

**rSan José State University**  
**Departments of Nutrition, Food Science, & Packaging and Kinesiology**  
**NuFS/KIN 163, Physical Fitness & Nutrition**  
**Fall 2017, Sections 5, 6, 7, & 8**

| <b>Department</b>        | <b>KIN</b>  | <b>NUFS</b>  |
|--------------------------|---|--|
| <b>Instructor</b>        | Matt Crockett   | Toni Bloom   |
| <b>Office</b>            | SPX 170   | Mailbox - CCB 200<br>Office – IS 206   |
| <b>Telephone</b>         | 650-759-7798  | 408-799-3138   |
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| <b>Web Page</b>          | NA  | NA   |
| <b>Office hours</b>      | Tuesday/Thursday, 11a-12p, or<br>by appointment   | Mon/Wed – 2:45-3:45pm  |
| <b>Turnitin.com</b>      | All fitness papers are to be<br>uploaded to Canvas AND hard<br>copy in class  | All fitness papers are to be<br>uploaded to Canvas AND hard<br>copy in class |
| <b>Class days/time</b>   | Sections 5 and 6: Mondays/Wednesdays 9am-10:15am<br>Sections 7 and 8: Mondays/Wednesdays 10:30am-11:45am  |  |
| <b>Classroom</b>         | Section 5: Industrial Studies 215<br>Section 6: Central Classroom Building 102<br>Section 7: Industrial Studies 215<br>Section 8: MacQuarrie Hall 322   |  |
| <b>Prerequisites</b>     | <p>Passing score on the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted); Upper division standing (60 units); Completion of Core General Education.</p> <p>Students are strongly encouraged to take courses to satisfy GE Areas R, S, and V from departments other than their major department.</p> <p>Completion of, or co-registration in, a 100W course is strongly recommended. A minimum aggregate GPA of 2.0 in GE Areas R, S, &amp; V shall be required of all students (see <a href="http://www.sjsu.edu/senate/docs/S14-5.pdf">University Policy S14-5</a> at <a href="http://www.sjsu.edu/senate/docs/S14-5.pdf">http://www.sjsu.edu/senate/docs/S14-5.pdf</a>.)</p> <p>Not for nutrition majors or minors</p> |  |
| <b>GE - SJSU Studies</b> | Area R – Earth & Environment  |  |

**Faculty Web Pages or Canvas Sites**

Copies of the course syllabus and major assignment sheets may be found on the Canvas course web site.

## **Course Description and Goal**

Use of scientific principles, scientific investigation, and current technological advances to assess the relationship between diet, physical fitness, and disease. Examine scientific literature to evaluate the effects of nutritional intervention on exercise performance. (3 units)

## **GE Area R (Earth & Environment) Goal**

Students will cultivate knowledge of the scientific study of the physical universe or its life forms. Students will understand and appreciate the interrelationship of science and human beings to each other.

## **General Education Learning Outcomes (GELOs)**

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

- GELO 1: Demonstrate an understanding of the methods and limits of scientific investigation. The “Critical Analysis of Scientific Literature” assignment is keyed to this Area R GELO. This assignment requires students to comprehend the objectives/purposes of the study as well as the methods used to examine/study the problem. In addition, students will critically evaluate the strengths and weaknesses of the scientific research (including the research design, methods, and discussion), and see how the research fits into the larger scope of literature on a particular topic.
- GELO 2: Distinguish science from pseudo-science. The assignment keyed to this Area R GELO is the “Critical Evaluation of a Consumer Product”. Students will critically evaluate the credibility of nutrition and exercise information presented in an advertisement for a food, food supplement, piece of exercise equipment, or exercise program, differentiating between evidence derived from scientific research (based on the student’s review of literature) and non-scientific evidence.
- GELO 3: Apply a scientific approach to answer questions about the earth and environment. The assignment keyed to this Area R GELO is the “Oral Presentation,” which requires students to use primary research to answer questions related to fitness and nutrition.

## **Course Learning Outcomes (CLOs)**

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

- CLO 1: Explain how the principles of fitness and nutrition (such as body composition, energy intake and expenditure, acute and chronic physical changes related to exercise and nutrition) complement each other.
- CLO 2: Identify social, cultural, ethnic, and environmental factors that influence food habits and exercise/activity patterns.
- CLO 3: Examine the biochemical and physiological effects of exercise and various nutritional practices.
- CLO 4: Describe the different exercise guidelines and nutritional requirements related to gender and diverse populations.
- CLO 5: Assess the advantages/disadvantages of recent advances in new food formulations, and new exercise and fitness equipment for the general population.
- CLO 6: Identify the scientific principles involved in studying pathophysiology in human populations.

## Required Texts

Williams, M. H., Anderson D. E., & Rawson, E. S. (2017). *Nutrition for health, fitness, and sport* (11<sup>th</sup> ed.). Boston: McGraw-Hill. ISBN:9781259953996. This text will be known as “WRB” in the proposed schedule. Ebook available at a substantial savings through McGraw-Hill.

Fahey, T. D., Insel, P. M., & Roth, W. T. (2017). *Fit & well* (12<sup>th</sup> ed.). Boston: McGraw-Hill. ISBN: 9781259406829. This text will be known as “FIR” in the proposed schedule.

## Library Liaison

Emily Chan is the NuFS reference librarian, [emily.chan@sjsu.edu](mailto:emily.chan@sjsu.edu). Phone number: (408) 808-2044. Adriana Poo is the library liaison for the KIN department. You can reach her at 408-808-2019 or [Adriana.poo@sjsu.edu](mailto:Adriana.poo@sjsu.edu).

## Course Format

This course will include lecture, class discussion, and student presentations. Student participation is both a vital part of the learning process and an important way to enrich the classroom experience. Students are expected to have read the assigned materials before class and to be prepared to actively participate, discussing course content, raising issues, providing information from their own experiences, and asking questions during the class. If students miss class, they are responsible for obtaining lecture notes and handouts from another student before seeing the instructor about the missed content.

## Assignments and Grading Policy

| Assignment  | Points (%)       | GELOs | CLOs      |
|---|------------------|-------|-----------|
| Exam 1  | 50 (12)          |       | 1,2,3,4,6 |
| Exam 2  | 50 (12)          |       |           |
| Exam 3  | 50 (12)          |       |           |
| Exam 4 (not cumulative over fitness & nutrition)    | 50 (12)          |       |           |
| Practice Critical Analysis of Scientific Literature | 20 (5)           | 1     |           |
| Critical Analysis of Scientific Literature          | 50 (12)          | 1     |           |
| Critical Evaluation of Consumer Product #1          | 50 (12)          | 2     | 5         |
| Critical Evaluation of Consumer Product #2          | 50 (12)          | 2     | 5         |
| Oral Presentation                                   | 50 (12)          | 3     |           |
| <b>Total Points</b>                                 | <b>420 (100)</b> |       |           |

- Examination questions will be based on assigned readings, lectures, class discussions, and presentations. Your instructor will indicate which answer sheet or scantron form is needed. Bring a #2 pencil and calculator to all exams. Examinations will be given on the dates scheduled. Make-up exams will be given only in cases of serious illness or emergencies, 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. Unless otherwise arranged, the exam must be completed before the next class meeting.

- Written assignments are due at the beginning of the class session on the due date. Assignments handed in after class has begun, unless otherwise specified, will be considered late. There is a 5-point penalty for each calendar day or partial calendar day, that assignments are late. Assignments will not be accepted 1 week past the due date.
- All assignments written outside of class must be typed and double spaced. Individual instructors will provide procedures to be used for electronic submission and plagiarism screening via turnitin.com.
- Writing in general education courses is assessed for grammar, content, clarity, conciseness, and coherence. The SJSU Writing Center, located in Clark Hall, Suite 126, offers one-on-one tutoring services and workshops. To make an appointment or refer to the online resources offered through the Writing Center, visit the Writing Center website at <http://www.sjsu.edu/writingcenter>.
- Guidelines for the Critical Analysis of Scientific Literature, Critical Evaluation of a Consumer Product, and Oral Presentation will be discussed in class and available on faculty or course web sites.
- Consistent with guidelines for SJSU Studies courses, students will write a minimum of 3,000 words:
  - Practice Critical Analysis of Scientific Literature 3-4 pages or 750-1,000 words
  - Critical Evaluation of Consumer Product #1, 3-4 pages or 750-1,000 words
  - Critical Evaluation of Consumer Product #2, 3-4 pages or 750-1,000 words
  - Critical Analysis of Scientific Literature, 3-4 pages or 750-1,000 words
- SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of 45 hours for each unit of credit (normally 3 hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in [University Policy S12-3](http://www.sjsu.edu/senate/docs/S12-3.pdf) at <http://www.sjsu.edu/senate/docs/S12-3.pdf>.
- Note that [University policy F69-24](http://www.sjsu.edu/senate/docs/F69-24.pdf) at <http://www.sjsu.edu/senate/docs/F69-24.pdf> states that “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 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](http://www.sjsu.edu/senate/docs/F13-1.pdf) at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

### Assignment of Grades

|                                |                          |                                |
|--------------------------------|--------------------------|--------------------------------|
| 97-100% (406-420 pts) = A plus | 93-96% (390–405 pts) = A | 90-92% (377-389 pts) = A minus |
| 87-89% (364-376 pts) = B plus  | 83-86% (348-363 pts) = B | 80-82% (334-347 pts) = B minus |
| 77-79% (322-333 pts) = C plus  | 73-76% (306-321 pts) = C | 70-72% (293-305 pts) = C minus |
| 67-69% (280-292 pts) = D plus  | 63-66% (264-279 pts) = D | 60-62% (251-263 pts) = D minus |

Below 60% (0-250 pts) = F

## **University Policies**

The Office of Graduate and Undergraduate Programs maintains university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. You may find all syllabus-related University policies and resources information listed on GUP's [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>

## Resources

These peer-reviewed journals and on-line resources should be used for your written assignments and oral presentation.

### Journals (partial list)

|   |   |
|---|---|
| American Journal of Clinical Nutrition            | Journal of Health, Physical Education, Recreation & Dance |
| American Journal of Public Health                 | Journal of Nutrition                                      |
| American Journal of Sports Medicine               | Medicine & Science in Sports & Exercise                   |
| International Journal of Sports Medicine          | New England Journal of Medicine                           |
| Journal of Athletic Training                      | Nutrition Reviews   |
| Journal of the Academy of Nutrition and Dietetics | Physician and Sportsmedicine                              |
| Journal of the American Medical Association       | Research Quarterly for Exercise and Sport                 |
| Journal of Strength and Conditioning Research     | Sports Medicine   |
| Journal of Food Science                           | Strength and Conditioning Journal                         |

### On-Line Resources (partial list)

|  |  |
|--|--|
| American College of Sports Medicine  | <a href="http://www.acsm.org">www.acsm.org</a>                                   |
| Academy of Nutrition and Dietetics   | <a href="http://www.eatright.org">www.eatright.org</a>                           |
| American Medical Association   | <a href="http://www.ama-assn.org">www.ama-assn.org</a>                           |
| Australian Institute of Sport  | <a href="http://www.ais.org.au/sssm/index.asp">www.ais.org.au/sssm/index.asp</a> |
| Centers for Disease Control  | <a href="http://www.cdc.gov">www.cdc.gov</a>                                     |
| Food and Drug Administration   | <a href="http://www.fda.gov">www.fda.gov</a>                                     |
| Government Healthfinder  | <a href="http://www.healthfinder.gov">www.healthfinder.gov</a>                   |
| International Food Information Council   | <a href="http://www.ific.org">www.ific.org</a>                                   |
| Medline: <a href="http://www.sjlibrary.org">www.sjlibrary.org</a> website for access to database | <a href="http://www.ncbi.nlm.nih.gov/pubmed/">www.ncbi.nlm.nih.gov/pubmed/</a>   |
| MyPlate.gov  | <a href="http://www.myplate.gov">www.myplate.gov</a>                             |
| National Institutes of Health  | <a href="http://www.nih.gov">www.nih.gov</a>                                     |
| New England Journal of Medicine  | <a href="http://www.nejm.org">www.nejm.org</a>                                   |
| Physician and Sportsmedicine   | <a href="http://www.physsportsmed.com">www.physsportsmed.com</a>                 |
| Gatorade Sports Science Exchange   | <a href="http://www.gssiweb.com">www.gssiweb.com</a>                             |
| Sport Science Organization   | <a href="http://www.sportsci.org">www.sportsci.org</a>                           |
| World Health Organization  | <a href="http://www.who.int/en">www.who.int/en</a>                               |

## Proposed Course Schedule

(Subject to change with fair notice – any changes will be announced in class)

If your 1<sup>st</sup> half of the semester is **NUTRITION**

| <u>Date</u>     | <u>Topic</u>   | <u>Reading Assignments</u>               | <u>Due</u>   |
|-----------------|--|--|--|
| Wednesday, 8/23 | Course overview & Introduction   |  |  |
| Monday, 8/28    | Scientific Method & Nutrition/Exercise Studies, Analyzing Scientific Research  | IFIC Article<br>WRB: Ch. 1               | <b>Select Groups 1-4 &amp; Topics for Oral Presentations</b>       |
| Wednesday, 8/30 | Essential Nutrients, Dietary Reference Intakes, Dietary Guidelines & Quackery in nutrition & Exercise, Use of ergogenic aids | WRB: Ch, 1 & 2                           |  |
| Monday, 9/4     | <b>LABOR DAY</b>   | <b>NO CLASS</b>                          | <b>LABOR DAY</b>   |
| Wednesday, 9/6  | In Class Activity  | In Class Activity                        | <b>Practice Critical Analysis of Scientific Literature</b>         |
| Monday, 9/11    | Review of the Dietary Supplement and Education Act, Carbohydrates  | WRB: Ch. 2                               |  |
| Wednesday, 9/13 | Carbohydrates: Metabolism & Function   | WRB: Ch. 4                               |  |
| Monday, 9/18    | Lipids: Dietary Fat and Cholesterol  | WRB: Ch. 4 and 5                         | <b>Critical Evaluation of a Nutrition Product</b>                  |
| Wednesday, 9/20 | Lipids: Dietary Fat and Cholesterol  | WRB: Ch. 5                               |  |
| Monday, 9/25    | <b>EXAM 1: Chapters 1, 2, 4, &amp; 5</b>   | <b>EXAM 1: Chapters 1, 2, 4, &amp; 5</b> | <b>EXAM 1: Chapters 1, 2, 4, &amp; 5</b>                           |
| Wednesday, 9/27 | Protein: Metabolism and Biochemistry   | WRB: Ch. 6                               |  |
| Monday, 10/2    | Protein: Metabolism and Biochemistry; Energy Balance & Weight  | WRB: Ch. 6 & 10                          |  |
| Wednesday, 10/4 | <b>Group Presentations 1 &amp; 2</b>   |  | <b>Critical Analysis of Literature (ONLY for those presenting)</b> |

|                  |   |   |  |
|------------------|---|---|--|
| Monday, 10/9     | Energy Balance & Weight Control                       | WRB: Ch. 10 & 11                        |  |
| Wednesday, 10/11 | <b>Group Presentations 3 &amp; 4</b>                  |   | <b>Critical Analysis of Literature (ONLY for those presenting)</b> |
| Monday, 10/16    | <b>EXAM 2: Chapters 6, 10, &amp; 11</b>               | <b>EXAM 2: Chapters 6, 10, &amp; 11</b> | <b>EXAM 2: Chapters 6, 10, &amp; 11</b>                            |
| Wednesday, 10/18 | Begin Fitness Section                                 | FIR: Ch. 1 & 2                          |  |
| Monday, 10/23    | Analyzing Scientific Research on Fitness and Exercise | Article on Canvas: Willis et al. (2012) |  |
| Wednesday, 10/25 | Energy Systems  | WRB: Ch. 3 & 4                          |  |
| Monday, 10/30    | Energy systems (fatigue) & metabolism                 | FIR: Ch. 3                              |  |
| Wednesday, 11/1  | Cardiorespiratory Endurance                           | FIR: Ch. 4                              |  |
| Monday, 11/6     | Cardiorespiratory Endurance & Exam Review             |   |  |
| Wednesday, 11/8  | <b>EXAM 3</b>   | <b>EXAM 3</b>                           |  |
| Monday, 11/13    | Muscle Physiology                                     | FIR: Ch. 4                              |  |
| Wednesday, 11/15 | Muscle Physiology & Flexibility                       |   |  |
| Monday, 11/20    | Low-back Health & program design                      | FIR: Ch. 5 & 6                          | <b>Critical Evaluation of a Fitness Product</b>                    |
| Wednesday, 11/22 | <b>HOLIDAY</b>  | <b>HOLIDAY</b>                          | <b>HOLIDAY</b>   |
| Monday, 11/27    | Program Design & Movement Assessment                  | FIR: Ch. 7                              |  |
| Wednesday, 11/29 | Program Design & Movement Assessment activity         |   |  |
| Monday, 12/4     | <b>Group Presentations 5 &amp; 6</b>                  |   | <b>Critical Analysis of Literature (ONLY for those presenting)</b> |



|                 |  |               |  |
|-----------------|--|---------------|--|
| Wednesday, 11/6 | <b>Group Presentations 7<br/>&amp; 8</b> |               | <b>Critical Analysis of<br/>Literature (ONLY for<br/>those presenting)</b> |
| Monday, 12/11   | <b>EXAM 4</b>                            | <b>EXAM 4</b> |  |

\* Reading assignments should be completed before the class period in which they will be discussed.

W = Williams, *Nutrition for health, fitness, and sport*

FIR = Fahey, Insel, & Roth, *Fit and well*

## Proposed Course Schedule

(Subject to change with fair notice – any changes will be announced in class)

If your 1<sup>st</sup> half of the semester is **FITNESS**

| <u>Date</u>      | <u>Topic</u>  | <u>Reading Assignments</u>              | <u>Due</u>  |
|------------------|---|---|---|
| Wednesday, 8/23  | Begin Fitness Section                                 | FIR: Ch. 1 & 2                          |   |
| Monday, 8/28     | Analyzing Scientific Research on Fitness and Exercise | Article on Canvas: Willis et al. (2012) |   |
| Wednesday, 8/30  | Energy Systems  | WRB: Ch. 3 & 4                          | <b>Practice Critical Analysis of Willis et al. (2012) (Use handout on Canvas)</b> |
| Monday, 9/4      | <b>LABOR DAY</b>                                      | <b>NO CLASS</b>                         | <b>LABOR DAY</b>  |
| Wednesday, 9/6   | Energy systems (fatigue) & metabolism                 | FIR: Ch. 3                              |   |
| Monday, 9/11     | Cardiorespiratory Endurance                           | FIR: Ch. 4                              |   |
| Wednesday, 9/13  | Cardiorespiratory Endurance & Exam Review             |   |   |
| Monday, 9/18     | <b>EXAM 1</b>   | <b>EXAM 1</b>                           |   |
| Wednesday, 9/20  | Muscle Physiology                                     | FIR: Ch. 4                              |   |
| Monday, 9/25     | Muscle Physiology & Flexibility                       |   |   |
| Wednesday, 9/27  | Low-back Health & program design                      | FIR: Ch. 5 & 6                          | <b>Critical Evaluation of a Fitness Product</b>                                   |
| Monday, 10/2     | Program Design & Movement Assessment                  | FIR: Ch. 7                              |   |
| Wednesday, 10/4  | Program Design & Movement Assessment activity         |   |   |
| Monday, 10/9     | <b>Group Presentations 1 &amp; 2</b>                  |   | <b>Critical Analysis of Literature (ONLY for those presenting)</b>                |
| Wednesday, 10/11 | <b>Group Presentations 3 &amp; 4</b>                  |   | <b>Critical Analysis of Literature (ONLY for those presenting)</b>                |
| Monday, 10/16    | <b>EXAM 2</b>   | <b>EXAM 2</b>                           |   |
| Wednesday, 10/18 | NUFS overview & Introduction                          |   |   |

|                  |  |  |  |
|------------------|--|--|--|
| Monday, 10/23    | Essential Nutrients, Dietary Reference Intakes, Dietary              | WRB: Ch. 1                               |  |
| Wednesday, 10/25 | Guidelines & Quackery in nutrition & Exercise, Use of ergogenic aids | WRB: Ch. 1 & 2                           |  |
| Monday, 10/30    | Review of the Dietary Supplement and Education Act, Carbohydrates    | WRB: Ch. 2 and 4                         |  |
| Wednesday, 11/1  | Carbohydrates: Metabolism & Function                                 | WRB: Ch. 4                               |  |
| Monday, 11/6     | Lipids: Dietary Fat and Cholesterol                                  | WRB: Ch. 4 and 5                         | <b>Critical Evaluation of a Nutrition Product</b>                  |
| Wednesday, 11/8  | Lipids: Dietary Fat and Cholesterol                                  | WRB: Ch. 5                               |  |
| Monday, 11/13    | Lipids: Dietary Fat and Cholesterol                                  | WRB: Ch. 5                               |  |
| Wednesday, 11/15 | <b>EXAM 3: Chapters 1, 2, 4, &amp; 5</b>                             | <b>EXAM 3: Chapters 1, 2, 4, &amp; 5</b> | <b>EXAM 3: Chapters 1, 2, 4, &amp; 5</b>                           |
| Monday, 11/20    | Protein: Metabolism and Biochemistry                                 | WRB: Ch. 6                               |  |
| Wednesday, 11/22 | <b>HOLIDAY</b>   | <b>HOLIDAY</b>                           | <b>HOLIDAY</b>   |
| Monday, 11/27    | Protein: Metabolism and Biochemistry; Energy Balance & Weight        | WRB: Ch. 6 & 10                          |  |
| Wednesday, 11/29 | <b>Group Presentations 5 &amp; 6</b>                                 |  | <b>Critical Analysis of Literature (ONLY for those presenting)</b> |
| Monday, 12/4     | Energy Balance & Weight Control                                      | WRB: Ch. 10 & 11                         |  |
| Wednesday, 11/6  | <b>Group Presentations 7 &amp; 8</b>                                 |  | <b>Critical Analysis of Literature (ONLY for those presenting)</b> |
| Monday, 12/11    | <b>EXAM 4: Chapters 6, 10, &amp; 11</b>                              | <b>EXAM 4: Chapters 6, 10, &amp; 11</b>  | <b>EXAM 4: Chapters 6, 10, &amp; 11</b>                            |

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FIR = Fahey, Insel, & Roth, *Fit and well*