

# INTRODUCTION TO HUMAN NUTRITION

Nutrition and Food Science 9

Spring 2012

Sec. 1 (20679): TTh 9:00-10:15 a.m. Clark Bldg 238

Sec. 2 (21476): TTh 10:30-11:45 a.m. Clark Bldg 238

Instructor: Dr. David L. Stone

SJSU Office: CCB 110

E-mail: [dlstone@wholegrain.com](mailto:dlstone@wholegrain.com)

**The main course website:** [www.nufs.sjsu.edu/dlstone/](http://www.nufs.sjsu.edu/dlstone/) and click the Nutrition and Food Science 9 link. This site will be regularly updated during the semester prior to tests and due-dates for assignments. Current course grades and instructor gradebook will also be posted here ("Current Grades") during the semester. Additional information about assignments and tests is also posted on this site. **The two relevant webpages are "Test info" and "Assignment info", and you should read these ASAP.**

**The download website:** We also have a Desire2Learn (D2L) website which will mainly be used for downloads of the course materials. These include two extra readings, the study guides, and directions for 2 of the 4 assignments. Log-in directions are on the main course website (see above). "Discussions" will also be activated at our D2L page, so you can post questions or comments about any aspect of the course. From this site there are also links to the important pages on the main website.

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

**E-mail Subject format:** Prefix each e-mail Subject with "NuFS 9: ", for example, "NuFS 9: question about first study guide"

## **INSTRUCTOR'S OFFICE HOURS:**

[TTh 7:30-8:30am](#), and [TTh 2:10-3:15pm](#), or by app't prior to 7:30am or after 3:15pm. I'm not on campus MWF.

These office hours are for you, so please drop by and resolve course-related problems, go over study guide questions, ask nutrition-related questions, patch lecture notes, etc. Talking nutrition here will help you in class and on tests.

**GE AREA E CONTENT:** This course includes

1. a focus on the interdependence of the physiological, social/cultural, and psychological factors that contribute to the process of human development and determine the limitations, potential, and options of the individual across the lifespan;
2. an understanding of the university as a learning center for the integrated person, an introduction to its resources, and an appreciation for the intellectual and social vitality of the campus community;
3. an inventory and evaluation of university-level learning skills and an exploration of the application of these skills to the student's academic and personal development.

## **AREA E Human Understanding and Development Student Learning Objectives (SLO):**

SLO 1: Recognize the physiological, social/cultural, and psychological influences on well-being;

SLO 2: Recognize the interrelation of the physiological, social/cultural, and psychological factors on development across the lifespan;

SLO 3: Use appropriate social skills to enhance learning and develop positive interpersonal relationships with diverse groups of individuals;

SLO 4: Recognize themselves as individuals undergoing a particular stage of human development and how well-being is affected by the university's academic and social systems.

## **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 students who are not Nutrition, Nursing, or Health Prof. majors, as these majors require **NuFS 8**. There is near-complete overlap of subject matter in NuFS 9 and 8, so please do not take NuFS 9 if you are required to take NuFS 8.

## **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.

**Learning Objectives:** Student shall be able to

1. Describe scientific methodology in the field of nutrition, and evaluate credibility of nutrition information based upon amount and quality of evidence. [GE SLO #1, 2]
2. Diagram the classification of nutrients, list the functions of nutrients in the human body, and compare nutritional needs during a person's lifespan. [GE SLO #1, 2, 4]
3. Outline the processes of digestion, absorption, transport and metabolism of nutrients. [GE SLO #1, 2]
4. List food sources of nutrients, and identify the effects on nutrient content of processing, storage, and preparation of food. [GE SLO #1, 2]
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. [GE SLO #1, 2, 3, 4]
6. Enumerate and locate campus facilities that provide student support: academic, personal, health, and professional. [GE SLO #4]

**Diversity**

Issues of diversity shall be incorporated in an appropriate manner.

**Writing**

The minimum writing requirement is 1500 words in a language and style appropriate to the discipline.

**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."

**DROP/ADD DATES:**

**Drops:** **Monday, Feb. 6** (see SJSU's online [Spring 2012 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 chairperson, and the CASA Dean. The Dean will generally not sign this form without a serious rationale. **Adds:** **Monday, Feb.13** is the last day to add a course or request grading options, or register late.

**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 outside of class and are not an adequate substitute for class notes. Do not e-mail your instructor and ask that the overheads be sent to you.** However, you are always welcome to come to office hours and view/review the class overheads whether you miss class or not.

A few points of basic classroom etiquette: (1) After class begins, please do not use cell phones, audio devices, or any other electronic toy except a laptop computer for the sole purpose of taking class notes -- see #5 below. (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. (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 except as needed to borrow a pencil, etc. (5) Once class begins, please do not read newspapers/books/etc, or browse the web or read e-mail with your laptop. **If laptop computers prove to be a distraction, the instructor reserves the right to ban their use in class.**

**Laptop computer rule:** portable computers (laptop/notebook/netbook/etc) may not be used in the last two rows of seats in the classroom. If too many people wish to use laptops for this rule to be followed, then **only the last row** will have this restriction.

## **TEXTBOOK AND OTHER COURSE MATERIALS:**

**Textbook:** *Required.* Gordon M. Wardlaw, Anne M. Smith; Contemporary Nutrition, **Eighth Edition**, McGraw Hill, Boston, MA: 2011

**Please note:** we have ordered a “custom” version of the textbook this semester to reduce cost to students. The cover of this version displays no title or authors. The front cover shows the course title/number and your instructor’s name. The back cover shows the publisher (McGraw-Hill). This is otherwise the same book as noted above, but minus one chapter that we will not use in the course.

**Online Course Materials:** *Required.* These course materials will be provided online on the class D2L site (see p.1) in a folder labeled *Course Downloads*.

The downloadable materials will be made available as needed during the semester in the form of printable PDF files. You will need to have Adobe Acrobat or other PDF reader such as Foxit installed on your computer in order to read/print them. Check the D2L site on a regular basis to see what has been made available.

The above materials will include the following: readings for the Chemistry and Scientific Method sections of the course, instructions for the Campus Student Resource Assignment, 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 D2L download page, please contact your instructor so the problem can be resolved.

The “Test info” and “Assignment info” pages on the main course website (see p.1) are also required reading.

**Diet Self-Study Assignment Packets:** Two (2) copies *Required.* Not needed until early in **April** (see Tentative Course Outline on p.6). Buy two of these, since you will do the assignment twice. Purchase in the A.S. Print Shop (<http://as.sjsu.edu/asps/index.jsp>)

**Floppy diskette (formatted for PC) 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, get one formatted for PC (not Mac). The stored data will not be turned in.

## **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 our Desire2Learn website (see p.1). Due date on Tentative Course Outline (p.6).

**Two (2) Diet Reports:** Record what you ate over an appropriately chosen 24-hour period, then analyze and evaluate vs. RDA, Pyramid (now called “RateMyPlate”) and other dietary standards. Details of this assignment are in the Diet Self-Study Assignment packet (see above). Due dates are on the Tentative Course Outline (p.6).

**Research Summary** (700 words): Detailed instructions will be in a pdf file in the download folder at our Desire2Learn website. Due date is on the Tentative Course Outline (p.6).

**Late turn-ins of assignments:** read the “Assignment info” page on the main course website for details. This is required reading.

**You will write two short (700-word) papers in NuFS 9 this semester, and here’s where to get help with writing:**

### **SJSU Writing Center**

“The SJSU Writing Center is located in Room 126 in Clark Hall. It is staffed by professional instructors and upper-division or graduate-level writing specialists from each of the seven SJSU colleges. Our writing specialists have met a rigorous GPA requirement, and they are well trained to assist all students at all levels within all disciplines to become better writers. The [Writing Center website](http://www.sjsu.edu/writingcenter/about/staff/) is located at <http://www.sjsu.edu/writingcenter/about/staff/>.”

### **Learning Assistance Resource Center**

“The Learning Assistance Resource Center (LARC) is located in Room 600 in the Student Services Center. It is designed to assist students in the development of their full academic potential and to inspire them to become independent learners. The Center’s tutors are trained and nationally certified by the College Reading and Learning Association (CRLA). They provide content-based tutoring in many lower division courses (some upper division) as well as writing and study skills assistance. Small group, individual, and drop-in tutoring are available. Please visit [the LARC website](http://www.sjsu.edu/larc/) for more information at <http://www.sjsu.edu/larc/>.”

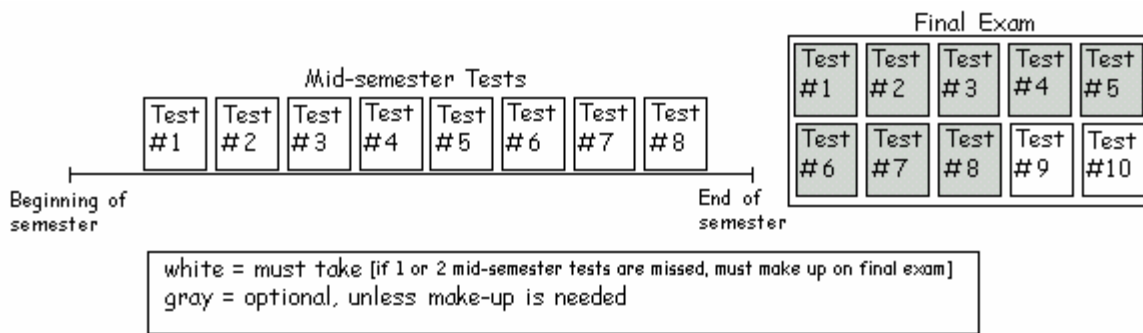
## TESTS:

1. **Mid-semester 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 answer sheet (described on the course webpage, available in the campus bookstore) for each of these tests. The last three topics (Vitamins/Minerals, Pregnancy/Lactation, and Toxicology) will be covered in two additional tests, but these will be on the final exam (see below).

☞ **You may miss, at most, two of the eight mid-semester tests, but each of these two 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 mid-semester 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.**

**If you must miss a test due to illness or legitimate emergency, try to 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.**

Each of the eight tests is given during the first 15 minutes of class, after which the class resumes. Please recall that morning traffic in the South Bay is often heavy, and parking can be difficult around SJSU. If you arrive 5 minutes late, you will have only 10 minutes in which to take the test.



2. **Final exam:** [refer to the “Final Exam” portion of the diagram above] The final exam will be composed of 10 sub-tests, each the same size/format as the mid-semester tests.

**The first eight sub-tests on the final exam** will be “repeats” of the eight mid-semester tests. These 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.

**Why they are on the final exam:** 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. You cannot make up any more than 2 missed tests.

Or, if you would like to try to improve your previous test scores, you can take as many of the “repeat” sub-tests as you like. For each sub-test that you take, if you earn a higher score than your original test score, the new higher score will *replace* the original lower score on the corresponding mid-semester test; 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 your 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.

**The last 2 sub-tests (9 and 10) on the final exam** cover the last 3 topics in NuFS 9 and everyone must take these two sub-tests.

**How many T&E 0200 answer sheets to bring to the final exam:** If you will take any of tests 1-5, you will need an extra sheet, so bring two. Otherwise, bring only one sheet.

## FINAL EXAM:

Please look at the Final Exam times listed on the next page. 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 three finals on the same day, in which case talk to your three 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. If you have a legitimate scheduling issue, please discuss it with your instructor *well before* the exam.

The SJSU-scheduled final exam times are shown below. Final exams take place in the regular classroom.

**Sec. 1: Tuesday, May 22, 7:15-9:30am** [in Clark 238]

**Sec. 2: Monday, May 21, 9:45am-12:00pm** [in Clark 238]

**Group II Classes**

The times for all University final exams are published by SJSU online for [Spring 2012](http://info.sjsu.edu/web-dbgen/narr/static/catalog/finals-spr.html) on this page: <http://info.sjsu.edu/web-dbgen/narr/static/catalog/finals-spr.html> and the relevant section for **Group II Classes** is shown at right. If an instructor for another course has 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 are those classes which meet TTh, T, Th, TWTh, MTTh, TThF, MTThF, MTWTh, TWThF, ThF, TF.

Regular Class Start Time	Final Examination Day	Final Examination Time
0730 or 0800	Friday, May 18	0715-0930
0830 or 0900 →	Tuesday, May 22	0715-0930 ←
0930 or 1000	Thursday, May 17	0945-1200
1030 or 1100 →	Monday, May 21	0945-1200 ←

**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 class grades during the semester:</b>  During the semester, as soon as there are scores from tests and/or assignments from which to calculate current class grades, those grades will be posted on the main course webpage. Please note that your current grade will be based <b>only upon scores that have been recorded</b> . Tests not taken and/or assignments not turned in are <i>not</i> reflected in your posted current grade, and in these cases your posted current grade will not reflect your current status in the class.
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 individual tests or assignments, however, if you wish, you can use the above grade scale to obtain a letter grade for a test or assignment based upon your score converted to a percentage, and as described above, current class 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, some very simple chemistry, and basic anatomy as needed to discuss, e.g., the GI tract. 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 new 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. You should then 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 Desire2Learn webpage (in the download folder) called “A Few Tips on Using the Study Guides” for more advice on studying.

**Have you “learned”?** You should try to assess whether you are actually learning the material rather than 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.

**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 in 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 or the Peer Mentor Center for help with your writing.

**TENTATIVE COURSE OUTLINE—DATES SUBJECT TO CHANGE**

<b><u>WEEK OF:</u></b>	<b><u>TOPIC:</u></b> [LO (Course Learning Objective) #]	<b><u>READING/STUDYING:</u></b>
Jan 23	Introduction, Food Culture Activity; Physical Science Background: basic concepts of chemistry [LO #2]	Text Ch.1 as an overview for the course; Online Materials ( <b>OM</b> ): Phys Sci.Background, Study Guide ( <b>SG</b> ). Text pp.45-47; OM: Scientific Method, SG
Jan 30, Feb 6	Scientific Method & Experimentation, Metric System [LO #1] ***** [Exam 1 Thursday Feb 9]	
Feb 6, Feb 13	Intro to Nutrients, DRI, RDA, Dietary Guidelines, Food Guide Pyramid, Nutrition Facts Labels [LO #2] ***** [Exam 2 Tuesday Feb 21]	Text Ch.2; OM: SG
<b>[Thursday Feb 16]</b>	<b>Campus Student Resources Assignment due</b> [LO #6, Writing Req't]	
Feb 13, Feb 20	Anatomy & Physiology of the Digestive Tract [LO #3] ***** [Exam 3 Tuesday Mar 6]	Text Ch.3 (esp. the GIT section, p.96-106); OM: SG
Feb 27, Mar 5	Carbohydrate – Structure, Functions [LO #2,3,4,5] ***** [Exam 4 Thursday Mar 15]	Text Ch.4; OM: SG
Mar 12, Mar 19	Protein – Structure, Functions [LO #2,3,4,5] ***** [Exam 5 Tuesday Apr 3]	Text Ch.6; OM: SG
Mar 19, Apr 2	Fats/Lipids – Structure, Functions [LO #2,3,4,5] ***** [Exam 6 Thursday Apr 12]	Text Ch.5; OM: SG
	<b>SPRING BREAK MARCH 26-30 – NO CLASSES</b>	
Apr 9, Apr 16	Fats and Health -- Heart Disease, Cancer Intro [LO #4,5] ***** [Exam 7 Tuesday Apr 24]	Text Ch.5; OM: SG
Apr 16, Apr 23	Energy Metabolism: how do we use the Calories from food? [LO #2,3] Body Composition, Energy Balance – Overweight/Obesity/Underweight Eating Disorders [LO #4,5] ***** [Exam 8 Thursday May 3]	Text Ch.7; OM: SG
<b>[Thursday Apr 26]</b>	<b>First Diet Report assignment due</b> [LO #2,4,5, Writing Req't]	
Apr 30, May 7	Vitamins & minerals: Functions by Bodily System; Food Sources; Deficiency Diseases [LO #2,3,4,5] Water Balance, Nutrition Assessment [LO #2,5]	Text Ch. 8, 9; OM: SG
<b>[Tuesday May 8]</b>	<b>Research Summary Paper due</b> [LO #1, Writing Req't]	
May 7	Nutrition in Pregnancy and Lactation [LO #2,3,4,5]	Text Ch.14; OM: SG
May 14	Effects of Food Processing & Preparation on Nutrients; Additives; Food-borne Illness, Natural Toxicants [LO #4] ***** [Tests 9 and 10 will be contained in the final exam—see pp.4,5]	Text Ch.13; OM: SG
	<b>Tuesday, May 15</b> is the last NuFS 9 class and the last day of classes at SJSU	
	<b>Second Diet Report DUE BY WEDNESDAY MAY 23, at 1pm—NO LATER, but turning it in on any earlier date is strongly advised.</b> Please note: MH 332 computer lab Open Hours usually change after the last day of classes—see updated lab schedule.	