

San Jose State University

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## **NUFS/KIN 163 - PHYSICAL FITNESS & NUTRITION**

### **COURSE DESCRIPTION**

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; Lecture 3 hours)

Nutrition Majors: This course may not be used for "major" credit

This course satisfies the Earth & Environment (Area R) category of Advanced General Education. The goals for this category include:

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. Within the particular scientific content of the course, a student should be able to:

- demonstrate an understanding of the methods and limits of scientific investigation;
- distinguish science from pseudo-science; and
- apply a scientific approach to answer questions about the earth and environment.

### **PREREQUISITES**

- Upper division standing
- Passing score on the Writing Skills Test (WST).
- Completion of Core General Education requirements. For students beginning continuous enrollment in Fall 2005 or later, completion of, or co-registration in, a 100W course is required for enrollment in all SJSU Studies courses. Courses to meet Areas R, S, and V must be taken from three separate SJSU departments, or other distinct academic units.

### **SPECIFIC OBJECTIVES**

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

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.
2. Identify social, cultural, ethnic, and environmental factors that influence food habits and

- exercise/activity patterns.
3. Examine the biochemical and physiological effects of exercise and various nutritional practices.
  4. Discuss the physiological relationships of food to health throughout the life span, as well as specific fitness and nutrition considerations during various stages of the life cycle, such as childhood, adolescence, and older age.
  5. Describe the different exercise guidelines and nutritional requirements related to gender and diverse populations.
  6. Apply and improve upon the basic skills of reading, writing, mathematics, speaking, critical thinking, and scientific research learned in Core GE courses.
  7. Describe scientific methodology in the fields of nutritional science and exercise science.
  8. Critically evaluate the credibility of current nutrition and exercise information using scientific research.
  9. Critique popular advertisements for a food, food supplement, exercise equipment, or exercise program, differentiating between evidence derived from scientific research (based on the student's review of literature) and non-scientific evidence.
  10. Assess the advantages/disadvantages of recent advances in new food formulations and new exercise and fitness testing equipment for the general population.
  11. Deliver oral presentations and written summaries which explain and expand upon course content, using information from appropriate library research and primary sources of scientific investigation. See Appendix A for selected topics.
  12. Identify the scientific principles involved in studying pathophysiology in human populations.
  13. Critically evaluate primary research articles and identify the limitations of scientific investigation in human studies involving nutrition and various modes and levels of physical activity.

## **TEXTBOOKS**

1. Williams, M. H. (2005). Nutrition for Health, Fitness, and Sport (8<sup>th</sup> ed.). Boston: WCB McGraw-Hill. This text will be known as "W" in the proposed schedule. ISBN: 978-0-07-294371-9 & ISBN: 0-07-294371-8.
2. Fahey, T. D., Insel, P. M., & Roth, W. T. (2005). Fit & Well Mountain View, CA: Mayfield. This text will be known as "FIR" in the proposed schedule. ISBN-13: 978-0-07-302990-0 & ISBN-10: 0-07-302990-4 t/a.

## GRADING

Assignment	Points	% of grade	Linkage to student learning objectives for GE and/or specific course objectives (SCO) (please refer to items 1-13 on green sheet)
Exam 1	50	11%	Apply a scientific approach to answer questions about the earth and environment (GE) SCO 1, 2, 3, 4,5
Exam 2	50	11%	
Exam 3	50	11%	
Exam 4	50	11%	
Research analysis of Scientific Literature #1	50	11%	Demonstrate an understanding of the methods and limits of scientific investigation (GE) SCO 6, 7, 8,12,13
Research analysis of Scientific Literature #2	50	11%	
Critical Evaluation of Consumer Product #1	50	11%	Distinguish science from pseudo-science (GE) SCO 9
Critical Evaluation of Consumer Product #2	50	11%	
Oral Presentation	50	11%	Apply a scientific approach to answer questions about the earth and environment (GE) SCO 10,11
<b>TOTAL POINTS</b>	<b>450</b>		

## GRADES

A	94 – 100%	C+	78 – 79
A-	90 – 93	C	70 – 77
B+	88 – 89	C-	68 – 69
B	84 – 87	D	60 – 67
B-	80 – 83	F	< 60

## NONGRADED EVALUATION

In addition to the graded assignments, students will complete a Summary Paper (accompanying the Oral Presentation), a minimum of 2 quizzes, and in-class video and/or class lesson summaries. These assignments will serve as tools for early assessment and feedback on course content knowledge, writing ability, and critical thinking skills.

## SUMMARY OF REQUIRED WRITING

Total writing will include a minimum of 3000 words:

In-class writing consists of:

Video and/or class lesson summaries 1-2 pages

Exam essay questions 1-2 pages

Out-of-class writing consists of:

2 Critical Evaluations of Consumer Products @ 3 pages each 6 pages

Summary Paper (accompanying the Oral Presentation) 2 pages

2 Research Analyses of Scientific Literature @ 2 pages each 4 pages

12-14 pages

## TEACHING METHODS AND EXPECTATIONS

1. Exams will include both objective and essay questions. Examination questions will be based on assigned readings, lectures, class discussions and presentations. Bring a T&E 200 answer sheet, #2 pencil, and calculator to all exams. Examinations will be given only 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 making arrangements PRIOR TO the exam. Unless otherwise arranged, the exam must be completed prior to the next class meeting.
2. Written assignments are **due at the beginning of the class session** on the due date. **Assignments handed in after lecture has begun or after class, unless otherwise specified, will be considered late.** There is a 5 point penalty for each **calendar** day (not class day), or partial calendar day, that assignments are late. They will not be accepted 1 week past the due date.
3. All written assignments (other than those completed in class) must be typed. Sloppiness and lack of legibility will have a negative effect upon grading the assignment. Instructors of general education courses are required to assess students' writing proficiency, including language and style.
4. Guidelines for the Critical Evaluations of Consumer Products, Research Analyses of Scientific Literature and the Oral Presentations will be distributed and discussed in class.
5. Student interactions and discussions are a major part of this course. It is very important that students participate in class discussions. If students miss class, they are responsible for obtaining lecture notes and handouts from another student before seeing the instructor about the missed content.
6. If an assignment is plagiarized, the student will receive 0 points for the assignment and additional action may be taken by the instructors. Plagiarism is a serious offense and includes taking credit for work that one didn't do and failing to cite one's sources (i.e., using another's ideas as one's own).
7. University Drop Policy: Dropping a course after the drop deadline is permissible only for serious and compelling reasons. Unsatisfactory performance in course work is not a serious and compelling reason, in itself, for requesting permission to drop.

8. Copies of the course syllabus and major assignment sheets may be found on my faculty web page accessible through the quick links/faculty web page links on the SJSU home page after the first week of classes. You are responsible for regularly checking with the new messaging system through MYSJSU. This will be used for changes, updates and potential extra credit opportunities.

### **Academic Honesty:**

Faculty will make every reasonable effort to foster honest academic conduct in their courses. They will secure examinations and their answers so that students cannot have prior access to them and proctor examinations to prevent students from copying or exchanging information. They will be on the alert for plagiarism, which is defined on the Office of Student Conduct & Ethical Development (formerly Judicial Affairs) website at <http://www2.sjsu.edu/senate/plagiarismpolicies.htm>. Students who are caught cheating will be reported to this Office, as prescribed by [Academic Senate Policy S04-12](#). “If you would like to include in your paper any material you have submitted, or plan to submit, for another class, please note that SJSU’s Academic Integrity policy S04-12 requires approval by instructors.

Your own commitment to learning, as evidenced by your enrollment at San José State University and the University’s Academic Integrity Policy requires you to be honest in all your academic course work. Faculty are required to report all infractions to the Office of Student Conduct & Ethical Development.

### **Campus policy in compliance with the Americans with Disabilities Act:**

“If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible or see me during office hours. Presidential Directive 97-03 requires that students with disabilities register with DRC to establish a record of their disability.”

### **Other Important Information:**

- “You are responsible for understanding the policies and procedures about add/drops, academic renewal, withdrawal, etc. found at <http://www2.sjsu.edu/senate/S04-12.pdf> □
- Expectations about classroom behavior; see [Academic Senate Policy S90-5](#) on Student Rights and Responsibilities.
- Assignments are to be turned in to turnitin.com prior to turning in a hard copy at the start of class on due date.

Nutrition:	Code: TBA	Password: “nutrition”
Kinesiology:	Code: TBA	Password:

## ADDITIONAL READINGS

These journals and on-line resources should be used for your written assignments and oral presentation. They are peer-reviewed journals in the areas of nutrition and fitness and therefore are well respected.

### JOURNALS (partial list)

American Journal of Clinical Nutrition	Journal of Nutrition
American Journal of Public Health	Journal of Health, Physical Education, Recreation, and Dance
American Journal of Sports Medicine	Lancet
International Journal of Sports Medicine	Medicine and Science in Sports and Exercise
International Journal of Sports Nutrition	New England Journal of Medicine
Journal of Applied Physiology	Nutrition Reviews
Journal of Athletic Training	Physician and Sports Medicine
Journal of the American Dietetic Association	Research Quarterly for Exercise and Sport Science
Journal of the American Medical Association	Sports Medicine
Journal of the Strength and Conditioning Association	Strength and Conditioning Journal
Journal of Food Science	

### ON-LINE RESOURCES (partial list)

American College of Sports Medicine	<a href="http://www.acsm.org">www.acsm.org</a>
American Dietetic Association	<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>
<b>Medline</b>	<a href="http://www.ncbi.nlm.nih.gov/pubmed/">www.ncbi.nlm.nih.gov/pubmed/</a>
My Pyramid	<a href="http://www.mypyramid.gov">www.mypyramid.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>
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>
U.S. Food and Drug Administration	<a href="http://www.fda.gov">www.fda.gov</a>
World Health Organization	<a href="http://www.who.int">www.who.int</a>

- Mr. Harry Meserve is the Nutrition Department's Reference and Instruction Librarian; contact him directly at [hmeserve@sjsu.edu](mailto:hmeserve@sjsu.edu); phone 808-2093 if you need help using library resources.
- For writing assistance visit the Academic Success Center.

# PROPOSED SCHEDULE

Subject to change with fair notice  
If your 1<sup>st</sup> half of the semester is NUTRITION

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

DATE	TOPIC	READING ASSIGNMENT	DUE
	Course Overview & Introduction Scientific Method	IFIC Article W: pp. 25-28	
	Scientific Method		
	Supplements	W: pp. 17-19, 20-25, 65, ADA handout	
	Supplements Overview of Nutrition	W: Chap. 1	Analysis of Scientific Research #1 – article on Webpage
	Guidelines for Sound Nutrition & Health	W: Chap. 2	Bring a Food Label
	Carbohydrates	W: Chap. 4	
	Carbohydrates Lipids	W: Chap. 5	
	<b>Exam 1</b>		
	Lipids	W: Chap. 5	Consumer Product Analysis #1 – ad provided by instructor in class
	Protein	W: Chap. 6	
	Weight Control & Energy Balance	W: pp. 364-366, 370-385, Chap. 11, 400-422 441-444	
	<b>Oral Presentation #1 &amp; #2</b>		Analysis of Scientific Literature #2 for those presenting
	<b>Oral Presentations #3 &amp; #4</b>		Analysis of Scientific Literature #2 for those presenting
	Weight Control & Energy Balance Eating Disorders	W: pp. 385-390	
	<b>Exam 2</b>		
	Physical Fitness, Health & Wellness Fitness Components, Principles of Fitness	FIR: Chap. 1; W: pp. 2-9 FIR: Chap.2	Complete Pg 23 wellness profile
	Scientific Research & Pseudo-Science, Analyzing Scientific Research	Article to review provided in class	
	Energy & Metabolism		

	Metabolic Calculations		
	<b>Oral Presentation #5&amp; #6</b>		Analysis of Scientific Literature #2 for those presenting
	Cardiorespiratory Endurance	FIR: Chap. 3	
	Exercise & Cardiovascular Health	FIR: Chap. 11	

	<b>Veteran's Day, no class</b>		
	Temperature Regulation During Exercise	W: pp. 340-356, 361-366	
	<b>Exam 3</b>		
	Flexibility & Low Back Health	FIR: Chap. 4	
	Muscle Strength and Endurance	FIR: Chap. 5	Consumer Product Analysis #2
Th, 11/27	<b>Thanksgiving Recess, no class</b>		
	Body Composition	FIR: Chap. 6; W: pp. 378-385, 391-395, 401-403.	
	<b>Oral Presentation #7&amp; #8</b>		Analysis of Scientific Literature #2 for those presenting
	Fitness & Aging Developing a Fitness Program	FIR: pp. 431-433 FIR: Chap 7	
	<b>Final Exam</b>		