

# INTRODUCTION TO HUMAN NUTRITION

Nutrition and Food Science 9

Fall 2009

Sec.1 41087: TTh 9:00-10:15 a.m. Clark Bld 229

Sec.2 41088: TTh 10:30-11:45 a.m. Clark Bld 229

Instructor: Dr. David L. Stone

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E-mail: dlstone@wholegrain.com

**The course webpage:** go to [www.nufs.sjsu.edu/dlstone/](http://www.nufs.sjsu.edu/dlstone/) and click the Nutrition and Food Science 9 link. This site will be updated during the semester, so check in from time to time, especially prior to exams and due dates for assignments. We will also have a Blackboard website which will be used for downloads of course materials—study guides, directions for assignments, etc.

**Best way to contact instructor:** E-mail—usually checked several times each day.

**E-mail subject format:** Please prefix each e-mail Subject (title) with “NuFS9:” so, for example, “NuFS9: question about first study guide”

## INSTRUCTOR'S OFFICE HOURS:

TTh 7:30-8:30am, and another on TTh (either 12:30-1:30pm or 1-2pm) to be decided in class, or by app't after the later office hour on TTh.

These office hours are for you, so please come and resolve course-related problems, go over study guide questions, ask nutrition-related questions related to or beyond those covered in class, fix lecture notes, etc. Talking nutrition here will help you in class and on tests.

## COURSE DESCRIPTION:

**Nutrition and Food Science 9:** Introduction to Human Nutrition

Principles and methodology of nutritional science; standards of nutrient intake; physiological functions and chemical classification of nutrients; nutrient needs throughout the lifespan; relationship between diet and disease; scientific, cultural, social and psychological issues.

Three units. NuFS 9 is intended for non-nutrition majors, so **you should not take NuFS 9 if you have had, or are taking, NuFS 8 or are required to take NuFS 8 for your major, such as Nutrition, Nursing, or Health Professions.**

## COURSE OBJECTIVES:

1. To introduce the student to basic principles of nutritional biology, biochemistry, and physiology and examine nutrient needs and nutrient disposition in the human body.
2. To introduce the student to basic nutritional/epidemiological scientific methodology and the effects of psychological state on objectivity and sense of well-being; to acquaint students with nutrition-related issues facing both scientists and non-scientists, and to enable students to objectively develop rational life-long habits of thought and behavior regarding nutrition appropriate to their environment, age, sex, race, culture, and familial genetic heritage.
3. To introduce the student to diseases or conditions related to diet, and to nutrition practices which promote health and well-being; to explore the relationship of diet to degenerative illness over the lifespan, and the effect of environment, sex, race, culture, and familial genetic heritage upon risk of such illness.

Student shall:

1. Describe scientific methodology in the field of nutrition, and evaluate credibility of nutrition information based upon amount and quality of evidence.
2. Diagram the classification of nutrients, list the functions of nutrients in the human body, and compare nutritional needs during a person's lifespan.
3. Outline the processes of digestion, absorption, transport and metabolism of nutrients.
4. List food sources of nutrients, and identify the effects on nutrient content of processing, storage, and preparation of food.
5. Identify nutritional disorders and their relationship to health promotion and disease prevention; recognize the effect of diet on degenerative illness over the lifespan, and the effect of environment, sex, race, and familial genetic heritage upon risk of such illness.
6. Enumerate and locate campus facilities that provide student support: academic, personal, health, and professional.

**TEXTBOOK AND OTHER COURSE MATERIALS:**

**Textbook:** *Required.* Gordon M. Wardlaw, Anne M. Smith; Contemporary Nutrition, Seventh Edition, McGraw Hill, Boston, MA: 2008

**Online Course Materials:** *Required.* These course materials will be provided online on the class Blackboard site in a folder labeled *Downloadable files--study guides, extra readings, instructions for assignments*. They will be made available as needed during the semester in the form of separate downloadable/printable PDF files. You will need to have Adobe Acrobat installed on your computer in order to read/print them. Check the Blackboard site on a regular basis to see what's been made available. The materials will include the following: instructions for the Campus Student Resource Assignment, additional study materials for the Chemistry and Scientific Method sections of the course, Study Guides for each of the 10 tests, and detailed instructions for the Research Summary writing assignment.

If you have any difficulty downloading and/or printing any of the above PDF files that are listed on the download page, please tell your instructor right away.

**Diet Self-Study Assignment Packet:** Two (2) copies *Required.* Not needed until late in [October](#) (see Tentative Course Outline on p.5). Buy two of these, since you will do the assignment twice. Purchase in the A.S. Print Shop.

**Floppy diskette (PC formatted) or a USB flash drive:** *Required.* You will need some means of storing your personal and dietary data when you do the two Diet Self-Study assignments in the MacQuarrie Hall 332 computer lab. If you need to buy a 3.5" diskette, be sure you do not buy a Mac diskette by mistake; a Windows computer cannot read a Mac-formatted diskette.

**FlashTest study software:** *Optional, but recommended.* This software study guide is available (\$13-15) by asking for it at the counter in the TEXTBOOK SECTION of the bookstore: go down the stairs next to the computer dept, look for the small counter to the left of the base of the stairway) . Using FlashTest is similar to using flashcards: choose a nutrition subject; it asks you nutrition questions, you type in the answers if you wish to; it shows you the correct answer, you self-correct. You can SEARCH the questions/answers for any word or phrase. This software was designed/written for NuFS 9 (but used by other nutrition classes as well), and the questions are divided into the same topics we cover in class, in mostly the same order. This is a good study aid as it helps you learn vocabulary and factual information and reinforces concepts covered in class. It runs directly from the CD (no hard drive installation) on any Windows PC computer using Win95 or above, and is very easy to use. There is no Mac version. Requires a CD (or DVD) drive.

**DROP/ADD DATES:**

[Thursday, September 3](#) (see SJSU's online [Fall 2009 Academic Calendar](#)) is the last day to drop a class and receive a partial refund of fees *and* not receive a grade of "W". To drop a class after that date, you will need a drop form as well as signatures from the instructor, department chair, and the CASA Dean. The Dean will generally not sign this form without a serious rationale.

[Friday, September 11](#) is the last day to add a course or request grading options.

**EXTRA CREDIT POLICY:**

Extra credit is not available for this class. Instead, use your time and energy to study the course material and learn it, and thereby earn a good grade. See page 6 of this greensheet for advice on how to study effectively for this course.

**CLASS ATTENDANCE:**

Although the University stipulates that "Attendance per se shall not be used as a criterion for grading.", you are strongly advised to come to class and take complete notes. In addition to watching and listening to explanations in class, note-taking is an important and effective means of learning the course material. If you miss a class for any reason, **it is your responsibility to get class notes from a classmate, as the overheads are not made available to students and are not an adequate substitute for class notes.** However, you are welcome to come to office hours and view/review the class overheads whether you miss class or not.

A few points of basic college classroom etiquette: (1) After class begins, please refrain from using electronic phones, pagers, and music devices. (2) If you consider leaving the class early while the lecture is still in progress, bear in mind that it is disruptive to the rest of the class to do so and many consider it rude behavior. (3) While some students sacrifice sleep in order to work part-time or full-time in addition to taking classes, it is not acceptable to sleep or doze in class. If you are sleepy, please nap at home or in the Student Union instead. (4) Please do not carry on private conversations during class. (5) Once class begins, please do not read newspapers/books/etc, or browse the web with your laptop.

**POLICY ON ACADEMIC INTEGRITY AND CHEATING:**

ACADEMIC INTEGRITY (from Office of Judicial Affairs). "Your own commitment to learning, as evidenced by your enrollment at San Jose 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 Judicial Affairs. The policy on academic integrity can be found at <http://www2.sjsu.edu/senate/S04-12.htm>

**UNIVERSITY STATEMENT ON PERSONS WITH DISABILITIES**

AMERICANS WITH DISABILITIES ACT COMPLIANCE. "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 The Disability Resource Center (924-6000, located in Admin. 110) as soon as possible. Presidential Directive 97-03 requires that students with disabilities register with DRC to establish a record of their disability."

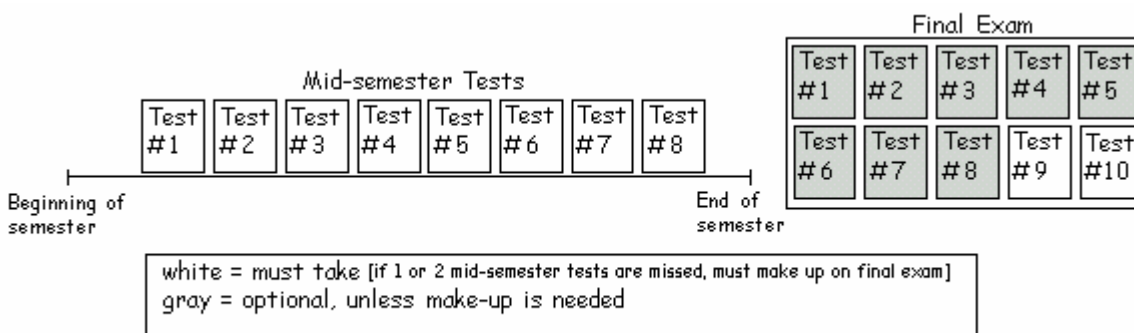
**TESTS:**

1. **If you must miss a test, arrange in advance to make it up later the same day or in the morning office hour on either the day of the test or the following class day. Or, as described below, you can make up 1 or 2 (but no more) missed tests on the final exam.**
2. **Course tests:** [refer to diagram below] During the semester there will be eight short multiple-choice tests. Each of these will be 15 minutes long and will contain 15 questions. You must bring a fresh T&E 0200 machine-readable answer sheet (described on the course webpage, available in the bookstore) for each of these tests. The final exam will include the last two of the untested subject areas (Vitamins/Minerals; and Pregnancy/Lactation and Toxicology) and will require either one or two T&E 0200 answer forms depending on which, if any, of the 8 mid-semester tests you intend to "re-take".

**You may miss, at most, two of the eight mid-semester tests, and each one missed must be made up on the final exam.**

Missing more than two course tests will result in scores of zero for the missed tests (beyond 2), *not redeemable on the final exam*, with serious consequences for your course grade. For either or both of the allowed missed tests, there will be a corresponding sub-test on the final exam (see below) to provide the required make-up. **Do not miss any of the eight course tests unless you absolutely must—even if you do poorly on a mid-semester test, you can improve your score for that area on the final exam.**

Each of the eight tests is given during the first 15 minutes of class. Normal class activities then resume. Please recall that morning traffic in the South Bay is often heavy, and parking can be difficult around SJSU. Hence, make every effort to arrive before class begins. If you arrive 10 minutes late, you will have 5 minutes in which to take the test.



3. **Final exam:** [refer to the diagram above] The final exam will be composed of 10 sub-tests, each the same size/format as the mid-semester tests. The last two of these sub-tests will cover the two remaining un-tested areas (Vitamins/Minerals; Pregnancy/Lactation, Toxicology), and everyone must take these last two sub-tests.

The first eight sub-tests on the final exam will be "repeats" of the eight mid-semester tests. **Each of these eight "repeat" sub-tests is optional if you have already taken the corresponding test for that section during the semester.** If you missed one or two mid-semester tests, you *must* make up each missed test on the final exam by taking the corresponding "repeat" sub-test, or you will receive a score of 0 for each missed test. **The "repeat" sub-tests are not the same as the original tests:** they will have some of the same questions as the corresponding mid-semester tests, some new questions, and some previous questions slightly modified. If you missed more than 2 mid-semester tests, you may not make up these additional missed tests on the final exam (the scores will not be counted). You will receive scores of 0 for these tests, which will likely reduce your course grade.

**On the Final exam, you may take as many of the "repeat" sub-tests as you wish.** If you decide to take any of the "repeat" sub-tests for an area on which you have already been tested, and you earn a higher score, the new higher score will replace the original lower score on the mid-semester test for that area; if your new score is lower, the two scores will be averaged together; if the new score is the

same as the previous score, no change will occur. Thus it is possible for all of the mid-semester test scores to be replaced by better scores on the final exam. Since it is also possible to damage your grade by scoring lower on a repeat sub-test, you must think carefully before deciding to take a repeat sub-test on the final exam.

### **FINAL EXAM SCHEDULE:**

Please look at the Final Examination schedule below. Everyone must take the final exam at the scheduled time unless prevented by a legitimate medical, family, or military emergency (evidence submitted in writing). The one additional legitimate exception is having 3 finals on the same day---in which case talk to your 3 instructors about a compromise by one of them. Incompletes ("I" grades) are not given to those who, after the fact, announce that they "couldn't make" the final exam. Please discuss legitimate scheduling issues with your instructor *before* the exam if at all possible.

**Sec. 1: Tuesday, Dec 15, 7:15-9:30am** [in Clark 229]

**Sec. 2: Monday, Dec 14, 9:45am-12:00pm** [in Clark 229]

The times for all University final exams are published by SJSU online for Fall 2009:

(<http://info.sjsu.edu/web-dbgen/narr/soc-fall/rec-227.html>)

and the relevant **Group II Classes** section is shown at right. If an instructor for another course has done the unthinkable and scheduled a conflicting final exam by using an unofficial time-slot, please introduce that instructor to the online schedule of classes and then try to arrange an alternate time with that instructor.

### **Group II Classes**

Group II classes are those classes which meet TTh, T, Th, TWTh, MTTh, TThF, MTThF, MTWTh, TWThF, RF, TF.

Regular Class Start Time	Final Examination Day	Final Examination Time
0730 or 0800	Friday, December 11	0715-0930
0830 or 0900 →	Tuesday, December 15	0715-0930
0930 or 1000	Thursday, December 10	0945-1200
1030 or 1100 →	Monday, December 14	0945-1200
1130 or 1200	Wednesday, December 16	0945-1200
1230 or 1300	Friday, December 11	1215-1430
1330 or 1400	Tuesday, December 15	1215-1430

### **THE FOUR ASSIGNMENTS:**

**Campus Student Resource Assignment** (for HUD courses): Explore five of the many Student Resources on the SJSU campus and write 700 words (total, and all your own) to describe them. Detailed instructions will be in a pdf file on the download folder at BlackBoard (see p.1). Due date on Tentative Course Outline (see p.5).

**Two (2) Diet Reports:** Keep track of, analyze, and evaluate vs. RDA, Food Guide Pyramid and other dietary standards what you ate over an appropriately chosen 24-hour period. Details of this assignment are in the Diet Self-Study Assignment packet (see p.2). Due dates on Tentative Course Outline (see p.5).

**Research Summary (700 words):** Detailed instructions will be in a pdf file in the download folder at Blackboard (see p.1). Due date on Tentative Course Outline (see p.5).

**Late turn-ins of assignments:** an assignment may be turned in to the instructor's office (CCB 110) without penalty as late as the end of the instructor's afternoon office hour on the day the assignment is due. If that deadline is missed, it is considered 1 class-day late and the penalty is 2 points. There is an additional 2-point penalty per late class day thereafter, up to a maximum penalty of ½ the possible points for the assignment. See the course webpage (<http://www.nufs.sjsu.edu/dlstone/nufs9/assignments.htm>) for more information on this policy.

**It is always preferable to turn in the assignment to your instructor in class or in his office, but if you are unable to do so, go to CCB 200 (the NuFS Dept Office) and hand the assignment to Leah or whomever is in charge and ask that the assignment be placed in Dr. Stone's student assignment folder.**

TENTATIVE COURSE OUTLINE

<u>WEEK OF:</u>	<u>TOPIC:</u>	<u>READING/STUDYING:</u>
Aug. 24	Introduction, Food Culture Activity; Physical Science Background: basic concepts of chemistry	Text Ch.1; Online Materials (OM): Phys. Sci. Background, Study Guide (SG) Text pp.59-62; OM: Scientific Method, SG
Aug. 24, 31	Scientific Method & Experimentation, Metric System ***** [Exam 1 Tuesday Sept. 8]	
Aug. 31, Sept 7	Intro to Nutrients, DRI, RDA, Dietary Guidelines, Food Guide Pyramid, Nutrition Facts labels ***** [Exam 2 Thursday Sept. 17]	Text Ch.2; OM: SG
[Tues. Sept 15 ]	<b>Campus Student Resource Assignment (700-word paper) due</b>	
Sept. 14, 21	Anatomy & Physiology of the Digestive Tract ***** [Exam 3 Thursday Oct. 1]	Text Ch.3 (esp. the GIT section, p94-104); OM: SG
Sept. 21, 28 [no class on Sept 22 - - instructor furlough]	Carbohydrate – Structure, Metabolism. Dietary Fiber and health. ***** [Exam 4 Tuesday Oct. 13]	Text Ch.4; OM: SG
Oct. 5, 12	Protein – Structure, Metabolism ***** [Exam 5 Thursday Oct. 22]	Text Ch.6; OM: SG
Oct. 12, 19	Fats/Lipids – Structure, Metabolism ***** [Exam 6 Tuesday Nov. 3]	Text Ch.5; OM: SG
Oct. 26	Fats and Health - (Heart Disease, Cancer Intro) ***** [Exam 7 Tuesday Nov. 10]	Text Ch.5; OM: SG
Nov. 2, 9	Energy Metabolism: how do we use the Calories from food? Body Composition, Energy Balance – Overweight/Obesity/Underweight Eating Disorders ***** [Exam 8 Tuesday Nov. 24]	Text Ch.7; OM: SG
[Thursday Nov. 12 ]	<b>First Diet Report assignment due</b>	
Nov. 16, 23, 30	Vitamins – Functions, Sources & Deficiencies Minerals – Functions, Sources, and Deficiencies Water Balance, Nutrition Assessment	Text Ch.8, 9; OM: SG
<b>THANKSGIVING--NO CLASS ON THURSDAY NOV. 26</b>		
[Tues. Dec. 1 ]	<b>Research Summary paper due</b>	
Nov. 30	Nutrition Throughout the Lifespan: Pregnancy/Lactation, Elderly	Text Ch.14; OM: SG
Dec. 7	Effects of Food Processing & Preparation on Nutrients; Additives; Food-borne Illness, Natural Toxicants ***** [Exams 9 and 10 will be contained in the final exam—see p.3]	Text Ch.13; OM: SG

**Tuesday, Dec 8** is the last NuFS 9 class.

\*\*\*\* **Second Diet Report DUE BY YOUR SECTION'S FINAL EXAM DATE (see p.4)** Please note: MH 332 computer lab hours may change after the last day of classes—see lab schedule.

**GRADING CRITERIA:****Tests:**

8 mid-semester tests – 240 pts (15 questions, 2 pts apiece = 30pts per test).

Final exam – 60 pts (last two tests: #9 and #10)

**Assignments:**

Campus Student Resource paper -- 15 pts

2 Diet Reports – 40pts (20pts each)

Research Summary paper -- 20 pts

**Total:** 375 points. Tests will contribute 80% of the total, assignments 20% of the total.

The following grade scale will be used for the total course percentage points:

95-100 A+	66-70 C	<b>Posting of current grades during the semester:</b> During the semester, as soon as there are grades from tests and assignments from which to calculate current course grades, those current grades will be posted on the main course webpage. Please note that your current grades in the class will be based <b>only upon scores you have actually received</b> . Tests not taken and/or assignments not turned in are <i>not</i> calculated into the posted current grades.
90-94 A	60-65 C-	
87-89 A-	57-59 D+	
83-86 B+	53-56 D	
79-82 B	50-52 D-	
75-78 B-	<50 F	
71-74 C+		

Letter grades are not given for tests or assignments, however, you may use the above grade scale to obtain a letter grade for a test or assignment based upon your test score or assignment score converted to a percentage, and as described above, current course grades will be posted online during the semester. **“Incomplete” grades:** Do not ask to have a low course grade changed to an “Incomplete” after the semester is over. An “Incomplete” must be considered and approved *before* the semester’s end, based upon a justifiable inability to complete coursework during the semester. However, if you have reason to think there was an error in the determination of your course grade, by all means contact your instructor--mistakes happen, and there is no harm in asking.

**How to do well in NuFS 9:** Yes, there's a lot to learn! This is a survey (breadth rather than depth) course in human nutrition which is a very large field of study. Since nutrition is a branch of physiology, the course includes some physiology, chemistry, biochemistry, and anatomy. Like any field of study, it has its own "language" of terms and vocabulary, some of which you already know, but much of which will be unfamiliar to you. To the nutrition beginner, and especially to those who have never had a course in any of the life sciences (biology, physiology), this body of terminology and factual/conceptual information may appear somewhat overwhelming. Unless you have an exceptionally good memory, this material cannot be adequately learned in a few hours of cramming before each exam. It can be learned, however, if you study regularly and well during the semester.

**Suggestions for studying:** To do well in this class, as in any class, you must study well: read the study guide questions (see the online course materials) *before* class to get an idea of what’s coming, attend class regularly, take good lecture notes, and read the assigned chapters in the textbook. Then you should write complete answers to the questions in the study guides and do your best to MEMORIZE, with understanding, the concepts and terms in your lecture notes. You will probably not be able to fully memorize all of these, but a strong and sustained effort in that direction will most likely result in a very good grade in this class, not to mention knowing something about nutrition. See the file on the Blackboard webpage (in the download folder) called “A Few Tips on Using the Study Guides” for more advice on studying.

**Have you “learned”?** It is very important to develop a means for assessing whether you are actually learning the material, vs. just "going over it a few times" until it "looks familiar", which usually results in something less than learning. If you have learned a concept or fact (or the answer to a study guide question), you should be able to explain it to someone without referring to your lecture notes. You will improve your learning by "speaking" the nutrition language; that is, by studying in groups or with another person, taking turns explaining the material to each other.

**Doing badly on early tests:** If you do badly (<60%) on the first couple of tests, you must change your study habits or you may not pass the course. It is difficult to get a B (or even a C) course grade if you flunk most of the tests, and it is not OK to come to the instructor during the 13th week and ask for an “extra credit” assignment, as extra credit assignments are not offered in this course.

**Identify problems early!** If you are having problems with the course, try to recognize them early in the semester and come to office hours and chat about study techniques. You should also use student resources (LARC) for assistance in identifying study problems, and for help with developing good study skills such as taking notes, taking tests, reading for comprehension, etc. These services are provided for your benefit, and you have already paid for them with your semester fees. **Writing help:** For the two written assignments in this class, you are **strongly encouraged** to use the services of “The Writing Center” and/or LARC and the Peer Mentor Center for help with your writing.