San José State University  
CHHS/Department of Kinesiology  
KIN 157. Physiological Assessment  
SPRING 2019

Course and Contact Information

Instructor: Areum Jensen, Ph.D. (KIN 157-05, -02, -03)  
Stephanie Rosales, B.S. (KIN 157-03, -04)

Office Location: SPX 175

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Email: areum.jensen@sjtu.edu  
Stephanie Rosales: svr12@rocketmail.com

Office Hours: T 7am-8am AND Th 12:15pm-1:15pm, OR by appointment

Class Days/Time: Lecture, KIN 157-05: T 8:00am-8:50am  
Laboratory,  
KIN 157-02: T/Th 9:30am-11:20am  
KIN 157-03: T/Th 11:30am-1:20pm  
KIN 157-04: M/W 1:30pm-3:20pm

Classroom: Lecture (SPX 160), Laboratory (YUH 233)

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

Course Description

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

Student Learning Outcomes:

Students will develop competency in using laboratory instruments to perform physiological assessments, interpret results and, when appropriate, implement 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 utilized in the assessment of 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 address impairments and muscular imbalances.
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.
Course Content

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

1. Body composition
   a) Anthropometry: height, weight, circumferences, bony diameters
   b) Bioelectrical impedance analysis (BIA)
   c) Skinfold measurements
   d) Hydrostatic weighing
   e) Air displacement plethysmography (Bod pod)
   f) Dual-energy X-ray absorptiometry (DXA)

2. Pulmonary function
   a) Spirometry – static and dynamic lung volumes
   b) Environmental conditions

3. Muscular strength, endurance, and power assessment (e.g., 1 RM, Humac Norm)

4. Flexibility assessment – Joint range of motion (goniometer), etc.

5. Posture assessment

6. Balance assessment – Biodex system, field tests (e.g., Y-balance test, BESS, Berg balance scale, Fullerton advanced balance scale)

7. Health screening – Trifit, Cholestech

8. Physical activity assessment

9. Miscellaneous topics
   a) Equipment calibration and operation
   b) Selection of tests
   c) Equipment specifications
   d) Analysis and interpretation of results

Required Texts/Readings


2. Canvas: Students can access course-related materials including syllabus, lecture notes, “lab material”, 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.

Course Requirements and Assignments

1. **Written Final Exam (20%, KIN PLO 1,2,5 and CLO 1,3,4,5,6,7):** Exam questions will be based on assigned readings, lectures, laboratory, and class discussions. Exam may include multiple choice, true-false, matching, and short answer questions and problems. Exam 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.

   **Final Exam:** According to Academic Senate policy S06-4 a time period is set aside at the end of each semester for a formal examination period. All classes are expected to meet during the final examination period whether an examination is given or not. The final examination schedule is
2. **Quizzes (20%, KIN PLO 1 and CLO 1,3):** You will have “open book” online quiz on Canvas due every Monday at 7am. In addition, “NO open book” in class quiz will be given as scheduled during lecture (See class schedule on page 4-7). There will be NO make-up quiz for both online and in class.

3. **Lab write ups (45%, KIN PLO 1,4 and CLO 1,3):** Guidelines and forms are posted on Canvas. Refer to the class schedule for due dates. Written work must be typed or neatly hand-written. Remember to proofread and check for completeness before turning in.

4. **Competency test (10%, KIN PLO 1,4 and CLO 1,2):** Students will demonstrate competency on the following: measuring height, weight, circumferences, diameters, skinfolds, and joint range of motion. Grading on competency tests are A (10%), B (8.5%), F (3%), no attempt (0%). 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.

5. **Participation, Professionalism, and Care of Equipment (5%, KIN PLO 4 and CLO 1):** This is a professional preparation course. Students are expected to:
   - Be fully prepared; actively and enthusiastically participate in all laboratory sessions and class discussions.
     - Read assigned material and lab instructions BEFORE class. (Lecture and lab time will be used to present material and help students master techniques. Students are directed to the syllabus and course reader for answers to many of their procedural questions.)
     - Bring textbook, calculator, lab printouts and other necessary supplies to class.
     - Dress appropriately for scheduled activities.
   - Participate in demonstrations and data collection.
   - PRACTICE, PRACTICE, PRACTICE techniques. Use your class time effectively! Ask for guidance from instructor if having difficulty mastering a technique.
   - Complete assignments on time.
   - Use equipment properly; clean and put away all equipment before leaving lab area.
   - Keep lab clean. No food or drinks are allowed in the lab, except water.
   - Maintain lab security (lock lab if leaving for even 1 min).

Students who consistently demonstrate professionalism, as described above, WILL be able to complete all lab assignments in a timely manner. Students who choose not to use laboratory time effectively may not complete all assignments, and should not expect the instructor to ensure that they do. In a lab-intensive class, if you fall behind it may be impossible to catch up.

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. Students who miss class (a rare occurrence!) are responsible for obtaining material from another student BEFORE seeing the instructor about content missed.
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<thead>
<tr>
<th>Grading Details</th>
<th>Percentage (%)</th>
<th>Points</th>
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<tbody>
<tr>
<td>Written Final exam (20%)</td>
<td>200</td>
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<tr>
<td>Online Quiz (20%)</td>
<td>200</td>
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<td>Lab turn ins (45%)</td>
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<td>Competency test (10%)</td>
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<tr>
<td>Participation, professionalism, care of equipment (5%)</td>
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<td><strong>Total (100%)</strong></td>
<td><strong>1000</strong></td>
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**Late assignments**

All assignments are due on the scheduled date. Late work may be graded down 1 grade step (e.g., A to A-) per day. After 1 week, a late assignment will be considered as “no submission”.

**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](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 at [http://www.sjsu.edu/gup/syllabusinfo/](http://www.sjsu.edu/gup/syllabusinfo/)
### Course Schedule (subject to change with advance notice)

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<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>CHAPTER</th>
<th>ASSIGNMENTS DEADLINES</th>
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</table>
| Th, Jan 24th | **Lec: Introduction and course overview**  
Lab 1: *Lecture on Body composition assessment*  
Anthropometric measurement (height, weight, circumferences, diameters) | Chap 8,9 |                                                            |
| T, Jan 29th | **Lec: Dual energy X-ray absorptiometry**  
Lab 1: (continued)  
Lab 2: DXA | Chap 8,9 | Canvas QUIZ 0                                               |
| Th, Jan 31st | Lab 1: (continued)                                                     |         | Due: Personal essay                                         |
| T, Feb 5th  | **Lec: BIA**  
Lab 1&2: (continued)  
Lab 3: BIA | Chap 8,9 | Canvas QUIZ 1                                               |
| Th, Feb 7th | Lab 1&2: (continued)                                                   |         |                                                            |
| T, Feb 12th | **Lec: Skinfolds**  
Lab 1-3: (continued)  
Lab 4: Skinfolds measurement | Chap 8,9 | Canvas QUIZ 2                                               |
| Th, Feb 14th | Lab 2&3: (continued)                                                   |         |                                                            |
| T, Feb 19th | **Lec: Hydrostatic weighing**  
Lab 2-4: (continued)  
Lab 5: Hydrostatic weighing | Chap 8,9 | Due: Comp (circ) Canvas QUIZ 3                              |
| Th, Feb 21st | Lab 2-4: (continued)                                                   |         |                                                            |
| T, Feb 26th | **Lec: Air displacement plethysmography**  
Lab 4-5: (continued)  
Lab 6: Air displacement plethysmography (BodPod) | Chap 8,9 | Canvas QUIZ 4                                               |
| Th, Feb 28th | Lab 3&4: (continued)                                                   |         |                                                            |
| T, Mar 5th  | **Lec: Pulmonary function test**  
Lab 4-6: (continued)  
Lab 7: Pulmonary function test |         |                                                            |
| 7Th, Mar 7th | Lab 4-6: (continued)                                                   | DUE Lab 4. Skinfolds | Due: Comp (dia)                                           |
| T, Mar 12nd | **Lec: Muscular strength & endurance**  
Lab 6-7: (continued)  
Lab 8: Muscular strength & endurance | Chap 6 | Canvas QUIZ 6                                               |
| Th, Mar 14th | Lab 6-7: (continued)                                                   |         |                                                            |
| T, Mar 19th | **Lec: Flexibility**  
Lab 7&8: (continued) | Chap 10, 11 | Canvas QUIZ 7 Due: Comp (Skinfold)                         |
<p>| Th, Mar 21st | Lab -8: (continued)                                                   |         |                                                            |
| T, Mar 26th | <strong>Lec: Air displacement plethysmography /Summary</strong>                     |         |                                                            |</p>
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<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Chapter(s)</th>
<th>Quiz(s)</th>
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<tr>
<td><strong>Lab 9: Flexibility</strong></td>
<td>Lab 8&amp;9: (continued)</td>
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<tr>
<td><strong>DUE Lab 7. Pulmonary function test</strong></td>
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<tr>
<td><strong>T, Th Apr 2nd &amp; 4th</strong></td>
<td><strong>SPRING BREAK (NO CLASS)</strong></td>
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| **T, Apr 9th** | **Lec: Balance/Posture**  
Lab 8&9: (continued)  
Lab 10&11: Balance/Posture | Chap 12                      | Canvas QUIZ 8                   |
| **Th, Apr 11th** | Lab 9-11: (continued)                                                  |                              | Due: Comp (ROM)                   |
| **T, Apr 16th** | **Lec: Health screening (Trifit&Cholesterol test)**  
Lab 9-11: (continued)  
Lab 12: Trifit & Cholesterol test | Chap 1,2                     | Canvas QUIZ 9                    |
| **Th, Apr 18th** | Lab 10-12: (continued)                                                 |                              | **DUE Lab 9. Flexibility**        |
| **T, Apr 23th** | **Lec: PA assessment**  
Lab 10-12: (continued)  
Lab 13: PA assessment | Chap 3                       | Canvas QUIZ 10                   |
| **Th, Apr 25th** | Lab 10-13: (continued)                                                 |                              |                                   |
| **T, Apr 30th** | **Lec: Catch up & Jeopardy competition**  
Lab 10-13: (continued) |                              | Canvas QUIZ 11                   |
| **Th, May 2nd** | Lab: 12&13                                                            |                              | **DUE Lab 10 & 11. Balance and posture** |
| **T, May 7th** | **Lec: Review**  
Lab: 12&13                                                          |                              | Canvas QUIZ 12                    |
| **Th, May 9th** | Lab: Last day for competency testing                                 |                              | **DUE Lab 12 & 13. Cholesterol test and PA assessment** |
| **W May 15th** | **FINAL EXAM scheduled by the University Academic Calendar**  
7:15am-9:30am |                              |                                   |