

**DEPARTMENT OF NUTRITION & FOOD SCIENCE  
UNDERGRADUATE RESOURCE HANDBOOK  
SAN JOSE STATE UNIVERSITY**

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## INTRODUCTION

Your interest in the Department of Nutrition and Food Science at San Jose State University is appreciated. It is hoped that this booklet will answer any questions which you may have regarding the field of Nutrition and Food Science and the academic program at San Jose State University.

A career in nutrition and food science is for men and women who are interested in the health, scientific, and commercial aspects of nutrition and food. Dietitians, food scientists, foodservice managers, packaging specialists, and nutritionists, are professionals who apply the science of nutrition and food and packaging in the following ways:

- ◆ By advising individuals and families to select foods or provide adequate nutrition in health or disease throughout the life cycle;
- ◆ By planning and managing the preparation and service of food;
- ◆ By developing and implementing nutrition education programs;
- ◆ By working in a management, research, or quality control capacity in food or packaging industries;
- ◆ By managing community nutrition and food programs;
- ◆ By directing foodservice systems;
- ◆ By educating professionals and people in the community in nutrition and food science and packaging

As governing bodies and individuals become increasingly aware of the need for proper nutrition, food manufacturing, and food handling, demand for specialists in these areas is increasing. The Department of Nutrition and Food Science at San Jose State University prepares students for these and other career goals.

## THE UNIVERSITY

San Jose State University (SJSU) is one of 23 campuses in the California State University system. It is the oldest public institution of higher learning in the state. The campus is located at the southern end of San Francisco Bay in downtown San Jose (population 923,000), in the center of the world-famous *Silicon Valley*. Many of California's most popular natural, recreational, and cultural attractions are nearby, including the redwood forests, Napa Valley wineries, and much more. The University enrolls approximately 30,000 students.

The history of San Jose State University began in 1857 when it was founded as *Minn's Evening Normal School* to prepare teachers. In 1870, it moved to San Jose and the name was changed to *California State Normal School*. In 1921, it became known as *California State Teachers' College*. As academic programs expanded into areas other than teacher education, the name was changed to *San Jose State College*. University

status was granted in 1974 as the result of academic excellence in many diverse subject areas. Today, San Jose State University offers baccalaureate degree programs in over 77 majors housed in seven colleges.

This University attracts students and faculty from throughout the United States and abroad. The varied programs and departments are recognized for their quality and leadership.

### **Accreditation/Approval Status**

San Jose State University is fully accredited by the *Western Association of Schools and Colleges* and the California State Board of Education. The academic concentration in Dietetics or the Didactic Program in Dietetics (DPD) at San Jose State University is currently granted Accreditation by the Commission on Accreditation for Dietetics Education of The American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995, (312) 899-4876. Web address: <http://www.eatright.org>. The Food Science program meets the requirements and is approved by the Institute of Food Technologists (IFT), 525 West Van Buren, Suite 1000, Chicago, IL 60607-3814, (312) 782-8424.

## **THE DEPARTMENT OF NUTRITION & FOOD SCIENCE**

### **General Information**<sup>1</sup>

The Bachelor of Science program in Nutritional Science at San Jose State University integrates the principles of chemical, biological, and social sciences. The Nutritional Science program offers two concentrations: 1) Dietetics, and 2) Food Science & Technology. A general degree in Nutritional Science offers four emphases in Nutrition Science, Nutrition Education, Sports Nutrition, and Food Management. The Program prepares graduates for careers as nutritionists, food scientists, dietitians and foodservice professionals in educational institutions, hospitals, nutrition, and food research laboratories, business and industries, and community and government positions.

The Department of Nutrition and Food Science (NuFS) at San Jose State University was the first nutrition department in the California State University (CSU) system. Both baccalaureate and Masters degrees in Nutritional Science are offered. The NuFS Department offers a strong academic program through a variety of courses and experiences in nutrition, food science, foodservice management and restaurant management.

<sup>1</sup>See Appendix A for the SJSU Department of Nutrition & Food Science Mission Statement.

**<sup>2</sup>Undergraduate courses offered include:**

- ◆ *Advanced Nutrition*
- ◆ *Aging and Nutrition*
- ◆ *Catering and Beverage Management*
- ◆ *Chemical Analysis of Food*
- ◆ *Chemical Analysis of Food Lab*
- ◆ *Community Nutrition and Education*
- ◆ *Complementary & Alternative Health Practices*
- ◆ *Culinary Principles and Practices*
- ◆ *Cultural Aspects of Food*
- ◆ *Current Issues in Nutrition*
- ◆ *Medical Nutrition Therapy A,B*
- ◆ *Entrepreneurial Nutrition*
- ◆ *Field Experience*
- ◆ *Food Chemistry*
- ◆ *Food Culture in America: Consuming Passions*
- ◆ *Food and Nutritional Toxicology*
- ◆ *Food Evaluation and Techniques*
- ◆ *Food Processing and Packaging I*
- ◆ *Food Processing and Packaging II*
- ◆ *Foodservice Production Management*
- ◆ *Foodservice Production Management Lab*
- ◆ *Food Science*
- ◆ *Foodservice Procurement*
- ◆ *Foodservice Systems Management*
- ◆ *Food Toxicology*
- ◆ *Fundamentals of Food Process Engineering*
- ◆ *Health Issues in a Multicultural Society*
- ◆ *Nutrition in the Life Span*
- ◆ *Individual Studies*
- ◆ *Internship in Foodservice Management*
- ◆ *Introduction to Human Nutrition*
- ◆ *Nutrition and Metabolism*
- ◆ *Nutrition Education and Counseling*
- ◆ *Nutrition for Sport*
- ◆ *Nutrition for the Health Professions*
- ◆ *Nutrition in Space*
- ◆ *Nutrition Laboratory*
- ◆ *Packaging Materials I*
- ◆ *Packaging Materials II*
- ◆ *Packaging for Medical Devices and Pharmaceuticals*
- ◆ *Packaging Machinery Systems*
- ◆ *Protective Packaging Design and Testing*
- ◆ *Packaging Material Handling and Distribution*
- ◆ *Packaging Developments and Management*
- ◆ *Physical Fitness and Nutrition*
- ◆ *Principles of Packaging*
- ◆ *Professionalism in Nutrition & Food Science & Packaging*
- ◆ *Sanitation & Environmental Issues*

<sup>2</sup>See Appendix B for course descriptions.

<b>STUDENT ORGANIZATION</b>
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The Student organizations based in the department offers an opportunity for students to become involved in community, industry and school-oriented projects; to meet with career professionals, faculty, and other students; and to show leadership through becoming a club officer. In addition, scholarships to local conferences and national professional conventions are offered. Other events sponsored by the club include: presentations by speakers in all fields of nutrition, food science, and packaging, participation in the Department Convocation (graduation) ceremony, regular club meetings, graduation luncheons, participation in the university open house, involvement in the SJSU nutrition and health faire and more. The student organizations are the *Student Nutrition & Food Science Club* and The Student Packaging Association, and they welcome both undergraduate and graduate students.

<b>THE FACULTY</b>
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The instructors of the Department of Nutrition and Food Science take a genuine interest in their students, making the educational environment both interesting and enjoyable. Full and regular part-time staff include:

**Panfilo Belo, Ph.D.** Professor of Nutrition and Food Science and Graduate Coordinator (Ph.D., Michigan State University). *Professional Experience:* Research Associate, Michigan State University, Food Chemist, Gilroy Foods, Inc., Postdoctoral Fellow, Department of Nutritional Science, UC Berkeley. *Publications:* Published 26 articles related to nutrition metabolism, food science and technology, and nutritional toxicology. *Current Research Interests:* Utilization of underutilized plant proteins, functional properties of plant proteins, detoxification of naturally occurring plant toxicants, and nutritional aspects of food processing. *Professional Activities:* Institute of Food Technologists, American Chemical Society/Agricultural and Food Chemistry Section, American Institute of Chemists. *Expertise:* Food chemistry/analysis, food technology and processing, food toxicology. Professor.

**Elizabeth Brown, M.S., R.D., C.S.C.S.** Izzie Brown received her degree in Exercise Science from Springfield College, Springfield, Massachusetts in 1992 and her BA in Philosophy with a minor in Education Rollins College, Winter Park, Florida. She participated in the AP4 program at Immaculata College earning the equivalent of a BA in Nutrition, Immaculata Pennsylvania. In 1998 she was invited into Kappa Omicron Nu Honors Society. Her internship took place at the hospital of the University of Pennsylvania. The topic of her Masters thesis was carbohydrate loading and the middle distance rowing race. Izzie has coached the Woman's Rowing Programs at Mount Holyoke College and Temple University. In 1995 she earned a silver medal at the Pan American Games in Argentina in the lightweight women's double rowing event. Izzie Brown comes to us from Alta Bates Summit Medical Center where she was a clinical dietitian.

**Caroline Fee, M.A.** received her degree in Foods and Nutrition at San Jose State University and her B.A. in Education from San Francisco State University and Teaching Credential from State of California. She has served as Director of Nutrition Education Consultants for 8 years and has 20 years of teaching experience. She has published 4 articles related to nutrition education and the older adult. Her current interests include aging and nutrition and multicultural health issues. Lecturer.

**Alan Finkelstein, MBA, A.O.S.** received his MBA in Foodservice Management with an emphasis in Public Administration at Adelphi University in Garden City, New York. After attending the Culinary Institute of America in Hyde Park, New York, he completed an apprenticeship at the Hotel Schweizerhof in Bern, Switzerland. While teaching Culinary Arts at Laney College, he produced and performed in an acclaimed TV cooking series. *Mr. Finkelstein* came to San Jose State University as Executive Chef to oversee the food operations of Spartan Shops, Inc, and served in that capacity for seven years. He has taught hospitality and cooking laboratories at SJSU for five years. He supervises the student-run *First Class Dining Room* on campus. Lecturer.

**Marjorie R. Freedman, MS, Ph.D.** received her degrees in Nutrition from UC Davis. Upon graduation, she worked in the food industry as Manager, Scientific Affairs for The NutraSweet Company. Later, as Vice President, Education, for INR (the largest provider of continuing education classes for health care professionals) she prepared curriculum and presented over 650 seminars throughout the United States and Canada. She has consulted for The Kellogg's Company, McDonald's, Murdoch Books, the USDA, and was on the Weight Management Faculty for the ADA. Her current research interests include community nutrition, nutrition education, and obesity (in children and adults). Assistant Professor.

**Clarie B. Hollenbeck, Ph.D.** received his Ph.D. in Nutritional Biochemistry from Oregon State University in 1982. From 1982-1995, *Dr. Hollenbeck* held a joint appointment as a Research Scientist in the Division of Endocrinology, Metabolism and Gerontology in the Department of Medicine at Stanford University School of Medicine and the Geriatric Research, Education and Clinical Center. Veterans Administration Medical Research Director of the General Clinical Research Center at Stanford University. *Dr. Hollenbeck* has authored over 85 scientific publications and has served on the Editorial Board of American Journal of Clinical Nutrition. He is a member of several professional societies and has held numerous positions in the American Diabetes Association, including the National Chair of the Council on Nutritional Sciences and Metabolism. He has been a member of the faculty in the Department of Nutrition and Food Science since 1995. Associate Professor.

**Nancy C. Lu, Ph.D., R.D.** received her Ph.D. in Nutrition with a Minor in Biochemistry from UC Berkeley and has a BS in Agricultural Chemistry. She has published 32 articles in nutrition and food science. She has successfully developed a chemically defined medium for cultivating *Caenorhabditis elegans*. Her current research interest is in using the nematode as a model for nutrition and food science studies such as nutrient requirements, growth factors, nutrient interrelationships, and food additives. Professor.

**Lucy McProud, Ph.D., R.D.** received her Ph.D. in Food Science with an emphasis in food administration and a Minor in Business Management at the University of Wisconsin, Madison. She has done research-related to energy use and management in the foodservice industry and has also obtained several nutrition, education, and training grants related to school foodservice. Before coming to SJSU, *Dr. McProud* worked as a registered dietitian at Kaiser Foundation Hospital in Fontana, CA. She has thirty publications. She received the *Excellence in Education Award* from the California Dietetic Association in 1994. Professor and Department Chair.

**Judi Morrill, Ph.D.** received her degree in Nutrition from University of California at Berkeley with a Minor in Biochemistry. She has been involved in research on the adaptation of the small intestine to diet. She has a special interest in teaching non-scientists about science and nutrition. Lecturer.

**Miriam Perry, Ph.D.** received her Ph.D. in Food Science at the University of Minnesota, and her B.S. in Food Science and Nutrition at the University of Washington. She was Assistant Professor at Virginia Polytechnic Institute and State University, and was Senior Biochemist at Del Monte Corporation in Walnut Creek, CA. *Dr. Perry* has co-authored four chapters in books, over 24 articles, and several pamphlets regarding food science and nutrition. Professor.

**David L. Stone, Ph.D.** received his Ph.D. in Nutritional Sciences from University of California at Berkeley in 1984, and his B.A. and M.S. in Biology from University of California at Santa Barbara in 1971 and 1973 respectively. Prior to his Ph.D. work, he ran the electron microscopy lab in the Wilmer Eye Institute at Johns Hopkins Medical School. He has had seven publications and is currently working on seven academic software programs. Lecturer.

**Kathryn Sucher, Sc.D., R.D.** received her Sc.D. from Boston University Medical Center in Nutritional Science. *Dr. Sucher* has held several positions in industry, including Nutritional Specialist for McGraw Laboratories and Nutrition Coordinator at Thomas J. Lipton, Inc. in New Jersey. She has published numerous journal articles and two books. Current research interest areas include clinical nutrition (nutritional implications of diseases and trauma), cultural food knowledge, and disease prevention. Professor and Internship Director.

**Ashwini R. Wagle, MS, RD.** received her MS degree in Food and Nutrition from Indiana University of Pennsylvania (IUP) in 1992. She received the Outstanding Student Research Award for her MS Thesis from Society of Nutrition Education for the year 1993-94. The topic for her thesis was “Accuracy of Food Purchase Recall through Use of Supermarket Itemized Register Tapes”. Ashwini Wagle has worked as Director of Dietary Services for skilled nursing facilities in the San Francisco Bay Area for the last 12 years. She has also worked as a Clinical Dietitian for Watsonville Community Hospital. Assistant Professor.

**Fritz Yambrach, Ph.D.** is an Associate Professor of Packaging in the Department of Nutrition and Food Science. Dr. Yambrach completed his PhD at University of Buffalo SUNY, an MBA at Utah State University and a BS in Packaging Engineering at Michigan State University and another BS in Marketing at Utah State University. Before coming to SJSU he taught at the Rochester Institute of Technology (RIT) in Rochester, New York in the Department of Packaging Science as a Tenured Full Professor. In addition, Dr. Yambrach served as Associate Director of the Integrated Plastics Center at RIT (2004-2005). Dr. Yambrach’s area of focus relates to pharmaceutical and medical product package design. He has served as a consultant to 20 major companies including Johnson and Johnson, Amgen, and Bausch and Lomb, as well as Campbell’s and Kraft Foods.

## SJSU ADMISSION REQUIREMENTS

### **Application Procedures**

Students wishing to apply for admission to San Jose State University can obtain an application online at [www.sjsu.edu](http://www.sjsu.edu). Refer to website for current deadline dates for application.

### **Freshman Requirements**

To qualify for regular admission to SJSU as a first-time freshman, a student must be a high school graduate, with satisfactory results on the ACT and/or SAT tests, have a satisfactory grade point average, and have completed (with grades of C or better) the courses in the comprehensive pattern of college preparatory subject requirements (English – 4 years,

Mathematics – 3 years, U.S. History and Government – 1 year, Science – 1 year with laboratory, Foreign Language – 2 years, Visual and Performing Arts – 1 year, Electives – 3 years).

### **Transfer Requirements**

Students transferring from a community college or another four-year institution will qualify for admission to SJSU with a grade point average of **C** (2.0) or better in all transferable units attempted, with good standing at the last college or university attended, and with any of the following standards:

1. Eligible as freshmen (see *Freshman Requirements* above) at the time of application for at the time of graduation from high school, but must have been in continuous attendance at a college since high school graduation, **or**
2. Eligible as a freshman except for the college preparatory subject requirements and have completed the appropriate college courses in those missing subjects, **or**
3. Completed at least 56 transferable semester (84 quarter) units and completed the appropriate college courses to make up any missing college preparatory subjects. (Nonresidents require a 2.4 grade-point average or better.)

### **Missing College Preparatory Subject Requirements:**

Undergraduate transfer applicants who did not complete the subject requirements while in secondary school may make up missing subjects in any of the following ways:

1. Complete appropriate course with a **C** or better in adult school or high school summer sessions.
2. Complete appropriate courses in college with a **C** or better (one three-unit semester (four quarter units) course will be considered equivalent to one year of high school study, **or**
3. Earn acceptable scores on specified examinations.

Transfer applicants with 56 or more semester units can satisfy the preparatory subject requirements by completing with a **C** or better, one of the following alternatives: (a) The SJSU general education requirement in communication in the English language and mathematics (for 1987 or earlier high school graduates); (b) 30 semester (45 quarter) units applicable to SJSU general education requirements (for 1988 and later high school graduates.)

All transfer applicants with 56 or more semester (84 quarter) units will be expected to have completed the general education requirements in communication in English (at least 9 semester units) and in mathematics (usually 3 semester units).

For further information, or alternative ways to satisfy the subject requirements, please consult with the San Jose State Admissions Office (408) 924-4200.

### **Educational Opportunity Program**

San Jose State University has an Educational Opportunity Program (EOP) for undergraduate students who are disadvantaged because of economic or educational background. The academic preparation of foreign students is also assessed. For further information regarding admission requirements, see the current *SJSU Catalog*, the on-line SJSU catalog at <http://info.sjsu.edu>, or call the EOP office at (408) 924-2475.

<b>GRADUATION REQUIREMENTS INFORMATION</b>
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**Residence Requirements**

For all bachelor's degrees, including second baccalaureates, a minimum of 30 units in residence at San Jose State University must be earned. Of these, 24 units must be earned in upper division courses, and 12 units must be in the major. Extension credit or evaluation may not be used to fulfill any of the 30 units.

**Upper Division Requirements**

At least 40 of the total units required for graduation with the bachelor's degree must be upper division. Upper division credit will be allowed by the University and applied toward the baccalaureate degree only for courses numbered 100 or above and for courses from other universities clearly designated as junior or senior level courses. Except under unusual circumstances, freshmen and sophomores are not encouraged to take upper division courses.

**Unit Requirements**

A minimum of 120 semester units must be earned for graduation with the baccalaureate degree in Nutritional Science (123 for Dietetics; 124 for Food Science and Technology). Normally, no more than six units of Individual Studies (NuFS 180) may be counted for the baccalaureate degree. Exceptions require approval from both the department and the college dean.

**General Education**

Every student who earns a baccalaureate degree at San Jose State University must complete 51 units of General Education (GE). A maximum of 39 units of general education courses may be transferred in from previous institutions; 9 of the remaining units must be in upper division San Jose Studies (Advanced GE) taken at San Jose State University. Some dietetic coursework satisfies General Education requirements (courses which satisfy the GE requirements are listed in the *Schedule of Classes* each semester). All courses taken for GE credit must result in a letter grade, Credit/No Credit grades are not permitted unless the student earns the grades by examination.

**Major Requirements and Curriculum Outline**

The required coursework for the Bachelor of Science degree in Nutritional Science offered by the Department of Nutrition and Food Science is outlined below. In addition, the student may choose a course of study in concentrations emphasizing Food Science & Technology, Packaging, or Dietetics. A description of each program follows.

<b>CONCENTRATION IN DIETETICS</b>
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**Mission:**

It is the mission of the Didactic Program in Dietetics (DPD) to develop abilities to think critically, communicate effectively, collaborate as a team member, embrace diversity, and demonstrate professional leadership in order to apply a mastery of nutrition principles – basic nutrition, community nutrition, food science, foodservice management to dietetics practice.

**Program Description:**

The Didactic Program in Dietetics (DPD) provides the coursework to prepare students to meet the requirements for the Registered Dietitian (RD) Exam eligibility. The Dietetics curriculum includes support courses from the social, physical, and life sciences. Students have the option to select elective courses outside the major and/or to complete minors in business, chemistry, education, gerontology, health science, human performance, journalism, or other areas. In addition, with the appropriate coursework, students are also prepared for advanced degrees (M.S.) and post baccalaureate education (Dietetic Internships).

**Program Goals:**

- To prepare students to practice as competent entry-level professionals in the field of dietetics.
- To foster the development of critical thinking in students.
- To provide advising and mentoring support to students regarding coursework and career progression in the profession of dietetics.
- To train students to apply academic studies in a practical setting.
- To prepare students to demonstrate a commitment to community/professional service.
- To promote appreciation of diversity and multicultural perspectives.
- To evaluate the educational preferences of students in dietetics to assure that they will be able to perform satisfactorily in their dietetic internship and job preparations.
- To promote life long learning by students.

**Accreditation:**

The Didactic Program in Dietetics (DPD) at San Jose State University is currently granted the Accreditation by the Commission on Accreditation for Dietetics Education of The American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995; (312) 899-5400. Web address: <http://www.eatright.org>.

*Graduates of the Didactic Program in Dietetics will be prepared to:*

- a. Communicate and educate effectively to different ethnic groups and/or individuals, through writing, counseling, consulting, and oral presentations;
- b. Apply knowledge of government and business to explain public policy, promote good nutrition, and to advocate for consumers on nutrition issues;

- c. Exhibit qualities of leadership, as well as skills in collaboration and negotiation, as a team member;
- d. Demonstrate knowledge of the scientific basis of nutrition, food science, and foodservice appropriate for entry level professionals;
- e. Incorporate computer literacy in professional activities;
- f. Demonstrate appropriate laboratory skills and an understanding of scientific/ research methodology;
- g. Demonstrate basic food preparation skills;
- h. Practice with a regard for environmental issues related to food;
- i. Describe nutritional needs in health and disease through the life cycle;
- j. Assess health status and plan diets for groups and individuals in health and disease;
- k. Apply basic organization and management skills;
- l. Apply the principles of food production, delivery and service, procurement, finance, and human resource management; and
- m. Practice professional ethics at all times.

### **External Dietetic Internships**

The external dietetic internship is a formalized post-baccalaureate educational program sponsored and usually administered by a hospital or medical school and accredited by the Commission on Accreditation for Dietetics Education of The American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995, (312) 899-4876. The internship programs are designed to provide individual and supervised experience in order to meet the qualifications for practice in dietetics as a *Registered Dietitian*. The Department of Nutrition and Food Science maintains a current file on external dietetic internship programs and provides advising and assistance to students who wish to apply. (The majority of external dietetic internships offered throughout the country average one year in duration.)

### **Internal Dietetic Internships**

The Department offers an internal dietetic internship (DI), in conjunction with a M.S. degree in Nutritional Science and following the Didactic program in Dietetics in the undergraduate program. The internal DI is a six-month supervised work experience for those students wishing to complete a field experience to qualify for the registration examination for dietitians administered by The American Dietetic Association (ADA). The internal DI is currently granted Accreditation by the Commission on Accreditation for Dietetics Education of The American Dietetic Association on Accreditation for Dietetics Education of The American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995, (312) 899-4876. Web address: <http://www.eatright.org>. Our internal DI placement sites are all located in the San Francisco Bay Area. DI applicants are required to have earned from San Jose State University one degree – either the B.S. in Nutritional Science with a Concentration in Dietetics or the M.S. in Nutritional Science. Documentation of prior work/volunteer experience in dietetics is required for application (450 hours); one half of the hours (225 hours) need to be completed in a hospital setting.

## **Job Opportunities**

A variety of careers is available to graduates completing a dietetics concentration. Some jobs in the field of nutrition depend on having R.D. status. Career areas include:

### ***Hospital***

- ◆ Administrative Dietitian\*
- ◆ Clinical Dietitian\*
- ◆ Patient Education Manager\*

### ***Industry-Food Company***

- ◆ Research and Development
- ◆ Public Relations and Sales

### ***Media***

### ***Private Practice***

### ***Government/Volunteer/Private Agency***

- ◆ Nutrition Education
- ◆ School Districts – Nutrition Education
- ◆ Correctional Facilities
- ◆ Women, Infants, and Children Programs (WIC)\*

### ***Foodservice Management***

- ◆ Restaurant-Managerial
- ◆ Food and Beverages
- ◆ Conventions
- ◆ Schools
- ◆ Hospitals
- ◆ Industry

### ***Health Related***

- ◆ Athletic Training/Sports Nutrition
- ◆ Wellness Programs
- ◆ Health Clubs

*\*Requires R.D. Status.*

**B.S. Nutritional Science (Concentration in Dietetics)****ADA-DPD****Semester Units**

General Education (Total University requirement 51 units) ..... 30

*The breakdown on these 51 units are divided as follows:*

15 units = Supporting courses for the major

36 units = Other General Education courses

Physical Education ..... 2

**Supporting Courses** ..... 35

ApSc 101	Computer
Biol 66	Physiology
Chem 1A & 30B	Gen/Organic Chem <sup>1</sup>
Chem 132 & 132L	Biochemistry
HPrf 100W	Writing Workshop
Micro 20	Microbiology
Psyc 1 <sup>2</sup>	Psychology
Stat 95 or HS 67	Statistics <sup>3</sup>

**Major Requirements** ..... 56

NuFS 8	Nutrition for Health Professions
NuFS 31	Professionalism in NuFS
NuFS 101A	Food Science
NuFS 103	Food Processing I
NuFS 106A	Human Nutrition in the Life Span
NuFS 106B	Research Methodology in Nutrition
NuFS 108A	Nutrition and Metabolism
NuFS 108L	Nutrition Laboratory
NuFS 109	Advanced Nutrition
NuFS 110A,B	Medical Nutrition Therapy
NuFS 111,111L	Foodservice Prod Mgmt/Lab
NuFS 112	Foodservice Procurement
NuFS 113	Foodservice Systems Mgmt
NuFS 114	Community Nutrition
HPrf 135 <sup>5</sup>	Cultural Class
NuFS 139 <sup>5</sup>	Science and Hunger
NuFS 190	Nutrition Education & Counseling
Major Elective:	_____

Choose 4 units from the following: NuFS 20, 104A, 105, 116, 123, 134, 194, 180, Pkg 107

**Capstone Course:**

NuFS 192

Field Experience (2)

**Total units required for the degree** ..... **123**

<sup>1</sup> A minor in Chemistry is recommended for some students. The minor requires Chem 1A,B. In addition, the NuFS major requires Chem 8 and 132, 132L. An additional 2 units of upper division chemistry is required to complete the minor, as well as a chemical safety course (1 unit). The NuFS majors are exempt from General Ed for science requirement because a minimum of 15 units of science are completed.

<sup>2</sup> Graduate student or transfer student opting for a dietetic internship or AP4 need to have your transcripts evaluated at the beginning of your program.

<sup>3</sup> Psych 1 meets General Education Social Science: Human Behavior.

<sup>4</sup> Stat 95 meets General Education Mathematical Concepts.

<sup>5</sup> Meets Advanced General Ed requirements: NuFS 135 for *Self and Society (area S)* and NuFS 139 for *Earth and Environment (area R)*. These can be double counted for Advanced General Ed and the major. **Passage of WST exam required for admittance.**

<sup>6</sup> Food Preparation course prerequisite to NuFS 101A eg. NuFS 21 or equivalent.

## CONCENTRATION IN FOOD SCIENCE & TECHNOLOGY

### General Information

The Department of Nutrition and Food Science has had a concentration in Food Science and Technology since 1985. This program offers strong undergraduate academic courses in food science and technology including:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>- Chemical Analysis of Food</li> <li>- Field Experience in NuFS</li> <li>- Food Chemistry</li> <li>- Food Evaluation Techniques</li> <li>- Food Microbiology</li> <li>- Food Packaging</li> </ul> | <ul style="list-style-type: none"> <li>- Food Process Engineering</li> <li>- Food Processing I &amp; II</li> <li>- Food Product Development</li> <li>- Food Science</li> <li>- Food Toxicology</li> <li>- Individual Studies</li> </ul> |
|--|---|

The Food Science & Technology curriculum includes support courses from mathematical, computer, and physical sciences; life sciences; and communication areas. Students have the option to select elective courses outside the major and/or to complete courses in business/marketing, chemistry, journalism, industrial technology, or other areas.

The Food Science & Technology Concentration prepares graduates for careers as food scientists, food technologists, and consumer specialists. In addition, with the appropriate coursework, students are also prepared for advanced degrees. (A Master of Science in Nutritional Science with a graduate objective in Food Science is offered by the department.)

**Approval Status**

The Food Science & Technology program at San Jose State University meets the Institute of Food Technologists, 525 West Van Buren Street, Suite 1000, Chicago, IL 60607-3874, curriculum requirements for majors in Food Science & Technology, and is an IFT Approved Program for Undergraduates (the only CSU in Northern California).

**Job Opportunities**

A variety of careers are available to graduates completing a Concentration in Food Science & Technology. Career areas include:

***Industry-Food Company***

- ◆ Research and Development
- ◆ Public Relations and Sales
- ◆ Quality Control/Assurance
- ◆ Food Product Development
- ◆ Food Distributor
- ◆ Food Engineer
- ◆ Food Microbiologist
- ◆ Food Scientist
- ◆ Food Technologist
- ◆ Flavor Chemist
- ◆ Lab Technician
- ◆ Sensory Evaluation Specialist
- ◆ Statistical Process Control Manager

***B.S. in Nutritional Science (Concentration in Food Science & Technology)******Semester Units***

General Education (Total University requirement - 51 units).....27

*The breakdown on these 51 units are divided as follows;*

24 units = Supporting courses for the major

27 units = Other General Education courses

Physical Education.....2  
Supporting Courses.....50

Biol 10	General Biology
Chem 1A,B	General Chemistry
Chem 8,9	Organic Chemistry/Lab
Chem 55	Quantitative Analysis

Chem 135	Biochemistry
Chem 160	Physical Chemistry
Comm 20	Public Speaking
Math 30	Calculus I
Micro 20	Bacteriology
Physics 2A	Fundamentals of Physics
Stat 95 or HS 167	Statistics
Hprf 100W	Writing Workshop

*One additional course in Chemistry and Chem 120S to complete a Minor in Chemistry.*

**Requirements for the Major**.....45

NuFS 008	Nutrition for the Health Professions
NuFS 31	Professionalism in NuFS
NuFS 101A	Food Science
NuFS 103	Food Processing and Packaging I
NuFS 117	Food Evaluation Techniques
NuFS 118	Food Chemistry
NuFS 122	Chemical Analysis of Food
NuFS 133	Food Processing and Packaging II
NuFS 144	Food Culture in America: Consuming Passions
NuFS 150	Food Toxicology
NuFS 155	Food Process Engineering
ISE 107	Intro to Packaging
Micro 123	Food Microbiology
Bus2 186	Professional and Business Ethics

**Capstone Course:**

NuFS 192	Field Experience	(2)
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**Total units required for the degree** ..... **124**

**Optional Recommendations**

Suggested Upper Division chemistry course choices to complete a Chemistry Minor.

Biol 138 & 138L	Principles of Toxicology and Lab
Chem 172	Chemistry of Wine

***B.S. IN NUTRITIONAL SCIENCE (CONCENTRATION IN PACKAGING)***

Packaging is a critical discipline in the final step of delivering a quality product to the customer. All products require protection during transportation, handling, and storage. Packages provide protection against impacts, vibration, compresses forces, temperature extremes, humidity, electrostatic discharge, pressure changes, and other typical hazards of distribution. For food products, protection is needed against microorganisms, oxidation, heat, and even against people to prevent tampering. Recent developments in materials, equipment, and systems require professionals with sophisticated packaging knowledge to design, manage, and implement the packaging function. Designs of intelligent and active packaging systems are complex developments that require broad scientific knowledge.

The concentration in packaging within Nutrition and Food Science prepares the graduate to design, develop, and test packages for a wide variety of products. Global distribution of goods makes the packaging coach function even more critical. The packaging designers must have complex knowledge of a variety of materials involved in the transportation and distribution of the products necessary for a global society. This program includes consideration of the design and manufacturing skills necessary to protect products of a wide variety such as computers and electronic equipment, processed food products, medical devices, pharmaceuticals, hazardous material, fresh fruits and vegetables, and a variety of others. The packaging professionals are in high demand and are employed by most larger manufacturing organizations as well as firms involved in manufacturing, transportation, distribution, and storage functions.

Semester Units

General Education requirements \_\_\_\_\_ 36

*Of the 51 units required by the University, 15 may be satisfied by specified major and support requirements. Consult major advisor for details.*

American institutions \_\_\_\_\_ 6

*Of the six units required by the University, all may be satisfied with general education requirements as specified in the schedule of classes.*

Physical education \_\_\_\_\_ 2

Preparation for the major \_\_\_\_\_ 27

Chem 30A,B, or Chem 1A, 30B,  
or Chem 1A,B, 8  
Phys 2A  
HPrf 100W or Bus 100W  
Stat 95 or HS 67

General Chemistry  
Physics  
English Composition  
Statistics

Math 70	Calculus I
Math 71	Calculus II
ApSC 101	Computer Science
NuFS 20 or Micr 20	Sanitation or Microbiology

Major requirements \_\_\_\_\_ 44

PKG 107	Principles of Packaging
PKG 141A	Packaging Materials I
PKG 141B	Packaging Materials II
PKG 146	Packaging for Medical Devices
NuFS 139	Science and Hunger
ISE 155	Supply Chain Management
PKG 156	Packaging Machinery Systems
PKG 158	Protective Packaging Design & Testing
PKG 159	Packaging Material Handling
PKG 170	Packaging Developments & Manage.
NuFS 31	Professionalism
NuFS 103	Food Processing & Packaging I
NuFS 133	Food Processing & Packaging II
NuFS 155	food Process Engineering
NuFS 192	Field Experience

Approved electives \_\_\_\_\_ 11

Select 11 units from the following:

NuFS 21	Culinary Principles & Practices
NuFS 101A	Food Science
NuFS 117	Food Evaluation & Techniques
NuFS 118	Food Chemistry
NuFS 150	Food & Nutritional Toxicology
NuFS 122	Chemical Analysis of Food
Bus 130	Marketing
DSID 129	Design
Other courses by advisement	

Total units required for the degree ..... 120

**B.S. NUTRITIONAL SCIENCE NO CONCENTRATION**

The Department of Nutrition and Food Science offers a general curriculum that provides emphases in: 1) Food Management, 2) Sports Nutrition, 3) Nutrition Education, and 4) Nutrition Science, and 5) Environmental Food and Health Specialist. The nutritional science curriculum is designed for those pursuing medical or dental school or technical laboratory positions. The Nutrition Education track allows students to emphasize education and community interests. The sports nutrition emphasis focuses on optimal athletic performance. The Food Management curriculum emphasizes business applications and administration. The environmental Food and health specialist focuses on food safety and inspection of foodservice operations for sanitation. A minor is recommended to complement these general curriculum tracks.

**Semester Units**

General Education (Total University requirement 51 units) .....24-27

*Of the 51 units required by the University, 24-27 may be satisfied by specified major and support requirements. Consult major advisor for details.*

24-27 units = Supporting courses for the major

24-27 units = Other General Education courses

Physical Education ..... 2

Supporting Courses (refer to department advising forms) .....20

Micro 20 (5)	Bacteriology
HPrf 100W (3)	Writing Workshop
Psych 1 (3)	Psychology
ApSc 101 (3)	Computer
Stat 95 (3)	Statistics
EnvS 001 (3)	Intro to Environmental Issues

Requirements for the Major .....53-67

**Core Courses** ..... 17

NuFS 8 (3)	Nutrition for the Health Professions
NuFS 101A (4)	Food Science
NuFS 103 (3)	Food Processing and Packaging I
NuFS 106A (3)	Human Nutrition in Life Span
NuFS 121 (1)	Professionalism in NuFS
NuFS 139 (3)	Science and Hunger

*Additional Major Requirements to be selected by advisement (36-50)  
According to emphasis selected. See following pages for descriptions of Food  
Management, Sports Nutrition, Nutrition Education, Nutritional Science, and  
Environmental Food and Health Specialist.*

**Capstone Course** ..... 2

NuFS 192                      Field Experience

Electives ..... 2-19

*May include a Minor selected in consultation with advisor.*

**Total units required for degree** ..... **120**

### EMPHASIS IN FOOD MANAGEMENT

Food Management is the business of managing an institutional foodservice or nutrition sciences operation. It is customer oriented and encompasses the planning, implementation and evaluation of meals served to clients within budgetary constraints. The curriculum at SJSU provides basic instruction in a field so complex that professionals in the field spend a lifetime learning and perfecting the needed skills and ever-expanding technology.

Food Management requirement requires expertise in the organization and control of food and supplies, equipment, people and finance. It also requires an understanding of suppliers, the marketplace, as well as nutrition, food safety, government agencies, and the community in which it functions.

*A Minor in Business is strongly recommended. Courses suggested for a Business Minor:*

**Elective Courses** (Select 6 units)

**Support Courses Required** (9 units)

*Introduction to Marketing*

*Survey of Accounting*

*Consumer Behavior*

*Labor Relations*

*Materials Management*

*Personnel Management*

*Business & Society*

*Legal Environment of Business*

*Strategic Planning for New Ventures*

The Food Management curriculum includes support courses from business as well as Microbiology, Anatomy and Physiology, Economics Computer Applications, and Psychology. The Food Management emphasis prepares graduates for careers as food-service/nutrition services managers in restaurants and institutions, as well as positions in sales and training.

**Job Opportunities**

A variety of career areas are available to graduates completing a Food Management Emphasis. Job areas include:

- ◆ Catering Manager
- ◆ Concessions Director
- ◆ Convention Foodservice Manager
- ◆ Correctional Facilities Foodservice Manager
- ◆ Employee Cafeteria Director
- ◆ Food and Beverage Manager in a Hotel
- ◆ Foodservice Manager for Institutions for Developmentally Disabled Persons
- ◆ Foodservice Marketing Specialist for Food and Utility Companies
- ◆ Foodservice Marketing Specialist for Commodity Advisory Boards (e.g., Beef Council or Strawberry Advisory Board)
- ◆ Hospital Nutrition Services Department Director
- ◆ Marketing Associate for Food Broker/Wholesale Food Distributor
- ◆ Product Development and Promotion in Foodservice
- ◆ Restaurant Manager
- ◆ Salesperson for Foodservice Distributor
- ◆ Salesperson for Foodservice Equipment Company
- ◆ School Foodservice Director (Elementary and High School)/Child Nutrition Administrator
- ◆ University and College Foodservice Manager/Director

**B.S. Nutritional Science (No Concentration) Emphasis in Food Management****Semester Units**

General Education (Total University requirements – 51 units).....24

*The breakdown on these 51 units is divided as follows:*

27 units – Supporting Courses for the major

24 units – Other General Education courses

Physical Education..... 2

Supporting Courses.....20

ApSc 101 or Equiv.	Computer
HPrf 100W	Writing Workshop
Micro 20	General Bacteriology
Psyc 1 <sup>2</sup>	Psychology
Stat 95 <sup>3</sup> or HS 67	Statistics
EnvS 001	Intro to Environmental Issues

**Major Requirements**

<i>Major Core</i> .....	17
NuFS 8	Nutr for Health Professions
NuFS 31	Professionalism in NuFS & PKG
NuFS 101A	Food Science
NuFS 103	Food Processing
NuFS 106A	Human Nutr in Life Span
NuFS 139	Science and Hunger
<i>Emphasis Requirements in the Major</i> .....	52
NuFS 20	Sanitation & Environmental Issues
NuFS 22	Catering and Beverage Management
NuFS 25	Internship in Foodservice Mgmt (2)
NuFS 104A	Cultural Aspects of Food
NuFS 105	Current Issues in Nutrition
NuFS 111,111L	Foodservice Production Mgmt/Lab
NuFS 112	Foodservice Procurement
NuFS 113	Foodservice Systems Mgmt
NuFS 194	Entrepreneurial Nutrition
Biol 21	Human Biology
Bus 20N	Survey of Accounting
Bus 150	Fundamentals of Human Resource Mgmt
Bus 151	Union-Management Relations
Chem 30A,B	Intro to Chemistry
Econ 1A <b>or</b> 1B	Principles of Economics
PKG 107	Principles of Packaging
<i>Complete 4 units from the following: HSPM 12, HSPM 23, NuFS 117, or by advisement.</i>	
<i>Capstone Course</i> .....	2
NuFS 192	Field Experience in NuFS & Pkg
Electives.....	2
<b>Total units for the degree</b> .....	<b>120</b>

**B.S. NUTRITIONAL SCIENCE (No Concentration)  
EMPHASIS IN SPORTS NUTRITION**

*Curriculum will prepare students to educate athletes and other interested individuals about optimal nutrition for optimal physical performance.*

**Semester Units**

General Education (Total University requirements 51 units).....27

*The breakdown on these 51 units is divided as follows:*

24 units – Supporting Courses for the major

27 units – Other General Education courses

Physical Education ..... 2

Supporting Courses ..... 20

ApSc 101 or Equiv.

HPrf 100W

Micro 20

Psyc 1<sup>2</sup>

Stat 95<sup>3</sup> or HS 67

EnvS 001

Computer

Writing Workshop

General Bacteriology

Psychology

Statistics

Intro to Environmental Issues

**Major Requirements**

***Major Core*** ..... 17

NuFS 8

NuFS 31

NuFS 101A

NuFS 103

NuFS 106A

NuFS 139

Nutr for Health Professions

Professionalism in NuFS & PKG

Food Science

Fd Processing & Pkg I

Human Nutr in Life Span

Science and Hunger

***Emphasis Requirements in the Major*** ..... 43

NuFS 123

NuFS 105

NuFS 108A

NuFS 109

NuFS 190

Biol 66

Chem 30A,B

Chem 132

KIN 155

KIN 162

PKG 107

Nutrition for Sport

Current Issues in Nutrition

Nutrition & Metabolism

Advanced Nutrition

Nutrition Education & Counseling

Physiology

Intro to Chemistry

Biochemistry (4)

Physiology of Human Performance

Fitness Assessment & Exercise Prescription

Principles of Packaging



NuFS 101A	Food Science
NuFS 103	Fd Processing & Pkg I
NuFS 106A	Human Nutr in Life Span
NuFS 139	Science and Hunger

***Emphasis Requirements for the Major***.....36

NuFS 104A	Cultural Aspects of Food
NuFS 105	Current Issues in Nutrition
NuFS 111	Foodservice Production Mgmt
NuFS 114A	Community Nutrition
NuFS 190	Nutrition Education & Counseling
HPrf 135	Health in a Multicultural Society
Biol 21	Human Biology
Chem 30A,B	Intro to Chemistry
PKG 107	Principles of Packaging
NuFS 124	Disordered Eating and Nutrition Therapy
EDIT 116 or 186	Using Instructional Media

*Complete 10 units from the following:* NuFS 116, 194, 123, 111L, 113 and/or 134, or by advisement.

<b><i>Capstone Course</i></b> .....	2
NuFS 192	Field Experience in NuFS

Electives.....	19
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*May include a Minor in consultation with Advisor.*

<b>Total units for the degree</b> .....	<b>120</b>
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<p><b>B.S. NUTRITIONAL SCIENCE (No Concentration) EMPHASIS IN NUTRITION SCIENCE</b></p>
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*Curriculum will prepare students to become lab technicians, work for a pharmaceutical company in product development or sales or pursue an advanced degree.*

**Semester Units**

General Education (Total University requirements – 51 units).....	27
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*The breakdown on these 51 units is divided as follows:*  
 24 units – Supporting Courses for the major  
 27 units – Other General Education courses

Physical Education .....	2
Supporting Courses .....	20
ApSc 101 or Equiv.	Computer
HPrf 100W	Writing Workshop
Micro 20	General Bacteriology
Psyc 1 <sup>2</sup>	Psychology
Stat 95 <sup>3</sup> or HS 67	Statistics
EnvS 001	Intro to Environmental Issues

### **Major Requirements**

<u>Major Core</u> .....	17
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NuFS 8	Nutr for Health Professions
NuFS 31	Professionalism in NuFS & PKG 107
NuFS 101A	Food Science
NuFS 103	Food Processing & Pkg I
NuFS 106A	Human Nutr in Life Span
NuFS 139	Science and Hunger

<i>Emphasis Requirements in the Major</i> .....	46
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NuFS 108A	Nutrition & Metabolism
NuFS 108L	Nutrition Laboratory
NuFS 109	Advanced Nutrition
NuFS 122	Chemical Analysis of Food
Chem 1A,B	General Chemistry
Chem 8	Organic Chemistry
Biol 65	Anatomy
Biol 66	Physiology
Chem 132	Biochemistry
Chem 132L	Biochemistry Lab
PKG 107	Principles of Packaging

*Complete 5 units from the following: NuFS 105, 106B, 110A,B, 118, 123, 150, 194, or by advisement.*

<b>Capstone Course</b> .....	2
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NuFS 192	Field Experience in NuFS
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Electives .....	6
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*May include a Minor in consultation with Advisor.*

<b>Total units for the degree</b> .....	<b>120</b>
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**B.S. NUTRITIONAL SCIENCE (No Concentration)  
EMPHASIS IN ENVIRONMENTAL FOOD  
AND HEALTH SPECIALIST**

*Curriculum will prepare students to become eligible to become Food Safety Specialists/Sanitarions who inspect restaurants/foodservice operations.*

**Semester Units**

General Education (Total University requirements – 51 units).....30

*The breakdown on these 51 units is divided as follows:*

21 units – Supporting Courses for the major

30 units – Other General Education courses

Physical Education..... 2

Supporting Courses .....20

- |                               |                               |
|-------------------------------|-------------------------------|
| ApSc 101 or Equiv.            | Computer                      |
| HPrf 100W                     | Writing Workshop              |
| Micr 20                       | General Bacteriology          |
| Psyc 1 <sup>2</sup>           | Psychology                    |
| Stat 95 <sup>3</sup> or HS 67 | Statistics                    |
| EnvS 001                      | Intro to Environmental Issues |

**Major Requirements**

Major Core.....17

- |           |                               |
|-----------|-------------------------------|
| NuFS 8    | Nutr for Health Professions   |
| NuFS 31   | Professionalism in NuFS & PKG |
| NuFS 101A | Food Science                  |
| NuFS 103  | Fd Processing & Pkg I         |
| NuFS 106A | Human Nutr in Life Span       |
| NuFS 139  | Science and Hunger            |

***Emphasis Requirements in the Major***..... 47

- |               |                                    |
|---------------|------------------------------------|
| NuFS 20       | Sanitation                         |
| NuFS 111/111L | Foodservice Production Mgmt. & Lab |
| NuFS 150      | Nutrition and Food Toxicology      |
| Chem 1A, B    | General Chemistry                  |
| Chem 30B      | Introductory Chemistry             |
| Pols 114      | Intro to Public Administration     |
| HS 161        | Epidemiology                       |
| Physics 2A, B | Fundamentals of Physics            |

Biol 20	Ecological Biology	
Biol 21	Human Biology	
Math 8	College Algebra and Trigonometry	
PKG 107	Principles of Packaging	
<b>Capstone Course</b> .....		<b>2</b>
NuFS 192	Field Experience in NuFS	
Electives .....		<b>3</b>
<i>May include a Minor in consultation with Advisor <u>OR</u> PKG 107.</i>		
<b>Total units for the degree</b> .....		<b>120</b>

<b>ADVISEMENT &amp; PROGRAM PLANNING</b>
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### **Planning of Student Programs**

The Department of Nutrition and Food Science at SJSU offers an outline of curricula that should be followed by students each semester. In addition, students should consult an advisor in the Department of Nutrition & Food Science when planning their programs of study and selecting courses. In order to help students choose their program of study, an advising day is held each semester and summer. New students should have their programs approved by departmental advisors during orientation before registration. Major and minor requirements are approved by the student's advisor and the chair of the department. Information on advisors and advising day dates are available from the Department of Nutrition and Food Science office (408) 924-3100.

### **Change of Objective**

Students wishing to change their major to Nutritional Science must obtain a *Change of Major Form* from the department in which they are currently majoring or from Undergraduate Studies office. The form requires the signature of the Chair of the Department of Nutrition & Food Science. The completed form needs to be returned to the Office of Admissions and Records. The change of objective is not official until the completed form is on file. The Nutrition and Food Science Department would appreciate it if the incoming student would ask for their file when leaving their old major and bring it to the NuFS department in order to assure continuity of the student's records.

**COST TO STUDENTS\*****Application**

An application fee of \$55 is required for each new application filed. Students must pay the required State University Fee of \$1,023 per semester (or \$594, if enrolled for 6 or fewer units). Graduate students pay \$1,128/\$654. The San Jose State University fee pays the costs of student services such as counseling, testing, student activities, housing placement, Health Services, and Student Financial Aid Administration. In addition, these fees cover some supplies and service costs of instruction and Instructional Resources. Other miscellaneous campus fees that must be paid each semester, regardless of number of units taken, include:

Student Association Fee	\$38.00
Student Union Fee	126.00
Facility Fee	3.00
Document Fee	15.00
Instructionally-Related Activity Fee	99.00
Mandatory Health Fee	71.50
Child Care Fee	8.00
Recreation Fee	6.00
Transit Fee	<u>21.50</u>
	<b>\$388.00</b>

California residents are not charged tuition. Non-residents, however, must pay tuition of \$282 per semester unit *in addition to the above fees*.

*\*Costs subject to change.*

**DPD (Didactic Program in Dietetics)****Estimated costs per semester:**

Books	\$200-\$250
Transportation	\$.30/mile
Lab fees	\$25/Lab
Activity Fees	\$5-\$25/Activity class

**Estimated One-Time Costs:**

Lab Coat	\$25
DPD Transcript Evaluation	\$20-\$40

**Financial Aid**

Financial assistance is available in the form of grants, scholarships, fellowships, loans, and part-time employment (work study) for students who meet financial aid program eligibility requirements. Students who feel that they will not be able to pay for all of their educational costs are encouraged to apply for financial aid. For further information on

financial aid, see the *SJSU Catalog*, the on-line catalog at <http://info.sjsu.edu>, or contact the Financial Aid Office, located in the Student Services complex on 9<sup>th</sup> & San Fernando Streets. Information is also available on the internet at [www.sjsu.edu](http://www.sjsu.edu).

## **Housing**

There are a number of housing options to SJSU students who live on or near the campus. Residence halls, off-campus university apartments and privately-owned apartments and houses are all available to university students. In addition, most fraternities and sororities offer housing accommodations to their members.

Joe West Hall is our largest resident hall at 12 stories high. It houses over 650 residents. West Hall provides many diversified living options including: Double and Triple occupancy rooms, suites, and Single Occupancy rooms. The cost for dormitories (including meal plans) is \$3082-\$3926 per semester.

Spartan Village is a student complex of 58 two-bedroom furnished apartments with fully equipped kitchens. Laundry facilities are located on the premises. Each apartment houses four to six students of the same gender. The Spartan Village Community Room provides recreation and study areas, and the grounds include space for barbeques and volleyball. Security at the complex is provided by the University Police Department (UPD) and grounds are patrolled regularly by a UPD Public Safety Assistant.

The Campus Village is an exciting mixed-use project which includes new student housing for 2100 residents, faculty/staff housing, underground parking, recreational space, a computer lab, meeting rooms, retail space and the housing office. The new housing is designed to meet the needs of today's students who prefer suite and apartment style living options. Campus Village opened in August 2005.

For additional information, contact the University Housing Services Residential Life Office at (408) 924-6160, write to the Director of Housing, One Washington Square, San Jose, CA 95192, or use the internet, <http://www.housing.sjsu.edu/index.stm>

## **Library**

The *new* Dr. Martin Luther King, Jr. Library integrates the collections, services and staffs of two distinct, but major institutions: a major metropolitan university and a significant public library, creating one expansive resource center where everyone has access to a world of information. The *new* Dr. Martin Luther King, Jr. Library is the first of its kind in the United States and a model of innovation for library services for the future.

The new 475,000+ square foot library includes eight floors plus a mezzanine and a lower level, seven-story atrium with skylight and seating for 3,600. The library houses a public art collection, a Library café, forty-two group study areas, four computer labs, eight special program and lecture rooms, and much more. The library serves 30,000 students, faculty and staff, 923,000 residents of San José, and opened August 2003.

**Choices**

We have tried to give you an introduction to who we are and what we have to offer you. As you can see from reading this handbook your choices are wide within the major Nutritional Science. Perhaps you still have questions, or would like to make an appointment with one of our advisors. We'd like to meet you and help you attain your dreams and goals for a successful career. Let us hear from you. Our phone number is: (408) 924-3100.

**APPENDIX A**

**SAN JOSE STATE UNIVERSITY  
DEPARTMENT OF NUTRITION & FOOD SCIENCE**

**OVERVIEW**

The mission statement of our department states our philosophy which is in line with the overall mission of the university and which also embodies our goals for our students.

**MISSION STATEMENT**

The Department of Nutrition and Food Science at San Jose State University offers curricula and professional development for students pursuing careers as nutritionists, dietitians, food scientists, foodservice professionals, environmental health specialists, and packaging technologists. Positions occur in community settings, educational institutions, hospitals, nutrition and food research laboratories, foodservice establishments, government agencies, business and industry.

The department is committed to providing its majors multi-cultural perspectives, and students, faculty, and staff gain from an environment rich in diversity. Ethics, critical thinking, and skills in communication are stressed. In addition, the department offers General Education courses that provide a fundamental understanding of science, nutrition and food to non-majors enrolled at San Jose State University.

The department's programs emphasize theory, as well as the application of, theoretical knowledge and technology. This is accomplished through research in the community as well as in the laboratory. Involvement in professional supervised practice and community activities strengthens the application of the research theories. Faculty research is encouraged to support teaching and professional development.

**APPENDIX B**

**DEPARTMENT OF NUTRITION AND FOOD SCIENCE  
SAN JOSE STATE UNIVERSITY**

**UNDERGRADUATE COURSE DESCRIPTIONS**

- NuFS 008**      ***Nutrition for the Health Professions***. Nutrients and their functions, recommended nutrient intakes and evaluation of dietary adequacy; relationship of nutrition to optimum health and dietary changes in disease. For majors in Nutrition and Food Science, Nursing, and other Health Professions. (Lecture, 3 hours).
- \*\*\*NuFS 9**      ***Introduction to Human Nutrition***. Principles of scientific inquiry, physiological functions and chemical classification of nutrients; relation to other sciences; technological influences; and analysis of scientific and culture issues. Intended for non-majors; no credit for students who have completed NuFS 8. Prerequisite: A college course either in physical or biological science; *not open to majors*. (Lecture, 3 hours). Three units.
- NuFS 20/  
HSPM 20**      ***Sanitation & Environmental Issues in the Hospitality Industry***. Sanitation in food service, hotel and travel/tourism industries; study of pathogenic organisms and food handling procedures. Occupational health, safety, and environmental control in the hospitality industry. Prerequisites: Micro-biology course or instructor consent. (Lecture, 2 hours). Two units.
- NuFS 21/  
HSPM 21**      ***Culinary Principles and Practices***. Introduction to principles of food and beverage production and techniques. Emphasis on quality and culinary standards. (Lecture/Lab, 4 hours). Three units.
- NuFS 22/  
HSPM 22**      ***Catering & Beverage Management***. Planning and executing catering and buffet functions. Evaluation of alcoholic and non-alcoholic beverages regarding purchasing, storage, preparation, merchandising and regulations. Prerequisite: HSPM 20 and 23. (Lecture/Lab 4 hours). Three units.
- NuFS 25**      ***Internship in Foodservice Management***. Approved professional broad-based work experience in foodservice management industry for total of 200 hours. Written report and oral presentation due at completion. Prerequisite: NuFS 20 and instructor consent. (Credit/No credit grading). 1-2 units; repeatable for a maximum of 2 units.
- NuFS 31**      ***Professionalism in Nutrition & Food Science and Packaging***. Professional roles, skills, and opportunities in the fields of dietetics, foodservice, food science, and packaging. Prerequisite: English 1B or instructor consent. (Lecture, one hour). One unit.
- NuFS 101A**      ***Food Science***. Experimental study of food and introduction to scientific methods used in food evaluation; emphasis on the functions of ingredients in prepared foods. Prerequisite: Chem 30B or 8. College course in basic food preparation required, eg NuFS 21. (Lecture and Laboratory, 6 hours.) Four units.
- NuFS 103**      ***Food Processing and Packaging I***. Principles and methods of food preservation and food processing operations. Objectives, basic methods of food preservation, raw materials handling, effect of processing on nutritional value of foods, and food

additives. Prerequisites: Chem 30B or Chem 8, NuFS 101, HPrf 100W. (Lecture and Laboratory, 5 hours.) Three units.

**NuFS 104A** ***Cultural Aspects of Food.*** Regional, ethnic, and religious influences on food patterns. Demonstration with foods of several cultures. Prerequisite: Upper division standing. (Lecture and Activity, 4 hours). Three units.

**NuFS 105** ***Current Issues in Nutrition.*** Controversial topics, including the relation of nutrition to cancer, coronary heart disease, hypertension, diabetes, eating disorders, osteoporosis, and athletic performance; recommended nutrient intakes; and other current issues. Prerequisite: one college nutrition course or instructor's consent. (Lecture, 3 hours). Three units.

**NuFS 106A** ***Human Nutrition in the Life Span.*** Integrates chemical, biological, and social sciences into a comprehensive concept of human nutrition. Emphasis on assessing nutrient status; planning and intervention throughout the life cycle. Prerequisites: NuFS 8 or passing grade on challenge exam; Co-requisite: HPrf 100W and instructor consent. (Lecture, 3 hours). Three units.

**NuFS 106B** ***Research Methodology in Nutrition.*** Research design, process, and methodology. Scientific methods of research, interpretation of results, statistical procedures and application of research to nutritional sciences. Prerequisite: Stat 95, HPrf 100W. (Lecture, 1 hour). One unit.

**NuFS 108A** ***Nutrition & Metabolism.*** Chemical and physiological studies of carbohydrate, protein, lipid, vitamin and mineral metabolism. Application to the normal nutrition of human beings. Prerequisites: NuFS 106A, Chem 132, Biol 66, and HPrf 100W. (Lecture, 3 hours). Three units.

**NuFS 108L** ***Nutrition Laboratory.*** Chemical and biological analysis of nutrients in foods, experiments in assessing nutritional status; research methodology and statistical analysis. Co-requisite: NuFS 108A, Chem 132L. (Lecture 1 hour, Lab 3 hours). Two units.

**NuFS 109** ***Advanced Nutrition.*** Advanced studies of vitamins and minerals. Evaluation and interpretation of nutritional research methodology, and findings. Prerequisites: NuFS 106A, Chem 132, Bus 90 or Stat 95 or HS 167, and HPrf 100W. (Lecture, 3 hours). Three units.

**NuFS 110A,B** ***Medical Nutrition Therapy.*** Application of nutritional principles and dietary intake in order to meet the needs of various pathological conditions. Prerequisite to 110A: NuFS 108A and Co-requisite: NuFS 109. Prerequisites to NuFS 110B: NuFS 110A and NuFS 109. (Lecture and Activity, 4 hours). Three units each NuFS 110A and NuFS 110B.

**NuFS 111** ***Foodservice Production Management.*** Principles and procedures for menu planning, production scheduling, volume food production, operation of food service equipment, sanitation control, and formula costing. Prerequisite: NuFS 101, Micro 20 or instructor consent. (Lecture, 2 hours). Two units.

**NuFS 111L** ***Foodservice Production Management Lab.*** Experience in foodservice production management. Prerequisite: NuFS 101, Micro 20, or instructor consent. Co-requisite: NuFS 111. (Lab, 6 hours). Two units.

- NuFS 112**      ***Foodservice Procurement.*** Purchasing in foodservice systems operations: food and equipment. Selection and storage of food and writing food specifications. Selection and layout of equipment and writing specifications. Prerequisite: NuFS 111/111L, or consent of instructor. (Lecture and Activity, 3 hours. Two units.
- NuFS 113**      ***Foodservice Systems Management.*** Allocation and management of resources in foodservice systems: materials (food and supplies), facilities (equipment and space), human (management and employee labor), operational (time and money). Prerequisite: NuFS 111/111L, or consent of instructor. (Lecture and Activity, 6 hours). Three units.
- NuFS 114A**      ***Community Nutrition.*** Nutrition problems and public policy; needs assessments; menu and food planning; program management and evaluation; nutrition education process for individuals and groups; communication; interviewing and counseling. Prerequisite: NuFS 106A, Senior standing and instructor consent. (Lecture, 3 hours). Three units.
- NuFS 115**      ***Issues in Food Toxicology.*** Introduction to the toxicology of foods, and foodborne chemicals and organisms. Environmental safety of the food supply from food development, growth and production through harvesting, processing, storage and eventual consumption. (Prerequisite: Passage of *Writing Skills Test*, upper division standing, and completion of Core GE). (Lecture, 3 hours). Three units.
- NuFS 116/  
Gero**          ***Aging and Nutrition.*** The aging process, physiological changes, dietary requirements, diseases, environmental factors, housing economic status, handicaps, personal relations, and current programs for the aged. Prerequisite: One college nutrition course or consent of instructor. (Lecture, 3 hours). Three units.
- NuFS 117**      ***Food Evaluation and Techniques.*** Studies in food experimentation, sensory evaluation, and objective methods. Prerequisites: NuFS 8, 101, Chem 30A,B or 1A, or instructor consent. (Lecture and Lab, 5 hours). Three units.
- NuFS 118**      ***Food Chemistry.*** Important classes of food constituents, their nature, occurrence, chemical and biochemical significance and the changes they undergo during food preservation and processing. Prerequisites: NuFS 101 and/or 103, or 117, Chem 30B or Chem 8. (Lecture and Lab, 5 hours). Three units.
- NuFS 122**      ***Chemical Analysis of Food.*** Techniques in chemical analysis of nutrients and other components of food. Planning, conducting and evaluating a scientific experiment and presenting the data in technical written form. NuFS 103, HPrf 100W, Bus 90 or Stat 95, instructor consent. (Lecture and Lab, 7 hours). Three units.
- NuFS 123**      ***Nutrition for Sport.*** Planning optimum diets for performance and health; metabolism and energy systems; roles of nutrients in physical performance; efficacy of ergogenic nutrition aids. Prerequisites: NuFS 8. (Lecture, 3 hours.) Three units.
- NuFS 124**      ***Disordered Eating and Nutrition Therapy***  
Metabolic, physiological, and psychological determinants and effects of disordered eating behaviors. Disorders in regulation of food intake, case studies, and different intervention approaches explored. Screening and treatment of disordered eating in athletes emphasized. Opportunities provided to develop counseling strategies. Prerequisites: NuFS 8. (Seminar). Three units.

- NuFS 125**      ***Child Nutrition Program Administration.*** Study of the components of model child nutrition programs through the application of current child health and nutrition principles, educational practices, marketing procedures, communication strategies, computer-based nutritional analysis, and operations management skills.
- NuFS 133**      ***Food Processing & Packaging II.*** Continuation of NuFS 103 with emphasis on control of critical points, quality assurance, sanitation, waste disposal, packaging and use of computers in food processing. Prerequisite: NuFS 103, Stat 95, Micro 123. (Lecture/Activity, 4 hours). Three units.
- HPrf/  
NuFS 134**      ***Complementary and Alternative Health Practices.*** Philosophical, historical, clinical, and scholarly aspects of complementary and alternative medicine and associated health practices used in the US, with emphasis on scientific clinical investigation and evidence based efficacy. (Lecture, 3 hours). Three units.
- \*\*\*\*HPrf/  
NuFS 135**      ***Health in a Multicultural Society.*** Multi-disciplinary interpretation and evaluation of consumer health issues. Impact of cultural variables (including communication methods, socioeconomic status, and traditional beliefs) on health and illness. Interaction of individuals in families and other groups. (Prerequisite: Passage of *Writing Skills Test*, upper division standing, and completion of Core GE). (Lecture, 3 hours). Three units.
- NuFS 139**      ***Science and Hunger.*** Effects of hunger/malnutrition on human development, health, and psychological well-being; social, cultural, and gender factors that contribute to world hunger; scientific/technological foundations of food production. Prerequisites: Passage of *Writing Skills Test*, upper division standing, and completion of Core GE. (Lecture, 3 hours). Three units.
- NuFS 144**      ***Food and Culture: Consuming Passions.*** Cultural aspects of food in America as related to regional, ethnic and religious influences. Issue based examination of effects of food behavior in the United States on culture, society, health, and economics. Prerequisites: Completion of core GE, upper division standing (56 units) and passage of *Writing Skills Test*.
- NuFS 150**      ***Food & Nutritional Toxicology.*** Major classes of food toxicants, their importance, properties, detection, metabolism, control and regulation; and basic issues in food/diet safety and toxicology. Prerequisites: NuFS 103, Chem 30B or Chem 8, and introductory courses in nutrition and biology. (Lecture, 2 hours). Two units.
- NuFS 155**      ***Fundamentals of Process Engineering.*** Study of engineering principles, their application in the processing of foods and importance in solving problems in food science and technology. Prerequisites: NuFS 103, Math 39 or 40, Phys 2A. (Lecture and Lab, 5 hours). Three units.
- NUFS/  
KIN 163**      ***Fitness and Nutrition.*** Integrating and applying principles of sound nutrition and physical activities to optimize physiological, and social lifelong development; and using scientific principles and technological advances to assess and evaluate physical fitness, dietary patterns, energy expenditure, and their interrelationships. Prerequisites: Upper division standing, passing score on *Writing Skills Test*, and completion of Core GE requirements. Not allowed for NuFS Majors or Minors (Lecture, 3 hours.) Three units.

- NuFS 180**      ***Individual Studies.*** Individual work for majors or minors on special topics by arrangement. Prerequisites: NuFS 8; instructor and Department Chair consent during the semester ***prior*** to enrollment. (Credit/No Credit grading). 1-6 units.
- NuFS 190**      ***Nutrition Education and Counseling.*** Education principles; counseling; and communication techniques for nutritionists and dietitians working with individuals, small, and large groups. Prerequisite: NuFS 106A or admission to teacher education program and one basic nutrition course ***or*** permission of instructor. (Lecture: 3 hours). Three units.
- NuFS 192**      ***Field Experience.*** Practical application of academic principles in nutrition, food science, packaging, dietetics food management nutrition education, and/or sports nutrition. Prerequisite: Senior standing in NuFS; instructor consent by end of the ***prior*** semester. Repeatable for credit. Credit/No credit grading. (Supervision 3 to 18 hours). One to six units.
- NuFS 193**      ***Nutrition in Space.*** Nutritional needs and changes derived from biochemical and physiological studies of space flight and micro gravity. Prerequisite: NuFS 8 or instructor consent. One unit.
- NuFS 194**      ***Entrepreneurial Nutrition.*** Introduction to entrepreneurial nutrition, including professional roles, skills and opportunities. Prerequisites: English 1A or instructor consent. (One hour). One unit.
- Pkg 107**        ***Principles of Packaging.*** Basic knowledge of Packaging functions, materials, and industry. A variety of packaging topics including distribution systems, package development, package design, legislation, regulations, societal and environmental issues, ergonomics and packaging careers. Prerequisites: None. Three units.
- Pkg 141A**      ***Packaging Materials I.*** In-depth study of selected materials to provide a working knowledge of structures, physical and chemical properties, development, evaluation and design. Experiments in applications, design limitations and cost. Prerequisites: Math 70 (or equivalent), Packaging 107, Physics 2A (or equivalent). (Lecture: Two hours, Activity: Two hours). Three units.
- Pkg 141B**      ***Packaging Materials II.*** In-depth study of plastic and glass materials in Packaging; chemical and physical properties, design, manufacturing, compatibility, and evaluation. Experiments in applications, design limitations and cost. Prerequisites: Pkg 141A, Math 70 (or equivalent), Physics 2A (or equivalent). (Lecture: Two hours, Activity: Two hours). Three Units.
- Pkg 146**        ***Packaging for Medical Devices and Pharmaceuticals.*** Chemical and physical properties of medical device and pharm packages, fabrications techniques, package testing and evaluation methods, regulatory requirements, ergonomics and child resistant packages, tamper evidence, shelf life & aging, coding. Prerequisites: Pkg 107, Pkg 141B. (Lecture: Two hours, Activity: Two hours). Three units.
- Pkg 156**        ***Packaging Machinery Systems.*** Evaluation of packaging machinery as a subset of a packaging production system. Component selection, design, and implementation of package filling lines in a production facility. Package design requirements for filling lines. Prerequisites: Pkg 107, Pkg 141B, Math 70, Math 71, Stat 95. (Lecture: Two hours, Activity: Three hours). Three Units.

- Pkg 158**      **Protective Packaging Design and Testing.** In-depth study of protective packaging dynamics; theory and practice of shock, vibration, compression, humidity, temperature extremes. Measurement & analysis of the dist environment, product fragility, package design principles, package testing and evaluation. Prerequisites: Pkg 107, Pkg 141B, Math 70, Math 71, Physics 2A. (Lecture: Two hours, Activity: Three hours). Three units.
- Pkg 159**      **Packaging Material Handling and Distribution.** Transportation handling, and storage of packaged goods. Transportation modes, environment hazards, measurement, techniques. Military and Hazmat packaging regulations and testing, classification of goods, legal requirements, export packaging. Prerequisites: Pkg 158. (Lecture: Three hours). Three units.
- Pkg 170**      **Packaging Developments and Management.** Capstone course emphasizing development and evaluation of packaging systems. Specifications and design, marketing criteria, package production, distribution performance, legal and environmental evaluations. Prerequisites: Pkg 107, Pkg 141B, Pkg 156, Pkg 158. (Lecture: Two hours, Activity: Two hours). Three units.

*\* Fulfills GE Core Science Area B2; Life Science*

*\*\*Fulfills GE Core Science Area B1, Physical Science*

*\*\*\*Fulfills GE Core Human Understanding and Development Area E*

*\*\*\*\*Fulfills Advanced GE, Self, Society, and Equality in the United States, Area S*

*\*\*\*\*\*Fulfills Advanced GE, Earth and Environment, Area R*