by appointment

Class Days/Time: Section 1. T and Th/10:30am-11:45am
Section 2. T and Th/1:30pm-2:45pm

Classroom: SPX 163

Prerequisites: KIN 70 & KIN 155 with grades of C- or better. (Note: GE Math, Introductory Chemistry, and Human Physiology are prerequisites for KIN 155)

Course Description

Physiological principles applied to the prevention, management, and treatment of chronic health conditions. Focus on the pathophysiology, acute response to exercise, chronic training effects, and development of appropriate conditioning and training programs for chronic conditions.

Course Credit

KIN 187 is a 3-credit course. For each unit of credit, a minimum of 45 hours over the length of the course for instruction or preparation/studying, or course related activities will be expected. The expectation of work for a 3-credit course is 150 minutes of direct faculty instruction and **6 hours of out of class student work each week.**

Program Learning Outcomes (PLOs):

Upon completion of a Bachelor of Science degree program in the Department of Kinesiology students will be able to:

1. Explain, identify, and/or demonstrate the theoretical and/or scientific principles that can be used to address issues or problems in the sub-disciplines in kinesiology.
2. Effectively communicate in writing (clear, concise, and coherent) on topics in kinesiology.
3. Effectively communicate through an oral presentation (clear, concise, and coherent) on topics in kinesiology.
4. Utilize their experiences across a variety of health related and skill-based activities to inform their scholarship and practice in the sub-disciplines in kinesiology.
5. Identify and analyze social justice and equity issues related to kinesiology for diverse populations.

Student Learning Outcomes (SLOs):

Upon successful completion of this course, students will be able to:

1. Evaluate the capacities and limitations for physical activity in clinical populations, taking into consideration disease processes and methods to assess functional capacity.
2. Identify commonly used medications for specific clinical conditions and their effects on exercise capacity.
3. Apply concepts of exercise physiology (e.g., acute and chronic physiological responses of the neuromuscular, bioenergetic, and cardiorespiratory systems) to the development of comprehensive conditioning programs for individuals with chronic conditions.
4. Develop and modify programs to coincide with the limitations and capacities of individuals with chronic conditions.
5. Sensitively identify and explain other individual differences that should be taken into consideration when designing exercise programs for diverse populations.
6. Identify and explain the effects of muscle fatigue, overtraining, environmental factors, nutrition, and ergogenic aids on exercise programming for individuals with chronic conditions.

Course Content

Upon successful completion of this course, students will be able to discuss:

1. Disease processes and management
2. Effects of chronic diseases or special conditions on the acute response to exercise
3. Effects of chronic diseases or special conditions on adaptations to exercise training
4. Interaction of exercise with selected medications
5. Recommendations for exercise testing and exercise programming
6. Factors that may impact exercise programming (e.g., muscle fatigue, environmental factors, nutritional status)
7. Diverse populations will include the following: Children and adolescents, Pregnancy and postpartum, Older individuals
8. Chronic diseases/conditions and disabilities include the following: Obesity, Hypertension, Dyslipidemia, Cardiovascular disease (e.g., coronary artery disease, myocardial infarction, stroke and heart failure), Pulmonary diseases, Diabetes, Cancer, Neurological disorders (e.g., Cerebral Palsy, Autism Spectrum Disorders, and Spinal Cord Injuries), and skeletal and joint disease (e.g., osteoporosis, arthritis, low back pain, etc.).

Required Texts/Readings

1. ACSM's guidelines for exercise testing and prescription. (11th edition, 2021). Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins.
*You can purchase your books at the SJSU bookstore on campus, or you can order them via the internet through <https://shop.lww.com> using 30% OFF DISCOUNT CODE **WZT70MFT** for STUDENTS*
2. ACSM's Clinical Exercise Physiology. (1st edition, 2019). Walter R. Thompson, Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins.
3. Canvas: Students can access course-related materials including syllabus, lecture notes, announcement, assignments, and research articles, etc. From the SJSU home page you can easily find the Canvas entry page. Announcement will be posted on Canvas and should be checked on a regular basis.

Library Liaison

The KIN library liaison is Adriana Poo (Adriana.poo@sjsu.edu), (408) 808-2019.

My Role

I am here to *facilitate* your education in Kinesiology. I have prepared lectures, reading assignments, activities, and projects to guide your efforts in internalizing concepts, vocabulary, and skills used in the practice of clinical exercise physiology. On a higher level, I will share strategies that can help *anybody* accomplish any challenging goal.

My other responsibility is to gauge your understanding of clinical exercise physiology with assessments (quizzes, exams, reports, and presentations), and to assign a final grade that reflects your level of mastery.

Student Commitment

To be successful in this class, make sure to do the following:

- Read the entire syllabus.
- Consistently check email, notifications, and announcements.
- Review the course calendar for due dates and submit assignments on time.
- Dedicate yourself to clarifying confusion.
- Communicate with your instructor if you have any problems or concerns.
- Communicate with your classmates if you are late or missed classes.

I expect you to treat everyone in the class with respect, both me and other students. This means:

- Focusing on the class (not on text messages, emails, other assignments, etc.)
- Be on time for class
- Coming to class prepared with notebooks, pens, etc.
- Turning off cell phones
- Not talking or sleeping during class

Classroom Deportment

Student responsibility occurs when students take an active role in their learning by recognizing they are accountable for their academic success. Student responsibility is demonstrated when students make choices and take actions which lead them toward their educational goals. **Responsible students take ownership of their actions by exhibiting the following behaviors.**

- Demonstrate academic integrity and honesty
- Attend and participate in classes and activities prepared and on time
- Complete the assigned work in a timely manner with attention to quality of work
- Avoid making excuses for their behavior
- Communicate in a careful and respectful manner with professors and peers
- Respect diverse ideas and opinions
- Identify, develop, and implement a plan to achieve their educational goals

See additional Netiquette document on Canvas Module for respectful online communication.

Course Requirements and Assignments

1. **Quiz (20%, PLO#1&4, SLO#1-4 & 6):** Online quizzes (10%) will be given on Canvas (OPEN BOOK). All Canvas quizzes will open on the first day of instruction. In addition, ***In-person QUIZZES*** (10%, not open book) will be given during our in-person classroom when the class starts. You are responsible to check the due dates and complete all quizzes on time. ***There will be NO make-up quizzes for both online and in class quizzes.***

2. **Exams (Total 55%, 25% Midterm, 30% Final, PLO#1&4, SLO#1, 2, 3, 4, 6):** Exam questions will be based on assigned readings, lectures, and class discussions. Exams may include multiple choice, true-false, matching, and short answer (250 words limit) questions and problems. **Exams are NOT OPEN BOOK.** Exams will be given on the dates scheduled. Make-up exams will be permitted ONLY in cases of serious illness or emergencies with proof of document, and requests for make-up exams will be evaluated on an individual basis. The student is responsible for notifying the instructor and arranging a make-up date prior to the exam. The exam must be completed before the next class meeting. Final exam will be scheduled based on University Final Exam Schedule. See <https://www.sjsu.edu/classes/final-exam-schedule/spring-2022.php>
3. **Case Study Assignment (25%, PLO#1-5, SLO#1, 4, 5):** Assessment is based on is 1) individual initial report (5%), 2) a group oral presentation (10%) and 3) an individual final report (10%). Please check rubrics on Canvas. More detailed information will be given in class and stated on Canvas Module.

Late assignments

All assignments are due on the scheduled date. Late work may be graded down by points (approximately 20% of assigned points) per day. ***One week after the deadline, the submitted assignment will be considered as “no submission”. Assignments submitted incorrectly (e.g., link instead of docx, incorrect content, etc.) will be considered as “no submission”.***

For example,

If due date is Tuesday 9am, assignment has 10 points, and you submitted on Thursday 10pm, your score for this assignment will be 4 points because 6 points are deducted due to 3 days of late submission (2pt deducted by day).

Grades

A plus: 97 to 100%	A: 93 to 96%	A minus: 90 to 92%	
B plus: 87 to 89%	B: 83 to 86%	B minus: 80 to 82%	
C plus: 77 to 79%	C: 73 to 76%	C minus: 70 to 72%	
D plus: 67 to 69%	D: 63 to 66%	D minus: 60 to 62%	F: less than 60%

Note that “All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.” See University Policy F13-1 at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on the Office of Graduate and Undergraduate Programs’ [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>

Course Schedule

(This schedule is subject to change with advance notice. *The instructor reserves the right to make changes at any time.* Students will be promptly notified if any changes occur.)

Week	Date	Topics	Chapters	Assignments
1	1/27 (TH)	<ul style="list-style-type: none"> Introduction & course overview 	Thompson: Chaps. 3 Guide: Chaps. 1-3	Zoom
2	2/1 (T)	<ul style="list-style-type: none"> Clinical Exercise Physiology Epidemiology and Terms 	Thompson: Chaps. 3, 4 Guide: Chaps. 1-3,5-6	Zoom
	2/3 (TH)	<ul style="list-style-type: none"> Benefits and risks of physical activity Health Screening 	Thompson: Chaps. 3, 4 Guide: Chaps. 2-3,5-6	Zoom
3	2/8 (T)	<ul style="list-style-type: none"> Health Screening 	Thompson: Chaps. 3, 4 Guide: Chaps. 2-3,5-6	Zoom Bonus Assignment 1-1. Personal essay Bonus Assignment 1-2. Meet your peers Canvas Quiz 1. Course information due Canvas 9am
	2/10 (TH)	<ul style="list-style-type: none"> Health Screening 	Thompson: Chaps. 3, 4 Guide: Chaps. 2-6	Zoom In class Quiz 1
4	2/15 (T)	<ul style="list-style-type: none"> Health Screening Wrap up: Case study Clinical exercise testing/programing 		Bonus Assignment 2-1. Subject Summary: health screening Due in class
	2/17 (TH)	Jeopardy competition		
5	2/22 (T)	<ul style="list-style-type: none"> Chronic conditions associated with physical inactivity (HTN, dyslipidemia) 	<i>Thompson: Chap 16</i> <i>Guide: Chap. 9</i>	Canvas Quiz 2. PA, Health Screening due Canvas 9am
	2/24 (TH)	<ul style="list-style-type: none"> Chronic conditions associated with physical inactivity (obesity, metabolic syndrome) 	<i>Thompson: Chap 16</i> <i>Guide: Chap. 9</i>	In class Quiz 2
6	3/1 (T)	<ul style="list-style-type: none"> Metabolic disease: Diabetes 	Thompson: Chap 9, 16 <i>Guide: Chap. 9</i>	Form a case/study group Bonus Assignment 2-2. Subject Summary: chronic conditions Due in class
	3/3 (TH)	<ul style="list-style-type: none"> Metabolic disease: Diabetes 		In class Quiz 3
7	3/8 (T)	<ul style="list-style-type: none"> CV System review Cardiovascular Disease: Atrial fibrillation 	Thompson: Chaps. 5-8 Guide: Chap. 8	Canvas Quiz 3. Chronic conditions due Canvas 9am Bonus Assignment 2-3. Subject Summary: Diabetes Due in class
	3/10 (TH)	<ul style="list-style-type: none"> Cardiovascular Disease: CAD, MI, CHF 	Thompson: Chaps. 5-8 Guide: Chap. 8	In class Quiz 4
8	3/15 (T)	<ul style="list-style-type: none"> Cardiovascular Disease: CAD, MI, CHF 	Thompson: Chaps. 5-8 Guide: Chap. 8	Canvas Quiz 4. Metabolic disease due Canvas 9am
	3/17 (TH)	<ul style="list-style-type: none"> Cardiovascular Disease: Stroke 	My Stroke of Insight: Jill Bolte Taylor, Ph.D.	In class Quiz 5
9	3/22 (T)	<ul style="list-style-type: none"> Catch up/Review Q&A for Midterm exam 	Thompson: Chaps. 5-8 Guide: Chap. 8	Canvas Quiz 5. CVD due 9am Bonus Assignment 2-4. Subject Summary: CVD Due in class

Week	Date	Topics	Chapters	Assignments
	3/24 (TH)	Midterm exam (25%, 75 min) (*15% Individual, 10% Group exam)	Including CVD	*May change if going online.
10	3/29 - 3/31	SPRING BREAK	NO CLASS	
11	4/5 (T)	<ul style="list-style-type: none"> Pulmonary Disease: COPD, CRPD Case Discussion 	Thompson: Chap 9 <i>Guide: Chap. 8</i>	Assignment 2-1. Initial individual case analysis report (50pt) due in class
	4/7 (TH)	<ul style="list-style-type: none"> Pulmonary Disease: COPD, CRPD 		In class Quiz 6
12	4/12 (T)	<ul style="list-style-type: none"> Cancer 	Thompson: Chap 13, 14 <i>Guide: Chap. 10</i>	
	4/14 (TH)	<ul style="list-style-type: none"> Neuromuscular condition: CP 	Guide: Chap. 11	In class Quiz 7 Bonus Assignment 2-5. Subject Summary: Pulm & cancer Due in class
13	4/19 (T)	<ul style="list-style-type: none"> Neuromuscular condition: Spinal cord injury 	Thompson: Chap 13, 14 <i>Guide: Chap. 11</i>	Canvas Quiz 6. Pulmonary, cancer due Canvas 9am
	4/21 (TH)	<ul style="list-style-type: none"> Children and adolescents 	Thompson: Chap 12, 2 <i>Guide: Chap. 11</i> Youth Resistance Training: Updated Position Statement	In class Quiz 8
14	4/26 (T)	<ul style="list-style-type: none"> Autism spectrum disorder Case project group meeting 	<i>Guide: Chap. 11</i>	Canvas Quiz 7. CP and SCIs due Canvas 9am
	4/28 (TH)	<ul style="list-style-type: none"> Older adults / Osteoporosis 	Thompson: Chap 2, 9 Guide: Chap. 10	In class Quiz 9 Bonus Assignment 2-6. Subject Summary: CP, SCI, Children, ASD Due in class
15	5/3 (T)	<ul style="list-style-type: none"> Osteoporosis /Arthritis 	Thompson: Chap 2, 9 Guide: Chap. 10	Canvas Quiz 8. Children/ASD due 9am In class Quiz 10
	5/5 (TH)	<ul style="list-style-type: none"> Group Case Presentation: Assignment 2-2 		
16	5/10 (T)	<ul style="list-style-type: none"> Group Case Presentation: Assignment 2-2 		Canvas Quiz 9. Older adults /osteoporosis/ arthritis due 9am
	5/12 (TH)	<ul style="list-style-type: none"> Group Case Presentation: Assignment 2-2 Review for final (Last day of instruction) 		Assignment 2-3. Individual Final case report due in class
FINAL WEEK		Final exam (30%, 135 min) Section 1. 5/20 (F) 9:45am-12pm Section 2. 5/23 (M) 12:15pm-2:30pm	Cumulative	