

**San José State University
CHHS/Dept. of Kinesiology
KIN 157, Physiological Assessment, Spring 2021**

Lecture

Instructor: Peggy Plato, Ph.D.

Office Location: Online during spring 2021

Email: Peggy.Plato@sjsu.edu

Office Hours: Wednesdays: 11:30 am – 12:30 pm
<https://sjsu.zoom.us/j/85303882707?pwd=T0U3OG9VV1hrWVZyMnUxUmFR1JHZz09>
 Thursdays: 12:30-1:30 pm
<https://sjsu.zoom.us/j/81454592468?pwd=RIZlanJERDY4QzJqQjh6TzJvQTIXUT09>
 Drop in via Zoom; other times available by appointment

Class Days/Time: Tuesdays 12:30-1:20 pm (lecture)
 Lab: See table below

Classroom: Online

Prerequisites: Chem 30A, GE Math, Biol 66, KIN 70 (C- or better), KIN 155 (C- or better)

Labs

	10:30-12:20 TR Section 2	1:30-3:20 TR Section 3	12:30-2:20 MW Section 4
Instructor	Peggy Plato, Ph.D	Alev Dietrich, M.A.	Cristina Carrillo, M.A.
Office Location	Online	Online	Online
Email	Peggy.Plato@sjsu.edu	Alev.Dietrich@sjsu.edu	Cristina.Carrillo@sjsu.edu
Office Hours	See above	TR 4:00-5:00 pm	MW 2:30-3:30 pm

Course Description

Use of exercise physiology instrumentation to assess physiological characteristics of human performance, interpret results, and implement corrective strategies, when appropriate.

Kinesiology Undergraduate Major Program Learning Outcomes (KIN PLOs)

At the end of a Bachelor of Science degree program in the Department of Kinesiology, students should 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.

Course Goal

Students will develop competency in administering physiological assessments including using laboratory instruments, interpreting results and, when appropriate, implementing appropriate corrective strategies.

Course Learning Outcomes (CLOs)

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

- (1) demonstrate knowledge and use of instruments and procedures to assess physiological functioning.
- (2) demonstrate proficiency in administering selected physiological tests.
- (3) demonstrate knowledge of the underlying principles, benefits, and limitations of selected physiological tests.
- (4) interpret and explain test results.
- (5) explain and apply corrective strategies to enhance physiological functioning and/or performance.
- (6) demonstrate sensitivity to age, gender, cultural, and other individual differences as they relate to the physiological assessment of human performance and application of corrective strategies.
- (7) demonstrate critical thinking and problem-solving skills.

Methods

- (1) Lecture/discussion
- (2) Demonstration
- (3) Observation
- (4) Assigned readings
- (5) At home laboratory experience – emphasis on hands-on practice to develop competency

Course Content

- (1) Physical activity assessment – questionnaires, pedometers
- (2) Health & fitness assessment – Polar Body Age, Cholestech
- (3) Posture assessment – posture grid & plumb lines
- (4) Balance assessment – Biodex, field tests (e.g., Y-balance test, BESS, Berg balance scale, Fullerton advanced balance scale)
- (5) Anthropometry & body composition
 - (a) Height, weight, circumferences, diameters - stadiometer, physician's scale, tape measures, anthropometers
 - (b) Bioelectrical impedance analysis – Omron, Tanita scale, Biodynamics 4-electrode BIA, Seca mBCA
 - (c) Skinfold measurements – skinfold calipers
 - (d) Hydrostatic weighing
 - (e) Air displacement plethysmography (Bod Pod)
 - (f) Dual-energy X-ray absorptiometry (DXA)
- (6) Joint range of motion – goniometer
- (7) Pulmonary function
 - (a) Spirometry - static and dynamic lung volumes – spirometers, metabolic cart
 - (b) Environmental conditions
- (8) Strength & power assessment – Humac norm, hand dynamometers
- (9) Miscellaneous topics
 - (a) Equipment calibration & operation
 - (b) Selection of tests
 - (c) Equipment specifications
 - (d) Analysis & interpretation of results

Required Texts/Readings

- Assigned readings and video links are posted on Canvas
- Laboratory data sheets are posted on Canvas
- Calculator
- Skinfold caliper (NOT a digital display)*
- Body measuring tape (ideally marked in cm)*
- 12 inch, 360° goniometer*

* Cost for these 3 items should be approx. \$20 total, although there are higher quality, more expensive models available. These are available from a variety of online vendors.

Library Liaison

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

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/>

Academic Integrity

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. "Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development." All assignments are to be completed by the individual student unless otherwise specified. Carefully read the information on quizzes and the final exam.

Dropping and Adding

According to University policy, dropping this course after Feb. 8 is permissible for serious and compelling reasons beyond the student's control. Additional information is available at: <http://www.sjsu.edu/aars/policies/latedrops/policy/>. The last day to add is Feb. 15; however, students who receive add codes should use them within 24 hours or the space and add code may be given to another student.

Recording in Class

"Common courtesy and professional behavior dictate that you notify individuals when you are recording them. You must obtain the instructor's permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material." Recording any students during class activities requires permission of those individuals as well as permission from the instructor. Zoom lecture and lab sessions may be recorded by the instructor and posted on Canvas.

Course Materials

"Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without her approval." You may not publicly share or upload instructor-generated material for this course, such as exam or quiz questions, lecture notes, or hand-outs, without instructor consent. **You may not download, or take photos or screen shots of any exam or quiz question.** Doing so is a violation of the Academic Integrity Policy.

Expectations and Grading Policy

[Academic Policy S12-3](http://www.sjsu.edu/senate/S12-3.htm) at <http://www.sjsu.edu/senate/S12-3.htm> has defined expected student workload, applied to this course, as follows:

“Success in this course is based on the expectation that students will spend, 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.” **This is equivalent to 9 hours/week, including online class meetings.**

Note: [University Policy F69-24](http://www.sjsu.edu/senate/docs/F69-24.pdf) at <http://www.sjsu.edu/senate/docs/F69-24.pdf> states, “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

Note: “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](http://www.sjsu.edu/senate/docs/F13-1.pdf) at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

Class Format

Lectures will be recorded and posted on Canvas. Students should view the lecture BEFORE the scheduled lecture session. During the 12:30-1:20 pm Tuesday lecture session, there will be a brief review of the topic (approx. 10-20 min) and students are encouraged to ask questions or seek clarification. Scheduled quizzes will open on Canvas at 1:30 pm on Tuesdays and close at 1:30 pm on the following Wednesday; thus, there is a 24-hour window to complete each quiz.

New labs are introduced on the Thursday following the lecture in the 10:30-12:20 TR lab, on Tuesday immediately after the lecture in the 1:30-3:20 TR lab, and on the Wednesday following the lecture in the 12:30-2:30 MW lab – see lab schedules at the end of the syllabus. Lab instructors will announce their availability online on the other lab days and how to schedule competency tests. Whenever possible, please plan on completing competencies during scheduled lab sessions. If you do not have a client available at that time, lab instructors will attempt to accommodate the need to schedule competency tests outside of lab sessions. Please understand that faculty are teaching multiple classes and have other responsibilities – scheduling competencies outside of lab sessions will be based on need, not preference.

Assignment of Grades

A plus = 97-100%	A = 93-96%	A minus = 90-92%
B plus = 87-89%	B = 83-86%	B minus = 80-82%
C plus = 77-79%	C = 73-76%	C minus = 70-72%
D plus = 67-69%	D = 63-66%	D minus = 60-62%
	F = 0-59%	

EVALUATION

Component	KIN PLO	CLO	% Earned	X	Points Possible	Points
Physical Activity Lab	1,4	1,4,7	85%	X	4	3.40
Health & Fitness Lab	1,4	1,4,7	95%	x	4	3.80
Posture Lab	1,4	1,4,7	95%	x	4	3.80
Balance Lab	1,4	1,4,7	91%	x	4	3.64
Anthropometric Lab	1,4	1,4,7	85%	x	4	3.40
Skinfold Lab	1,4	1,4,7	77%	x	4	3.08
BIA Lab	1,4	1,4,7	94%	x	4	3.76
Hydrostatic Lab	1,4	1,4,7	90%	x	4	3.60
Bod Pod & DXA Lab	1,4	1,4,7	95%	x	4	3.80
Joint ROM-Goniometry Lab	1,4	1,4,7	88%	x	4	3.52
Spirometry Lab	1,4	1,4,7	82%	x	4	3.28
Strength & Power Lab	1,4	1,4,7	83%	x	4	3.32
Assessment Project	1,2,4	1,4,5,6,7	83%	x	12	9.96
Competencies	1,4	1,2	95%	x	10	9.50
Quizzes	1,5	1,3,4,6	Avg = 82%	x	15	12.30
Final Exam	1,2,5	1,3,4,5,6,7	84%	x	15	12.60
TOTAL						86.76 B plus
0.5 and above rounded up; below 0.5 rounded down						

Your laboratory instructor will assign 70% of the points in the class. The lecture instructor will assign 30% of the points in the class (quizzes and final exam).

Labs & Assessment Project

Guidelines and forms are posted on Canvas. Due dates are posted on your lab Canvas site. All labs and the project should be submitted on Canvas by 11:59 pm on the due date. Most work must be typed; however, if hand-written work is accepted, it must be neatly done. Remember to proofread and check for completeness before turning in.

Due Date	Received	Grade Lowered
Monday	Tuesday or Wednesday	1 grade step (e.g., B plus to B)
	Thursday or Friday	2 grade steps (e.g., B plus to B minus)
	Sat. through following Monday	1 full grade (e.g., B plus to C plus)
Tuesday	Wednesday or Thursday	1 grade step (e.g., B plus to B)
	Friday or Saturday	2 grade steps (e.g., B plus to B minus)
	Sun. through following Tuesday	1 full grade (e.g., B plus to C plus)
Wednesday	Thursday or Friday	1 grade step (e.g., B plus to B)
	Saturday or Sunday	2 grade steps (e.g., B plus to B minus)
	Mon. through following Wed.	1 full grade (e.g., B plus to C plus)
Thursday	Friday or Saturday	1 grade step (e.g., B plus to B)
	Sunday or Monday	2 grade steps (e.g., B plus to B minus)
	Tues. through following Thurs.	1 full grade (e.g., B plus to C plus)
Students must speak with the instructor regarding assignments that are over 1 week late.		

Competencies

Students will demonstrate competency on the following:

- Demonstrating how to measure height (1%)
- Demonstrating how to measure weight (1%)
- Measuring circumferences (2%)
- Demonstrating sites for diameter measurements (2%)
- Measuring skinfolds (2%)
- Measuring joint range of motion using a goniometer (2%)

Grading on competency tests:

A (95%) = excellent technique (performed smoothly & with confidence), accurate results

B (85%) = good technique, minor corrections needed

F (50%) = poor or weak technique, significant errors, questionable data

0 points = did not attempt competency

Students earning less than an A grade will receive feedback and may, after further practice, retake the competency on another day. If a student does not attempt a competency by the first deadline date, the score may be lowered one letter grade for each week, or part of a week, that the deadline is missed. The last day to complete all competencies is listed on the laboratory schedule. On the last day, a maximum of one competency may be attempted. There is ample time to complete competencies before the last day.

Quizzes & Final Exam

- Quizzes and the final exam will cover theoretical background, use of equipment, data collection and interpretation. Once you start the quiz or final exam, there is a time limit to complete the quiz or exam. All quizzes and the final exam will be completed on Canvas. There is a 24 hour window to complete quizzes. The final exam will be completed during the scheduled final exam time block – if you start late, you will not be given additional time. Make-up are permitted only for illness and emergency (TRULY EXTRAORDINARY CIRCUMSTANCES). The student is responsible for notifying the instructor and making arrangements at the earliest possible time. All requests for make-up exams will be evaluated on an individual basis.
- Questions may include true-false, multiple choice, short answer, problems, and calculations. There are 13 quizzes; the lowest quiz score will be dropped.
- You should be able to complete most or all questions without referring to your personal notes or material uploaded on the course Canvas sites. However, you MAY refer to these materials. It is recommended that you complete as many questions as possible before referring to these materials, and then you may look up answers you're unsure of within the time limit.
 - **These are materials you MAY access during quizzes and the final exam:** Materials uploaded to the KIN 157 Canvas lecture and lab sites and your personal notes. A study guide will be provided by Dr. Plato for the final exam.

- **These are materials you may NOT access during quizzes and the final exam:** Notes or study guides developed by others (e.g., other students) or developed in combination with others and shared, other people, or other web sites. You may not text, email, phone, or consult with others or access other web sites. Doing so is a violation of the University Academic Integrity Policy. Faculty are expected to report infractions to the office of Student Conduct and Ethical Development and appropriate sanctions will be taken. If you are unsure of which materials are permitted and which are not, ask Dr. Plato before starting the quiz or exam.
- The grade you **EARN** should reflect **YOUR** knowledge and skills, **NOT** the knowledge and skills of others. **Carefully read the [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) at <http://www.sjsu.edu/senate/docs/S07-2.pdf> Earning your college degree is important -- think carefully before jeopardizing your degree!**

Professionalism

This is a professional preparation course. Students are expected to:

- Be fully prepared; actively and enthusiastically participate in all online lecture and laboratory activities; complete laboratory assignments at home and upload to Canvas before the due date and time.
- **PRACTICE** your technique at home; ask for guidance from the instructor during the online laboratory classes.
- The most effective class results when **EACH** class member makes an **INDIVIDUAL COMMITMENT** to be an active participant in the teaching/learning process. Individual contributions and differing viewpoints will be appreciated and respected. Students are responsible for material presented and announcements made in each class.

Proposed Lecture Schedule

Schedule is subject to change with fair notice. Changes will be announced in class and/or sent via my.sjsu or posted on Canvas.

Date	Topics	Readings
Tues., Feb. 2	Physical Activity Assessment	Posted on Canvas
Tues., Feb. 9	Health & Fitness Assessment	Posted on Canvas
Tues., Feb. 16	Posture Assessment Quiz 1: Physical Activity Assessment	Posted on Canvas
Tues., Feb. 23	Balance Assessment Quiz 2: Health & Fitness Assessment	Posted on Canvas
Tues., Mar. 2	Body Composition Assessment, Anthropometric Measurements (Height, Weight, Circumferences, Diameters) Quiz 3: Posture Assessment	Chaps. 1, 5 on Canvas
Tues., Mar. 9	Skinfolds Quiz 4: Balance Assessment	Chaps 4, 10 on Canvas
Tues., Mar. 16	Bioelectric Impedance Analysis (BIA) Quiz 5: Body Composition Assessment, Anthropometric Measurements (Height, Weight, Circumferences, Diameters)	Chap. 6 on Canvas
Tues., Mar. 23	Hydrostatic Weighing Quiz 6: Skinfolds	Chaps. 3 (pp. 27-33, 37-40), 11, & 15 on Canvas
Tues., Apr. 6	Air Displacement Plethysmography (ADP or Bod Pod) & DXA Quiz 7: BIA	Chap. 3 (pp. 33-37, 40-47) on Canvas

Date	Topics	Readings
Tues., Apr. 13	Flexibility & Joint ROM Quiz 8: Hydrostatic Weighing	Posted on Canvas
Tues., Apr. 20	Weight Management Quiz 9: Bod Pod & DXA	Posted on Canvas
Tues., Apr. 27	Spirometry & Pulmonary Function Quiz 10: Flexibility & Joint ROM	Posted on Canvas
Tues., May 4	Strength & Power Assessment Quiz 11: Weight Management	Posted on Canvas
Tues., May 11	Review Quiz 12: Spirometry & Pulmonary Function Quiz 13: Strength & Power Assessment	
Tues., May 25 12:15-2:30 pm	FINAL EXAM	

Chapters & page numbers are from *Applied Body Composition Assessment* (2nd ed.) which is out of print, but sections are posted on Canvas. In addition, students should read other materials posted on Canvas and watch the video links.

Proposed Lab Schedule (10:30-12:20 TR Lab, Sec. 2)
Dates are when the topic is first introduced

**** Labs are due at 11:59 pm the Wednesday after the topic is introduced****

Date	Lab
Thurs., Jan. 28	Introduction & Course Overview
Tues., Feb. 2	
Thurs., Feb. 4	Physical Activity Assessment
Tues., Feb. 9	
Thurs., Feb. 11	Health & Fitness Assessment
Tues., Feb. 16	
Thurs., Feb. 18	Posture Assessment
Tues., Feb. 23	
Thurs., Feb. 25	Balance Assessment
Tues., Mar. 2	
Thurs., Mar. 4	Anthropometric Measurements (Height, Weight, Circumferences, Diameters)
Tues., Mar. 9	
Thurs., Mar. 11	Skinfolds
Tues., Mar. 16	CT: Height & Weight
Thurs., Mar. 18	BIA
Tues., Mar. 23	CT: Circumferences or Diameters
Thurs., Mar. 25	Hydrostatic Weighing
Tues., Apr. 6	CT: Skinfolds

Date	Lab
Thurs., Apr. 8	Bod Pod & DXA
Tues., Apr. 13	
Thurs., Apr. 15	Flexibility & Joint ROM
Tues., Apr. 20	
Thurs., Apr. 22	
Tues., Apr. 27	CT: Goniometry
Thurs., Apr. 29	Spirometry
Tues., May 4	DUE: Assessment Project
Thurs., May 6	Strength & Power Assessment
Tues., May 11	
Thurs., May 13	Last Day for Competency Testing

CT = Competency Test – **Deadline** for first attempt at the competency

Proposed Lab Schedule (1:30-3:20 TR Lab, Sec. 3)

Dates are when the topic is first introduced

**** Labs are due at 11:59 pm the Monday after the topic is introduced****

Date	Lab
Thurs., Jan. 28	Introduction & Course Overview
Tues., Feb. 2	Physical Activity Assessment
Thurs., Feb. 4	
Tues., Feb. 9	Health & Fitness Assessment
Thurs., Feb. 11	
Tues., Feb. 16	Posture Assessment
Thurs., Feb. 18	
Tues., Feb. 23	Balance Assessment
Thurs., Feb. 25	
Tues., Mar. 2	Anthropometric Measurements (Height, Weight, Circumferences, Diameters)
Thurs., Mar. 4	
Tues., Mar. 9	Skinfolds
Thurs., Mar. 11	CT: Height & Weight
Tues., Mar. 16	BIA
Thurs., Mar. 18	CT: Circumferences or Diameters
Tues., Mar. 23	Hydrostatic Weighing
Thurs., Mar. 25	CT: Skinfolds
Tues., Apr. 6	Bod Pod & DXA

Date	Lab
Thurs., Apr. 8	
Tues., Apr. 13	Flexibility & Joint ROM
Thurs., Apr. 15	
Tues., Apr. 20	
Thurs., Apr. 22	CT: Goniometry
Tues., Apr. 27	Spirometry
Thurs., Apr. 29	DUE: Assessment Project
Tues., May 4	Strength & Power Assessment
Thurs., May 6	
Tues., May 11	
Thurs., May 13	Last Day for Competency Testing

CT = Competency Test – **Deadline** for first attempt at the competency

Proposed Lab Schedule (12:30-2:20 MW Lab, Sec. 4)
Dates are when the topic is first introduced

**** Labs are due at 11:59 pm the Tuesday after the topic is introduced ****

Date	Lab
Wed., Jan. 27	Introduction & Course Overview
Mon., Feb. 1	
Wed., Feb. 3	Physical Activity Assessment
Mon., Feb. 8	
Wed., Feb. 10	Health & Fitness Assessment
Mon., Feb. 15	
Wed., Feb. 17	Posture Assessment
Mon., Feb. 22	
Wed., Feb. 24	Balance Assessment
Mon., Mar. 1	
Wed., Mar. 3	Anthropometric Measurements (Height, Weight, Circumferences, Diameters)
Mon., Mar. 8	
Wed., Mar. 10	Skinfolds
Mon., Mar. 15	CT: Height & Weight
Wed., Mar. 17	BIA
Mon., Mar. 22	CT: Circumferences or Diameters
Wed., Mar. 24	Hydrostatic Weighing

Date	Lab
Mon., Apr. 5	CT: Skinfolds
Wed., Apr. 7	Bod Pod & DXA
Mon., Apr. 12	
Wed., Apr. 14	Flexibility & Joint ROM
Mon., Apr. 19	
Wed., Apr. 21	
Mon., Apr. 26	CT: Goniometry
Wed., Apr. 28	Spirometry
Mon., May 3	Due: Assessment Project
Wed., May 5	Strength & Power Assessment
Mon., May 10	
Wed., May 12	
Mon., May 17	Last Day for Competency Testing

CT = Competency Test – **Deadline** for first attempt at the competency