

NuFS 101A
Spring 2009
Lecture: 10:30-11:45 Tu/Th CCB 102
Labs: 12:00-2:40 Tu or Th CCB 125

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Office Hours: 3:00-4:00 pm Tu/Th
Or by appointment

Food Science

Course Description: Experimental study of food and introduction to scientific methods used in food evaluation; emphasis on the function of ingredients in prepared foods.

Units: 4 semester units

Student Learning Objectives:

The course is designed to help the student

- Understand and apply the principles of science to the preparation of food
- Learn the complex nature of foods and study some changes which occur in foods as a result of handling and manipulation
- Observe the roles of ingredients in a wide range of prepared foods
- Learn the essential techniques for functioning in a food research laboratory including: accuracy, control, record keeping, and cleanliness
- Learn the basics and applications of sensory and objective methods for evaluating food quality.

Prerequisites:

Chem 30A, B; a food preparation course (NuFS 21 or college level equivalent) or instructor approval.

Textbooks:

Required:

McWilliams, M. (2007). *Foods: Experimental Perspectives. 6th Edition*. Prentice Hall.

Murano, P. S. (2003). *Understanding Food Science and Technology*. Thomas Wadsworth.

Recommended (the following books may be helpful but are not required):

Brown, A. (2007) *Understanding Food: Principles and Preparation. 3rd Edition*. Wadsworth
Thompson Learning.

McGee, Harold (2004). *On Food and Cooking: The Science and Lore of the Kitchen. Rev Upd Ed.*, Scribner.

Lab Manual:

Copies of the labs will be sent to you electronically. You will be expected to print out the lab, read it prior to class, and bring it with you to the lab.

Exams/Lab Reports/Lab Performance:

Midterms: Midterms will each be worth 100 points and may contain multiple choice, true/false, fill-in the blank, short answer questions, and essays.

Final Exam: The final exam will be worth 200 points and will cover both lecture and lab. The lecture portion will be non-cumulative, covering all material after Midterm 2. The lab portion will be cumulative, covering all lab material from the semester. Final exam questions may be multiple choice, fill-in-the-blank, true/false, short answer, and essays.

Lab quizzes: Lab quizzes (5 pts each) will consist of multiple choice and true/false questions and will be **given at the beginning of each lab period**. Questions will cover the lab to be conducted that day and are designed to determine if you have read the material prior to class in preparation for completing the lab. Quizzes will be graded in lab immediately after taking them and turned in to the instructor. There will be no quiz during the first lab period. The highest 10 out of 12 quiz scores will be counted in the final grade. No make-up lab quizzes will be given.

Lab Reports: Lab reports (10 pts each) are required for each lab. Each lab report will be due one week after the lab is completed. Each report should include the following:

- A summary of the expected outcomes and the day's lab findings (table form)
- Discussion of how the lab results agree or disagree with expected outcomes
- Answers to the questions at the end of the lab

Lab reports will be completed as a group. Each group will assign group members individual sections of the report and questions to complete and will turn in one report to the instructor. The sections should be clearly marked indicating which member is responsible for each section. If a section is incomplete or inadequately answered, the report will be returned once to the member/members responsible for the section(s) for revisions. If the revision remains inadequate, that member shall lose points for the lab report. Members of the group who complete their sections satisfactorily shall receive full points for the report.

Both a hard copy and a soft copy (email) must be turned in to the instructor. The soft copy should be sent using the title format: 101ADay of lab_Group Letter_Name of Lab (for example: 101ATuesday_Group A_PlantProteins). There will be a 5 point reduction per day for late reports.

There will be no lab report due after the first lab. The first lab report will cover Week #2 and will be due on your lab day during Week #3. There will be no lab report for the final lab. The top 10 lab report scores will be counted for the final grade.

Lab Performance: evaluation of lab performance will be based on

- Lab attire – appropriate and clean (lab coat or NuFS club apron, long sleeves, long pants, closed toe shoes, head cover (provided by the instructor) with no hair showing)

- Participation – attendance of labs, on-time to lab, clean and orderly work habits, cooperative team efforts in completing labs and maintaining/cleaning lab station

Evaluation:

Midterm 1	100 pts
Midterm 2	100 pts
Final Exam (covers both lecture and lab)	200 pts
Lab Quizzes (5 pts each; top 10 out of 12 scores will be counted)	50 pts
Lab Reports (10 pts each; top 10 out of 11 scores will be counted)	100 pts
Lab performance and participation	50 pts
Total Points	600 pts
<i>Extra credit opportunities – attendance of one approved industry or academic meeting + a one-page write-up (must be turned in within 2 weeks of attending and completed by May 7, 2009)</i>	
	10 points

Notes:

- Exams may only be rescheduled for compelling reasons. Make-up exams (for students who miss the regular exam) will be more detailed and specific. All students must take the comprehensive final exam. Unless a student is scheduled to have more than 3 finals on the same day, they must take the final exam on the scheduled day and time.
- The principles studied during lab will serve to practically apply the principles discussed in lecture. The laboratory section is worth approximately one-third of the total grade and attendance is mandatory. No make-up quizzes will be given and students may not turn in lab reports for labs that they do not attend. Absence from more than 2 labs will result in a minimum of 5 point reduction per lab from the lab performance and participation score.

Grade Assignment:

Grades are assigned based on a +/- scale

94%-100%	A
90%-93%	A-
87%-89%	B+
84%-86%	B
80%-83%	B-
77%-79%	C+
74%-76%	C
70%-73%	C-
67%-69%	D+
64%-66%	D
60%-63%	D-
Below 60%	F

Drop Policy: Dropping a course after the University designed drop period is permissible only for serious and compelling reasons. Unsatisfactory grades/performance in coursework, in itself, is not considered a compelling reason to drop.

Tentative Lecture Schedule – Spring 2009

Date	Topic
1/22	Introduction
1/27	Food Safety
1/29	Sensory Evaluation
2/3	Energy and Mass Transfer
2/5	Food Dispersions
2/10	Acidity; pH
2/12	Overview Carbohydrates: Monosaccharides, Disaccharides, & Sweeteners
2/17	Sugars and Alternative Sugars
2/19	Starch
2/24	Fiber, Plant Foods
2/26	Plant Foods (continued), Plant proteins, Review for Midterm 1
3/3	Midterm Exam 1
3/5	Overview of Lipids
3/10	Fats and Oils in Food Products
3/12	Overview of Proteins
3/17	Milk and Milk Products
3/19	Milk and Milk Products (continued)
3/24 & 3/26	No Class (Spring Recess)
3/31	No Class (Cesar Chavez Day)
4/2	Meats, Poultry, Fish & Gelatin
4/7	Meats, Poultry, Fish & Gelatin (continued), Review for Midterm 2
4/9	Midterm Exam 2
4/14	Eggs & Egg Products
4/16	Eggs & Egg Products (continued)
4/21	Dimensions of Baking
4/23	Dimensions of Baking (continued)
4/28	Baking Applications
4/30	Baking Applications (continued)

5/5	Baking Applications (continued),
5/7	Food Safety revisited, Review for the Final Exam
5/12	Review for Final Exam
5/18	Final Exam – 9:45-12noon, CCB Room 102

Tentative Lab Schedule – Spring 2009

<u>Week/Dates</u>	<u>Topic</u>
Week 1: 1/22	No Labs
Week 2: 1/27 & 1/29	Introduction to Lab Procedures & Sensory Evaluation/Objective Measures (No Lab Report Due from this lab)
Week 3: 2/3 & 2/5	Measuring, Heat Transfer (first lab report due one week from lab day)
Week 4: 2/10 & 2/12	Acidity, Food Dispersions
Week 5: 2/17 & 2/19	Sugars, Beverages
Week 6: 2/24 & 2/26	Starches & Pastas, Pectin Gels
Week 7: 3/3 & 3/5	Fruits & Vegetables
Week 8: 3/10 & 3/12	Plant Proteins
Week 9: 3/17 & 3/19	Lipids & Emulsions
Week 10: 3/24 & 3/26	No Labs (Spring Recess)
Week 11: 3/31 & 4/2	No Labs (Cesar Chavez Day, 3/31)
Week 12: 4/7 & 4/9	Milk Products
Week 13: 4/14 & 4/16	Meat, Poultry, Fish
Week 14: 4/21 & 4/23	Eggs & Egg Products
Week 15: 4/28 & 4/30	Quick Breads, Shortened Cakes Biscuits, Muffins
Week 16: 5/5 & 5/7	Yeast Breads (No lab report due)

University, College, or Department Policy Information:

a) Academic Integrity statement (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://www2sjsu.edu/senate/S04-12.pdf>

A definition of plagiarism, such as that found on Judicial Affairs website at <http://www2sjsu.edu/senate/plagiarismpolicies.htm>

b) Campus policy in compliance with the Americans with Disabilities Act:

“If you need course adaptations or accommodations because of 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. President Directive 97-03 requires that students with disabilities register with DRC to establish a record of their disability.”

c) Cell Phones:

Students will turn their cell phones off or put them on silent mode while in class. They will not answer their phones in class. Students whose phones disrupt the course and do not stop when requested by the instructor will be referred to the Judicial Affairs Officer at the University.

d) 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. Students who are caught cheating will be reported to the Judicial Affairs Officer at the University, as prescribed by [Academic Senate Policy S04-12](#).

e) Other:

- “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 behaviors, see Academic Senate Policy S90-5 on Student Rights and Responsibilities.
- Librarian liaison: Tina Peterson , tina.peterson@sjsu.edu