

**Program Planning Report
San Jose State University**

Department of Nutrition, Food Science and Packaging

**BS Nutritional Science
MS Nutritional Science**

**College of Applied Science and Arts
www.nufs.sjsu.edu**

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1. PROGRAM DESCRIPTIONS

1a. Department Mission and Goals

In collaboration with community and industry, the **mission** of the Department is to empower students through knowledge, skills and practical experience to become qualified professionals in the fields of nutrition and dietetics, food science, packaging, foodservice management and/or environmental health so that they may serve a diverse society and expand the knowledge base of these disciplines through applied research.

Our **goals are** to prepare students in the major, upon graduation, for professional positions, post-baccalaureate internships or advanced degrees; to provide multi-cultural perspectives; and to support strong ethics, critical thinking and communication skills. Through the provision of lower and upper division General Education courses, the department aims to provide the greater SJSU student body with a fundamental understanding of science, nutrition and food.

- **Department website:** www.nufs.sjsu.edu
- **Department history:** http://www.nufs.sjsu.edu/department/dept_history.htm
- **Important dates:** The department began in 1911 as Home Economics. The dietetics program began in 1977. In 1979 the department was renamed Nutrition, Foods, and Dietetics. In 1982, Concentrations in Dietetics and Food Science and Technology were approved and the department became the Nutrition and Food Science Department. In 1994, the packaging program joined the Department. In 2001, the Packaging program was moved to the Department of Industrial Systems and Engineering where it floundered. In 2006, the packaging program returned to the NUFS department. In 2007, Dr. Fritz Yambrach was hired to be the packaging program coordinator and we became the Nutrition, Food Science, and Packaging Department.
- **Department location:** Central Classroom Building (Nutrition and Food Science programs) and Industrial Studies (Packaging program).
- **Degrees, Concentrations and Minors**
 - The Bachelor of Science in Nutritional Science (BS) program offers 3 Concentrations: Dietetics, Food Science and Technology,¹ and Packaging. A general degree in nutritional science offers emphases in Nutrition Science, Nutrition Education, Sports Nutrition, Food Management, and Environmental Food and Health Specialist. Students graduating from the program are prepared for careers as dietitians, nutrition educators, food scientists, food service managers, packaging professionals, and environmental health specialists, and for work in educational institutions, hospitals, nutrition and food research laboratories, businesses and industries, for the government, and in the community.
 - The Master of Science in Nutritional Science (MS) offers 7 graduate program objectives: nutritional science, food science, nutrition education, gerontological nutrition, food service management, packaging, and the general objective (for students wishing to become a Registered Dietitian [RD]).
 - Minors offered: Nutrition and Food Science, Nutrition for Physical Performance, Food Science,² and Packaging.
 - No certificate or credential programs are offered.

¹ The Food Science and Technology Concentration (as part of the BS program) is being phased out

² The Minor in Food Science is being phased out.

- **Accreditation**
 - The Didactic Program in Dietetics (DPD) transmits knowledge and skills at the undergraduate level that are needed for competent dietetics practice to improve the quality of life in diverse communities. The SJSU DPD program is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics (120 S. Riverside Plaza, Chicago, IL 60606-6995; phone: 312-899-0040; <http://www.eatright.org>). On November 27, 2013, the program was reaccredited for another 5 years (Appendix p. 47).
 - The SJSU Food Science and Technology program meets the Institute of Food Technologists' (525 West Van Buren Street, Suite 1000, Chicago, IL 60607-3874) curriculum requirements for majors in Food Science and Technology. It is the only CSU in N. California with an IFT Approved Program for undergraduates. On March 16, 2011, the program was reaccredited until Fall 2015 (Appendix B2 p. 95).

1b. Curricular Content of Degrees and Minors

- The **Concentration in Dietetics**, also known as the Didactic Program in Dietetics (DPD), helps students to develop critical thinking skills and problem solving ability in clinical and community nutrition and food service management. The DPD curriculum includes support courses from the social sciences (e.g., psychology), physical sciences (e.g., general and organic chemistry) and life sciences (e.g., biochemistry, bacteriology, and physiology). Major courses required for the Concentration include lifespan nutrition, medical nutrition therapy, community nutrition, nutrition education, research methods, metabolism, foodservice procurement and production management, and food science. With additional coursework (e.g., advanced medical nutrition therapy), students are prepared for post baccalaureate education (Dietetic Internships).
 - The Dietetics Concentration is appropriate for students who want to become Registered Dietitians (RDs). To become an RD, a student must complete an ACEND accredited DPD (such as the one provided at SJSU), successfully obtain and complete an accredited supervised work experience (a Dietetic Internship such as the one provided at SJSU), and take and pass a national registration examination.
 - Students graduating with a Dietetics Concentration³ can work in a hospital (as an administrative or clinical dietitian* or patient education manager*); in the food industry (research and development, public relations, or sales); in private practice; in a health-related venue (health club; corporate wellness program); for the government (public health department or for the Women, Infants, and Children program); in a community benefit organization, a school, or correctional facility; or in food service management (at a restaurant, convention center, school, hospital or business).
- The **Concentration in Food Science and Technology**⁴ curriculum includes support courses from the mathematical, computer, physical and life sciences. Major courses in food science and technology include chemical analysis of food, food processing and engineering, food chemistry, food product development, food evaluation techniques, food science, food microbiology, food toxicology, and food packaging.
 - Graduates are prepared for careers as food scientists, food technologists, and consumer specialists and may work for a private food company in research and development; public relations and sales; quality control/assurance; food product development; food distribution; food engineering and technology; food microbiology; flavor chemistry; or sensory evaluation.

³ Careers that require Registered Dietitian status are indicated with an asterisk.

⁴ The Food Science Concentration is being phased out.

- The **Concentration in Packaging** curriculum includes support courses such as physics, chemistry, calculus, and bacteriology. Major courses in packaging include principles of packaging, food and medical device packaging, packaging machinery, food processing and engineering, food preservation, protective packaging design and testing, and packaging materials handling and distribution.
 - Graduates are prepared to design, develop and test packages and package systems for a variety of manufactured products (e.g., computers, pharmaceuticals, Food products, sterile medical products, health and beauty products and consumer durables). Virtually every product manufactured requiring containment and protection requires a package. The Packaging Program is one of only 6 programs in the US offering this training and draws students from throughout the US and world.
- The **Emphasis in Nutritional Science** includes support courses in anatomy, physiology, chemistry (organic and biochemistry), bacteriology, psychology and environmental issues. Major courses provide instruction in lifespan nutrition, metabolism, vitamins and minerals, advanced nutrition, chemical analysis of food, and food science.
 - Graduates are prepared to become lab technicians, work for a pharmaceutical or biotechnology company in product development or pursue an advanced degree.
- The **Emphasis in Nutrition Education** includes support courses from psychology, bacteriology, chemistry, biology and environmental issues. Major courses provide instruction in lifespan nutrition, community nutrition, nutrition education, food science, and cultural aspects of food, foodservice production management, and counseling.
 - Graduates are prepared to work in community nutrition settings where a registered dietitian status is not required (e.g., the Women, Infants, and Children (WIC) program, Senior Nutrition programs, and in child care and after-school settings).
- The **Emphasis in Sports Nutrition** includes support courses from psychology, physiology, chemistry, human performance and fitness assessment. Major courses provide instruction in lifespan nutrition, metabolism, sports nutrition, disordered eating, nutrition education and counseling, and current issues in nutrition.
 - Graduates are prepared to educate athletes and others about optimal nutrition for physical performance. Understanding the role of nutrients and fluids in health and performance can also provide individuals with lifetime personal health benefits.
- The **Emphasis in Food Management** includes support courses from business, microbiology, physiology, economics, computer applications, and psychology. Major courses provide basic instruction in the organization and control of food and supplies, equipment, people and finance, and require an understanding of suppliers, the marketplace, nutrition, food safety, government agencies, and the community.
 - Graduates are prepared for careers as food/nutrition service managers in restaurants and institutions, and in sales and training positions.
- The **Emphasis in Environmental Food and Health Specialist** includes support courses in bacteriology, biological sciences, environmental issues, chemistry, physics, public administration and epidemiology. Major courses provide instruction in sanitation, food science and packaging, food processing and toxicology, and foodservice management.
 - Graduates are eligible to become food safety specialists and sanitarians that inspect restaurants and foodservice operations. To become a Registered Environmental Health

Specialist (REHS) after graduation, a student completes a traineeship with a county department of health and passes a state examination.

- The **MS program in Nutritional Science** includes 10 units of core classes (e.g., nutrition colloquium, research methods, seminar in nutrition, food science and packaging [which fulfills the graduate writing requirement], and a 200-level course in either advanced food science, advanced foodservice management or advanced packaging).
 - Graduates may become dietitians (after completing a dietetic internship and passing a licensing exam), nutrition researchers, foodservice managers, or food science or packaging professionals (as described above) or to continue their education in PhD programs.

1c. Service Courses

- The department provides the following GE and SJSU studies courses:
 - NUFS 01A Physical Science of Foods (area B1)
 - NUFS 09 Introduction to Human Nutrition (area E)
 - NUFS 16 Science, Physiology, and Nutrition (area B2)
 - NUFS 115 Issues in Food Toxicology (area R)
 - NUFS 139 Hunger and Environmental Nutrition (area R)
 - NUFS 144 Food Culture: Consuming Passions (area V)
 - NUFS/KIN 163 Physical Fitness & Nutrition (area R)
- The department provides the following courses that support majors listed in parentheses:
 - NUFS 08 Nutrition for the Health Professions (KIN, Nursing)
 - NUFS 20 Sanitation and Environmental Issues in the Hospitality Industry (Hospitality)
 - NUFS 22 Catering and Beverage Management (Hospitality)
 - NUFS 104A Cultural Aspects of Food (Hospitality)
 - NUFS 105 Current Trends in Nutrition (Health Science)
 - NUFS 114B Community Nutrition (CHAD)
 - NUFS 116 Aging and Nutrition (Gerontology)
 - NUFS 135 Health Issues in a Multicultural Society (Health Professions) (also area S)

2. SUMMARY OF PROGRESS, CHANGES, AND PROPOSED ACTIONS

2a. Progress on action plan of previous program review

The NUFS/PKG department's prior Program Planning review was in 2008⁵. We have addressed some, but not all recommendations provided by the Program Planning Committee to the Provost.

- The Committee recommended **development of a program to obtain external resources**.
 - Professor Yambrach has successfully developed a program to significantly enhance the resources of the Packaging Program.
 - ✓ A \$400,000 cash donation was received from Jerry Erich to support and expand the Packaging Program.
 - ✓ Over \$124,000 worth of packaging machinery for student use in the Packaging Lab has been donated. A \$50,000 Kongsberg corrugated sample table and several pieces of equipment (valued over \$1 million) to bottle liquids (including wine) could not be accepted due to lack of available space.
 - ✓ Lab testing fees generate yearly revenue. Income has increased from \$2,700 in 2009 to a projected \$47,000 in 2013. Bare Escentuals and Xpedx have yearly contracts to test their products (e.g., \$35,000 and \$7,200, respectively.)

⁵ See <http://www.sjsu.edu/ugs/faculty/programrecords/CASA/NUFS/index.html> for the letter to the Provost.

- ✓ Almost \$8,000 in yearly grants supports student travel and scholarships.
- ✓ Additional donated funds (\$5,000) are used to support faculty.
- Through donations and endowments, the Circle of Friends' director Caroline (Fee) Haas has been able to raise funds to increase student scholarships and student research stipends.
 - ✓ There are currently 6 yearly \$2,000 student scholarships (up from five \$1,000).
 - ✓ The Molly & Gene Rauen Fund supports graduate student research (about \$8,000/year).
 - ✓ In 2013, the Kathryn Sucher Scholarship Fund was established to support Dietetic Interns. Starting in 2014, the Fund will provide one yearly \$2,000 scholarship.
 - ✓ The Phyllis F. Simpkins Endowed Fund will have yearly distributions to the Department based on 5% of the Fund earnings. Yearly estimates are \$7,000 to 8,000 (see p. 25).

Summary: The Packaging Program has received, and continues to receive significant external support. Space constraints must be addressed so that the Program can accept highly valued resources, which can provide steady revenue. Faculty will continue to pursue external funding through research grants as time and workload permits. Increased donations from new and existing donors will help support students, faculty and department needs for teaching and scholarship.

- The Committee recommended **improving student advising** to improve the NUFs department graduation rate to match that of CASA and SJSU. Using the traditional tracking approach (tracking students based on the academic major they declare at the beginning of their first semester) graduation rates of new undergraduate transfer students (but not first-time freshmen) was lower than similar CASA and SJSU students. We do not think these low graduation rates can be blamed on lack of student advising (see p. 20 for further discussion). Nevertheless, the Department has taken steps to improve advising.
 - All information provided to students is now accurate and up-to-date.
 - ✓ All 4-year Concentration and Emphasis advising plans, and the undergraduate and graduate student handbooks were updated Summer 2013.
 - Methods to disseminate advising information have been improved.
 - ✓ All materials are available on the www.nufs.sjsu.edu website.
 - ✓ In September 2013, a new undergraduate and a new MS student CANVAS shell were created. Dr. Freedman maintains the site and moderates an advising discussion forum.
 - ✓ All new MS students are invited to a summer orientation.
 - Dr. Freedman became the Graduate Coordinator in Fall 2012.
 - ✓ Dr. Freedman meets with or corresponds with all new MS students prior to course registration each semester, reminds students of important dates for advancement, and coordinates all course advising with Professor Wagle, the DPD director.
 - Advising is now integrated into course work that occurs early in a student's program.
 - ✓ Undergraduates are required to take NUFs 31 prior to NUFs 106A.
 - ✓ Graduate students are recommended to take NUFs 201 their first semester.
 - In-person and remote (email/CANVAS) advising hours have been expanded.
 - ✓ Three graduate student advisors were hired and trained to provide advising; they work 5 to 10 hrs/week. Data indicate advisors provided advice to 35 students/month (Fall '13).
 - DPD and/or DI students are required to attend an informational meeting (offered twice yearly) provided by Professor Wagle, the DPD director and Dr. LaSalle, the DI director. Those applying to the internal DI are required to have one-on-one advising with Dr. LaSalle.
 - ✓ A new DPD handbook for students was created.

- Dr. McProud advises all new transfer students; other faculty members continue to advise enrolled students as needed. Students are also referred to the CASA Student Success Center regarding probation/general education/other non-major specific issues.

Summary: The Department has made significant progress with respect to advising. However, it appears that some students are still confused and need more intense advising. We will continue to encourage students to utilize all of the above listed resources on a regular basis, and examine other ways to provide effective student advising within time and resource constraints.

- The Committee recommended **future tenure-track faculty recruitment** in the context of student demands across degrees when hiring becomes possible. We were also asked, when conditions improve, to “**work to improve the disparity between the number of full-time and part-time faculty**” (Appendix B p. 79). On January 10, 2014 we were given permission to recruit a new faculty member with expertise in nutritional science.
 - In 2009 Dr. Miriam Perry, who taught in the Food Science and Technology Concentration, was the first of 3 tenured faculty to retire since our last program plan. Due to budgetary issues throughout the CSU that year, we were not given permission to replace her. Dr. Perry’s retirement left Dr. Belo as the only full-time faculty member teaching and advising Food Science students. Our repeated yearly request to fill this void has not been granted.
 - In 2010 Dr. Nancy Lu, the DPD Director (who also taught NUF5 108L Nutrition Lab) retired. Professor Wagle became the new DPD Director per accreditation requirements (i.e., the DPD director must be a full-time faculty member who has been an RD for at least 3 years [p. 58] and the only other RDs were Chairperson McProud and DI Director Sucher). In August 2011, Dr. Mauldin (who had recently completed her Dietetic Internship) joined the faculty. Mauldin teaches 108L, advises graduate students, and has release time for research.
 - In August 2013, Dr. Sucher retired. In August 2013, Dr. LaSalle joined the faculty as the new DI director (since McProud and Wagle had other obligations, and Mauldin was not qualified). In addition to DI duties, LaSalle teaches NUF5 110A and 110B Medical Nutrition Therapy, and advises graduate students.
 - In Spring 2013 the Dean told us that we would be able to recruit another faculty member. We again requested the hire be someone with Food Science and Technology expertise. The need became more acute when Dr. Belo announced in September that he would be retiring in May 2014. Unfortunately, we learned in the fall that the faculty position was “on hold” and that an outside evaluator (Dr. Nancy Betts, from Oklahoma State U) would visit our department to determine future hiring needs.
 - ✓ After visiting SJSU, Dr. Betts cited the disproportionate number of part-time to full-time faculty (which was in agreement with the Committee’s report 5 years ago *before any full-time faculty members retired*). Betts noted the most immediate need was for a new full-time tenure-line faculty in nutrition/dietetics rather than food science. Her recommendation was likely based on the findings that in the past 5 years, the Dietetics Concentration was the most popular choice for both BS and MS students, while the Food Science Concentration was the least popular for BS students, and among the least popular for MS students (see p. 141). In addition, the small number of faculty with expertise in nutrition has been unable to keep up with the demand for classes and graduate student advising, and a few faculty members have provided the majority of MS project/thesis advising for the past decade. Finally, the Academy of Nutrition and Dietetics announced that starting 2024, a MS degree is necessary to practice dietetics. This change requires programs to begin to implement changes starting 2017/18.

- ✓ Since Dr. Belo is not being replaced, the Food Science and Technology Concentration and the Food Science Graduate Objective will be phased out, effective immediately.

Summary: On January 10, 2014 we received approval from the Provost to recruit a new tenure-track faculty member. Advertising will begin immediately with hopes that a new faculty member will start in fall 2014. Recognizing that the Packaging Program has also grown and that Dr. Yambrach is the only full-time faculty member in the Program, it is clear that Packaging will not survive long-term without additional faculty to support its increased demands; a new faculty member is needed to support the Packaging Program.

- The Committee recommended **ongoing approval and accreditation by WASC, the Academy of Nutrition and Dietetics (AND) and the Institute of Food Technologists (IFT).**

Summary: The department has applied for and received continued approval and accreditation from AND and IFT (**See Appendices B1 and B2**) and will work with SJSU on WASC accreditation.

- The Committee also recommended **continued curricula development for GE students; identification and evaluation of meaningful student learning objectives (SLOs);** and strategies to pursue **interdisciplinary approaches to solving curricular issues by collaborating with other SJSU departments and developing regional corporate partnerships.**
 - NUFS provides the most GE courses at SJSU. According to Department records, since Fall 2008, NUFS has provided 446 sections of GE courses, enrolling over **14,000 SJSU students.**
 - ✓ NUFS 139 provided 169 sections and enrolled 4,978 students.
 - ✓ NUFS/KIN 163 provided 102 sections and enrolled 3,208 students.
 - ✓ NUFS 144 provided 78 sections and enrolled 2,399 students.
 - ✓ NUFS 9 provided 58 sections and enrolled 2,201 students.
 - ✓ NUFS 115 provided 21 sections and enrolled 657 students.
 - ✓ NUFS 16 Science, Physiology, and Nutrition were developed to fill a need in Area B2. First taught in Fall 2011, NUFS 16 provided 14 sections and has enrolled 504 students.
 - ✓ NUFS 1A provided 4 sections and enrolled 119 students.
 - We have successfully identified meaningful SLOs and are in the process of evaluating them (see pp. **9,12,13,15**).
 - We are open to pursuing interdisciplinary approaches to solving curricular issues in some, but not all of our Concentrations/Emphases.
 - ✓ The Dietetics and the Food Science and Technology Concentrations require specific classes for accreditation. We have thus not actively pursued approaches to solving curricular issues in these areas by collaborating with other SJSU departments. We try to coordinate schedules with departments (e.g., Chemistry) that offer prerequisites.
 - ✓ In the Packaging Concentration, Dr. Yambrach hopes to offer at SJSU a computer-drawing course. Significant partnerships with regional corporations have been developed and provide meaningful (and in some cases paid) internships for Packaging undergraduate and graduate students.
 - ✓ Dr. Mauldin is working collaboratively with the Departments of Nursing and Occupational Therapy on simulation experiences for nutrition students.

Summary: The department has a strong track record of providing GE classes to the greater SJSU community; has developed and are evaluating meaningful SLOs; and will continue to address issues regarding internal and external collaborations that provide to students curricular opportunities.

2b. Significant changes to the program and context, if any

Several changes have been made to the program since the last planning cycle. Needs for curricular changes were indicated from alumni, employer, DI preceptor, and student surveys. Credits and content needed to conform to the 120-unit graduation requirement (from the 123 and 124 units formerly required for the Dietetics and Food Science and Technology Concentrations, respectively).

- In the Dietetics Concentration:
 - NUFS 190 Nutrition Education and Counseling was split from a 3 unit course to 2 courses: a 2-unit course (NUFS 190) that focused exclusively on nutrition education and a 1-unit course, NUFS 191 Nutrition Counseling, that is taught by a counseling professional.
 - NUFS 106B Research Methods in Nutrition was redesigned to include information literacy and changed from 1 to 2 units. A scientifically researched term paper that was formerly part of the NUFS 106A Nutrition in the Lifespan course was moved to this course.
 - NUFS 108L Nutrition Lab was reduced from 2 units to 1 to accommodate NUFS 106B's increase.
- In the Food Science and Technology Concentration:
 - NUFS 117 Food Evaluation Techniques was reduced from 3 to 2 units. (The lecture portion was reduced to 1 unit and the lab portion retained at 1 unit.)
 - Biology 10 The Living World (3 units) was removed from the curriculum.
- In the MS program
 - Pkg 270 Packaging Design for End Use was added as an alternative core course (i.e., graduate students can select one course from NUFS 216 Seminar in Food Chemistry & Packaging, NUFS 242 Advanced Foodservice/Restaurant Management or Pkg 270).

3. ASSESSMENT OF STUDENT LEARNING

3a.b.c. PLOs, PLO Maps to ULGs, and Course Matrixes

This section is organized to provide the Program Learning Objectives (PLOs), the map of PLOs to University Learning Goals (ULGs), and the matrix of PLOs to courses for each Concentration/Emphasis.

The BS in Nutritional Science (Dietetics Concentration and all Emphases)

3a.1. PLOs for the Dietetics Concentration and all Emphases

1. Demonstrate basic food preparation skills [and food sanitation practices⁶].
2. Practice professional ethics at all times.
3. Complete a minimum of 6 case studies and 2 lab reports in at least 5 different courses.
4. Demonstrate appropriate laboratory skills and an understanding of scientific research methodology.
5. Participate in community/professional organizations during at least three courses.
6. Describe nutritional needs in health and disease throughout the life cycle.
7. Assess health status of individuals and groups, and plan diets that reduce risk and treat disease.⁷
8. Incorporate computer literacy in professional activities.
9. Apply the principles of food production, delivery and service, procurement, finance, and human resource management.⁸
10. Exhibit qualities of leadership, as well as skills in collaboration and negotiation as a team member.
11. Apply basic organization and management skills.
12. Apply knowledge of government and business to explain public policy, promote optimal nutrition and to advocate for consumers on nutrition issues.
13. Demonstrate knowledge of the scientific basis of nutrition, food science, and foodservice for entry-level professionals.⁹
14. Practice with regard for environmental issues related to food.
15. Communicate and educate effectively, to different ethnic groups and/or individuals, through writing, counseling, consulting and oral presentations.^{10,11}

Concentration in Dietetics and all Emphases: all ULGs are addressed by the Program Outcomes

ULG	BS Nutritional Science Program
1	PLO #1, 4, 6, 7, 8, 9, 12, 13
2a	PLO #3, 4, 13, 14
2b	PLO #2, 5, 12, 14, 15
3a	PLO #3, 4, 11
3b	PLO #2, 7, 8, 9, 10, 12, 13, 14, 15
4a	PLO #2, 3, 4, 6, 7, 9, 11, 12, 13, 14, 15
4b	PLO #2, 3, 4, 7, 9, 12
4c	PLO #2, 3, 4, 9, 10, 11, 12, 15
5a	PLO #2, 10
5b	PLO #5, 15

⁶ For the Environmental Food and Health Specialist Emphasis

⁷ For the Sports Nutrition Emphasis

⁸ For the Food Management Emphasis

⁹ For the Food Science and Technology Concentration, and the Nutrition Science, Nutrition Education and Food Management Emphases

¹⁰ For the Nutrition Education Emphasis

¹¹ For the Food Science and Technology Concentration

3b.1. Map of PLOs to ULGs (Dietetics Concentration and all Emphases)

PLO #/ULG	Specialized Knowledge	Broad Integrative Knowledge	Intellectual Skills	Applied Knowledge	Social & Global Responsibilities
1. Demonstrate basic food preparation skills	X				
2. Practice professional ethnics at all times		X	X	X	X
3. Complete a minimum of 6 case studies and 2 lab reports in at least 5 different courses		X	X	X	
4. Demonstrate appropriate laboratory skills and an understanding of scientific research methodology	X	X	X	X	
5. Participate in community/professional organizations during at least 3 courses		X			X
6. Describe nutritional needs in health and disease throughout the life cycle	X			X	
7. Assess health status of individuals and groups, and plan diets that reduce risk and treat disease	X		X	X	
8. Incorporate computer literacy in professional activities	X		X		
9. Apply the principles of food production, delivery and service, procurement, finance, and human resource management	X		X	X	
10. Exhibit qualities of leadership, as well as skills in collaboration and negotiation, as a team member			X	X	X
11. Apply basic organization and management skills			X	X	
12. Apply knowledge of government and business to explain public policy, promote optimal nutrition and to advocate for consumers on nutrition issues	X	X	X	X	
13. Demonstrate knowledge of the scientific basis of nutrition, food science, and foodservice for entry-level professionals	X	X	X	X	
14. Practice with regard for environmental issues related to food		X	X	X	
15. Communicate and educate effectively, to different ethnic groups and/or individuals, through writing, counseling, consulting and oral presentations		X	X	X	X

3c.1. Map of PLOs to Courses (Dietetics Concentration and all Emphases)

PLO/Courses	008	20	31	101A	101B	103	104A	106A	106B	108	109	108L	110A,B	111	111L	112	113	114A	139	144	190	191	192
1. Demonstrate basic food preparation skills [and food sanitation practices] ¹²				X											X								X
2. Practice professional ethics at all times			X										X			X							X
3. Complete a minimum of 6 case studies and two lab report in at least 5 different courses				X				X				X	X										
4. Demonstrate appropriate laboratory skills and an understanding of scientific research methodology				X								X											
5. Participate in community/professional organizations during at least three courses										X			X			X		X			X		
6. Describe nutritional needs in health and disease throughout the life cycle								X					X										
7. Assess health status of individuals and groups, and plan diets that reduce risk and treat disease ¹³													X										
8. Incorporate computer literacy in professional activities					X				X				X					X			X		
9. Apply principles of food production, delivery and service, procurement, finance, and human resource management ¹⁴														X		X	X						
10. Exhibit qualities of leadership, as well as skills in collaboration and negotiation, as a team member				X										X		X					X		
11. Apply basic organization and management skills																X	X						
12. Apply knowledge of government and business to explain public policy, promote optimal nutrition and to advocate for consumers on nutrition issues																	X	X			X		
13. Demonstrate knowledge of the scientific basis of nutrition, food science, and foodservice for entry-level professionals ¹⁵	X			X						X	X			X									
14. Practice with regard for environmental issues related to food																	X						
15. Communicate and educate effectively, to different ethnic groups and/or individuals, through writing, counseling, consulting and oral presentations ¹⁶							X						X					X	X	X	X	X	X

¹² For the Environmental Food and Health Specialist Emphasis

¹³ For the Sports Nutrition Emphasis

¹⁴ For the Food Management Emphasis

¹⁵ For the Nutrition Education, Food Management, and Nutrition Science Emphases

¹⁶ For the Nutrition Education Emphasis

The BS in Nutritional Science (Food Science and Technology Concentration)

3a.2. PLOs for the Food Science and Technology Concentration

1. Demonstrate the ability to use various quality assurance/control tools and models to monitor food product/process quality through problem solving and critical thinking skills through the design of a comprehensive written food-processing project.
2. Demonstrate knowledge of food engineering principles and the ability to apply them to solving food processing system problems through numerous problem solving exercises and an independent comprehensive written and oral culminating food process engineering project.
3. Demonstrate skills in applying basic laboratory techniques and critical thinking skills in the planning, collection and analysis/interpretation and communication of chemical analysis data through laboratory group activities.

Concentration in Food Science and Technology: All ULGs are addressed by the Program Outcomes

ULG	Food Science Program Outcomes
1	PLO #2
2a	PLO #2
2b	PLO #4
3a	PLO #1, 4
3b	PLO #1, 3, 5
4a	PLO #1
4b	PLO #4
4c	PLO #3
5a	PLO #4, 5
5b	PLO #5

3b.2. Map of PLOs to ULGs (Food Science and Technology Concentration)

PLO #/ULG	Specialized Knowledge	Broad Integrative Knowledge	Intellectual Skills	Applied Knowledge	Social & Global Responsibilities
1. Demonstrate the ability to use various quality assurance/control tools and models to monitor food product/process quality through problem solving and critical thinking skills through the design of a comprehensive written food-processing project.			X	X	
2. Demonstrate knowledge of food engineering principles and the ability to apply them to solving food processing system problems through numerous problem solving exercises and an independent comprehensive written and oral culminating food process engineering project.	X	X			
3. Demonstrate skills in applying basic laboratory techniques and critical thinking skills in the planning, collection and analysis/interpretation and communication of chemical analysis data through laboratory group activities.				X	X
4. Demonstrate knowledge of the scientific basis of food science		X	X		X
5. Communicate and educate effectively, to different ethnic groups and/or individuals, through writing, consulting and oral presentations			X		X

3c.2. Map of PLOs to Courses (Food Science Concentration)

PLO/Courses	101A	103L	103	117	118	122	133	150	155
1. Demonstrate the ability to use various quality assurance/control tools and models to monitor food product/process quality through problem solving and critical thinking skills through the design of a comprehensive written food-processing project.		X					X		X
2. Demonstrate knowledge of food engineering principles and the ability to apply them to solving food processing system problems through numerous problem solving exercises and an independent comprehensive written and oral culminating food process engineering project.		X							
3. Demonstrate skills in applying basic laboratory techniques and critical thinking skills in the planning, collection and analysis/interpretation and communication of chemical analysis data through laboratory group activities.	X	X	X	X	X	X	X		
4. Demonstrate knowledge of the scientific basis of food science	X	X				X	X		X
5. Communicate and educate effectively, to different ethnic groups and/or individuals, through writing, consulting and oral presentations	X	X	X	X	X	X	X		X

The BS in Nutritional Science (Packaging Concentration)

3a.3. PLOs for Packaging Concentration

1. Assess a package's functional properties.
2. Demonstrate knowledge of package material properties to meet particular physical needs.
3. Describe a package production system in order to present design and develop cost comparisons between various package configurations.
4. Assess a distribution channel to identify particular stresses incurred.
5. Design a package system (primary, secondary and tertiary) to contain, protect and transport products from manufacturer to consumer.
6. Develop reproducible test methodologies for evaluating particular properties in a package/material.
7. Organize and assemble presentations describing package systems, operations, designs, and cost comparisons.

Concentration in Packaging: All ULGs are addressed by the Program Outcomes

ULG	Packaging Program Outcomes
1	PLO #5
2a	PLO #4
2b	PLO #3
3a	PLO #6
3b	PLO #1,2,4
4a	PLO #7
4b	PLO #7
4c	PLO #7
5a	PLO #1
5b	PLO #1

3b.3. Map of PLOs to ULGs the Packaging Concentration

PLO #/ULG	Specialized Knowledge	Broad Integrative Knowledge	Intellectual Skills	Applied Knowledge	Social & Global Responsibilities
1. Assess a package's functional properties.			X		X
2. Demonstrate knowledge of package material properties to meet particular physical needs.			X		
3. Describe a package production system in order to present design and develop cost comparisons between various package configurations.		X			
4. Assess a distribution channel to identify particular stresses incurred.		X	X		
5. Design a package system (primary, secondary and tertiary) to contain, protect and transport products from manufacturer to consumer.	X				
6. Develop reproducible test methodologies for evaluating particular properties in a package/material.			X		
7. Organize and assemble presentations describing package systems, operations, designs, and cost comparisons.				X	

3c.3. Map of PLOs to Courses for the Packaging Concentration

PLO/Courses	107	141A	141B	146	156	158	159	169	170
1. Assess a package's functional properties.	X								
2. Knowledge of package material properties to meet particular physical needs.		X	X		X				
3. Describe a package production system in order to present design and develop cost comparisons between various package configurations.						X			
4. Assess a distribution channel to identify particular stresses incurred.				X					X
5. Design a package system (primary, secondary and tertiary) to contain, protect and transport products from manufacturer to consumer.		X	X	X		X			
6. Develop reproducible test methodologies for evaluating particular properties in a package/material.						X	X	X	X
7. Organize and assemble presentations describing package systems, operations, designs, and cost comparisons.					X	X	X		X

The MS in Nutritional Science

3a.4. PLOs for the MS in Nutritional Science

1. Successfully demonstrate competency through coursework.
2. Generate a research proposal including comprehensive literature review.
3. Complete data collection on proposed research.
4. Analyze data collected using appropriate methodology.
5. Synthesize data in a journal-formatted project/thesis.
6. Successfully defend project/thesis.
7. Present research findings in a professional format.

Since the last program cycle, PLO 1 was changed from “Successfully complete the graduate competency examination” (e.g., based on lower division classes) to “Successfully demonstrate competency through coursework” (e.g., receipt of at least a B in the key lower-division classes). Faculty discussed this change through email and at a faculty meeting.

MS Program: All ULGs are addressed by the Program Outcomes

ULG	NUFS MS Program Outcome
1	PLO #1, 2, 6, 7
2a	PLO #2, 3, 4, 5, 6
2b	PLO #7
3a	PLO #3, 4, 5, 6, 7
3b	PLO #2, 4, 7
4a	PLO #5, 6, 7
4b	PLO #5, 7
4c	PLO #7
5a	PLO #2, 3
5b	PLO #3, 7

3b.4. Map of PLOs to ULGs for the MS Program

PLO #/ULG	Specialized Knowledge	Broad Integrative Knowledge	Intellectual Skills	Applied Knowledge	Social & Global Responsibilities
1. Successfully demonstrate competency through coursework	X				
2. Generate a research proposal that includes a comprehensive literature review	X	X	X		
3. Complete data collection on proposed research		X	X		X
4. Analyze data collected using appropriate methodology		X	X		
5. Synthesize data in a journal formatted project or thesis		X	X	X	
6. Successfully defend project or thesis	X	X	X	X	
7. Present research findings in a professional format		X	X	X	X

3c.4. Map of PLOs to Courses for the MS Program

PLO/Courses	008 and 106A*	101A and 103*	111, 112 and 113*	242 or 216 or 270	217	295	298 or 299
1. Successfully demonstrate competency through basic coursework	X	X	X	X			
2. Generate a research proposal that includes a comprehensive literature review						X	
3. Complete data collection on proposed research							X
4. Analyze data collected using appropriate methodology							X
5. Synthesize data in a journal formatted project or thesis					X		X
6. Successfully defend project or thesis							X
7. Present research findings in a professional format							X

* Although these are lower division classes, many of our MS students enter the program with degrees in non-science disciplines. Competency (grade above B) through basic coursework must be demonstrated.

Self-Assessment Using the WASC Program Learning Outcomes Rubric for Assessing the Quality of Academic Program Learning Outcomes

Criterion	Initial	Emerging	Developed	Highly Developed
Comprehensive List			X	
Assessable Outcomes		X		
Alignment			X	
Assessment Planning		X		
The Student Experience	X			

3d. Assessment Data

Dr. Sucher (who retired in August 2013) was in charge of assembling assessment data for the past 5 years. We are in the process of convening a new assessment committee that may be comprised of Dr. Freedman (Graduate Coordinator), Ashwini Wagle (DPD Director), and Dr. Mauldin.

All GE classes are assessed yearly. Each semester, the day before classes, GE coordinators meet with course faculty to discuss assessments. (The GE assessment report is attached.)

Assessment of student learning and program experience is collected using direct and indirect methods.

- Direct methods include collection of specific information for the accredited programs associated with the Dietetics and the Food Science and Technology Concentrations (Appendix B1 pp. **87-85** and B2 pp. **103-115**) and collection (for specific courses) of specified information (e.g., exam scores, laboratory exercises, in-class presentations, and projects) that aligns with program PLOs.

- For the Packaging Concentration, scores on laboratory exercises (Pkg 141A, Pkg 141B Packaging Materials I, II) will be used to assess PLO 6; lab scores (Pkg 158 Protective Packaging Design and Testing) will be used to assess with PLO 4. Exam scores (Pkg 141A, Pkg 141B) will be used to assess PLO 2; in-class presentations of package reviews (Pkg 107 Principles of Packaging) will be used to assess PLO 1; and project grades (Pkg 170 Packaging Development and Management) will be used to assess PLO 5 and PLO 7.
- Assessment of student learning in the Nutrition Science Emphasis aligns with KRD 5.2 of the DPD program and scores on the essay portion of course exams in NFUS 108A Nutrition and Metabolism will be used to assess PLO 13.
- Assessment of student learning in the Nutrition Education Emphasis aligns with KRD 2.2 of the Didactic Program in Dietetics (DPD). Scores on a counseling simulation (NUFS 191 Nutrition Counseling) and scores on a lesson plan (NUFS 190 Nutrition Education) will be used to assess PLO 15.
- For assessment of student learning in the Sports Nutrition Emphasis, a case study (NUFS 106A Nutrition in the Life Span) will be used to assess PLO 7.
- Assessment of student learning in the Food Management Emphasis aligns with KRD 4.1 and KRD 4.2 of the DPD. Scores on exam questions (NUFS 111 Foodservice Production Management, NUFS 113 Foodservice Systems Management) will be used to assess PLO 9.
- For the Environmental Food and Health Emphasis, scores on an assignment (NUFS 20 Sanitation and Environmental Issues in the Hospitality Industry) will be used to assess PLO 1.
- Assessment of student learning and program experience is collected indirectly through an anonymous on-line survey administered every other year to current students, and through reflections provided by students after completing the capstone course (NUFS 192 p. 144).
- Benchmarking data for the Dietetics Concentration is collected yearly (Appendix B2 p. 64).

3e. Assessment Results and Interpretation

Data have been collected for accredited programs (DPD and the Food Science and Technology Concentration), NUFS 192 Field Experience (Appendix F p. 142), and other courses (Appendix C p. 131). To date, some, but not all faculty members have discussed these assessments.

- For the DPD program, our RD exam results over the past 5 years are exemplary. Ninety-one percent of students enrolled in our DPD program who complete Dietetic Internships (DI) and take the RD qualifying exam pass the exam on their first try. Students enrolled in our Internal DI, the first-time pass rate is 90%. (A minimum of 80% is required for maintenance of accreditation; many programs cannot meet this standard and must submit a remedial program plan.) (Appendix B1 page 64.)

3.e.1. Capstone projects

Discussion of the required internship program (NUFS 192) is on page 24.

3f. Placement of Graduates

Over the past 5 years, Department records indicate that 261 BS and 85 MS students graduated. Despite the challenges to stay in touch with these students, we have placement information for about 70% (n=182) of BS students and 90% (n=77) of MS students (Appendix E page 141).

- The Packaging program maintains a 100% success rate for BS and MS student placements in degree-related jobs.
- For BS students (excluding Packaging students), 29% (n=69) currently have a job related to their degree, while 17% (n=40) have a job unrelated to their degree. Among all Dietetics students, 36% (n=51) are either working as an RD, looking for work, studying for the RD exam, or are currently enrolled or will enroll in a DI. In contrast, 64% (n=92) have not pursued becoming an

RD even though they have completed DPD coursework. This may be due to low grades, lack of interest, finances, or other barriers. Forty percent (n=6) of Food Management students and 50% (n=4) of Food Science students are working in jobs related to their degree. Few students in other Emphases are working in jobs related to their degree, although it should be noted for these groups, information is missing for over 50% of BS students.

- Records for the 85 MS students who graduated indicate that among those entering the program without an RD (and counting only the General, Nutrition Science and Nutrition Education Objectives [n=71]), 62% (n=44) became RDs, while 3% (n=2) are currently enrolled or planning to enroll in a dietetic internship. Five of 8 Food Science students (63%) are working in a job related to their degree. (see p. 141)

Summary: The Packaging Program successfully places all BS and MS students in jobs related to their degree. For Dietetics students, becoming an RD is significantly more likely for MS compared to BS students. This may be because MS students have clearer career goals. Barriers to BS students becoming dietitians should be examined. Low overall placement of BS students in careers related to their degree means that the Department should improve outreach and advising to students to ensure that their BS program best matches their capabilities and career objectives.

In Spring 2013, we conducted an anonymous on-line survey of all BS and MS alumni who had graduated after May 2010 to gather feedback on their perceived preparedness for the workforce, as well as reflections on curricular content. Among non-food science students, 42 alumni responded. Thirty (72%) had received their BS degree and 12 (28%) had received their MS degree. The majority (40%, n=17) had studied Dietetics, followed by Nutrition Science (19%, n=8) and Nutrition Education (12%, n=5). Students were asked to rate on a Likert scale their level of satisfaction with the education they received at SJSU. (The surveys were then coded for analysis; “very unsatisfied” was coded as -2, “unsatisfied” was coded as -1, “satisfied” was coded as 1 and “very satisfied” was coded as 2.) Of the 38 respondents, the average rating was 0.82 (no respondent indicated “very unsatisfied;” 8 indicated “unsatisfied;” 21 indicated “satisfied;” and 9 indicated “very satisfied.” Students were also asked to rate their level of satisfaction with the preparation they received at SJU with respect to various SLOs applicable to their Concentration/ Emphasis. Results are provided in Appendix G p. 146. The low overall response rate should be noted and thus, findings may not be indicative of all graduates.

4. PROGRAM METRICS AND REQUIRED DATA

4a.1. Enrollment

- Enrollment data can be found in Exhibit 5¹² (Appendix A p. 40). Over the past 5 fall semesters (2009-2013) about 400 individuals applied to the NUFS program. Among all groups, the average **number of applicants** increased 25% (4-year change) or 36% (5-year change).
 - The number of freshmen applicants **increased (20%)(4-year)** or stayed the same (5-year).
 - The number of transfer applicants **increased (32 and 72%; 4- and 5-year changes)**.
 - The number of graduate applicants **decreased (30%, 4-year)** or stayed the same (5-year).
- **Admit rates** were a function of cohort although trends were similar in the 4- and 5-year data sets. Overall, half of all students who applied to the program were admitted
 - About 2/3 of freshman who applied to the program were admitted; admit rates **increased (29%; 4-year change)** or remained the same (5-yr change).

¹² For enrollment data see Exhibit 5 (p. 40). Data were used to calculate 4 and 5 year averages; 4-year averages were calculated due to the very low enroll and show rates for 2013, which appear to be anomalous to previous years. Data were used to calculate % change for 4 years (2009-12) and for 5-years (2009-13) (see Page 45.)

- About 40% of transfer students were admitted. Rates **decreased** over time as the university instituted impaction “GPA requirements.” Even though the same number of students applied, fewer were admitted. This decrease was most pronounced between 2009 and 2010, when the admit rate **dropped from 66% to 26%**.
- Only 1/3 of graduate student applicants were admitted, due to the high number of applicants who were unqualified for the program or whose applications were incomplete. Over this time period, however, **admit rates increased (27% and 68%; 4- and 5-year change)**. A more detailed explanation of application requirements in the graduate student program handbook and the new GRE requirement may ultimately decrease the number of graduate applications, but increase the admit rate.
- The **Enrollment rate**¹³ among all students remained steady at about 15% over the past 4-5 years, with a higher enrollment rate in graduate students (21.5%) as compared to freshmen (11.5%) and transfer students (17%).
 - Among freshmen, there was a small (14%) **increase in enrollment rates (from 14 to 16%)** from 2009-12 followed by a huge drop (from 16% to 1%) in 2013, resulting in a **93% decrease** from 2009 to 2013. We have no explanation for this huge drop.
 - For transfer students, enrollment rates **decreased** over time.
 - For graduate students, enrollment rates stayed the same or **increased** over time.
- The **show rate**¹⁴ among all students decreased over the past 4-5 years. As expected, graduate students had higher show rates (59%) than freshmen (16-20%) and transfer students (39%-43%). The reason why graduate student show rates are not higher is that many of our graduate students apply to our MS program as “insurance” to fall back on if they are not accepted to participate in a Dietetic Internship. Those who are accepted always choose the Internship over graduate school since they are not allowed to reapply to the Internship at a future date (whereas they can always reapply to graduate school later).
 - About 10 new first-time freshmen entered the program each fall from 2003-2007. This number increased to an average of 21 new freshmen for fall semesters 2008-2012. Despite the overall increase in NUMBER of new freshman, the show rates dropped markedly (91%) from 22% in 2012 to 2% in 2013. We have no explanation for this huge drop.
 - About 33 undergraduate transfer students consistently entered the program each Fall for the past 7 years. Show rates of transfer students have also **decreased** over time though not as dramatically.
 - About 16 first-time graduate students entered the program each fall from 2006-2012. However, in 2012 only 8 students entered. Faculty turnover and a more stringent selection process have decreased the number of admitted students. For graduate students, show rates had been dropping but rebounded in 2013.
- Headcount enrollment by class level shows a **steady FTE enrollment** of 287 (range was 281 to 294) over the past 5 years, with an average of 361 students/year (5 year total = 1,804).
 - The majority (56%) of undergraduates were seniors. Over the past 5 years, the number of seniors increased every year (overall increase of 35%). The number of juniors and sophomores remained fairly constant (about 24% and 8%, respectively). Freshmen

¹³ Enrollment rate = enrollment/applicants. Since the average number of NUFS applicants has increased over the past 5 years, low enrollment rates mean that there were a lot more applicants than enrolled students. Decreasing enrollment rates over time means that fewer students who applied to SJSU actually enrolled.

¹⁴ The show rate (enrollment/admission) is a more useful metric than enrollment rate since it looks at enrollment of qualified students, rather than enrollment based on number of applicants. A low show rate means that few students who were accepted actually enrolled.

- averaged 12% over the past 5 years, but decreased to 7% in Fall 2013. These data support the contention that the majority of NUFS students are coming in as transfer students, or transferring into NUFS as juniors or seniors.
- Graduate students comprised, on average, 18% of NUFS students. There has been a slow but steady decline in the absolute number (from 89 to 52) and percent of total students in the major (from 24% to 15%) over the past 5 years. Overworked faculty and retirements are the primary reason for fewer students. When students graduated, they were not replaced.

Summary: Admit, enroll and show rates are a function of application rates and a student's declared major when they enter SJSU. Examining actual number of students compared to percentages is more useful. For example, despite the 58% decrease in the overall show rate percentage over the past 5 years, the number of freshmen who enrolled increased by about 10 while the number of transfer students stayed the same. Most NUFS students are seniors. The number of graduate students has decreased primarily over the past 5 years, in large part due to workload issues.

4a.2. Retention, graduation rates, and graduates

Most freshmen that graduate from our program are not reflected in the traditional tracking approach¹⁵ (e.g., only 53 freshmen who enrolled in SJSU in Fall semesters from 2003 to 2007 declared NUFS as their major; 261 students graduated with a BS in Nutritional Science from 2008 to 2013). If all freshmen that declared NUFS as their major graduated with a NUFS degree, then these 53 students would represent only 20% of all graduates during this 5-yr time frame. It is likely that only a portion of the 53 freshmen captured in Exhibit 10 (p. 43) graduated as NUFS majors. As previously described, headcount enrollment by class also supports that using the traditional tracking approach is not useful for freshmen in NUFS.¹⁶

A summary of retention and graduation rates is presented in Exhibit 11 (p. 45).

- For freshmen, total 6-year graduation rates **exceeded** those of CASA and SJSU and **exceeded** University goals. No differences in graduation rates were noted between the small numbers of URM/non-URM students.
 - Retention rates were high (84%) and **matched** CASA and SJSU.
- About 33 undergraduate transfer students entered the program each Fall from 2006-2012. This number was constant over this time period.
 - The 3-year graduation rates were **lower** than CASA and SJSU rates. (Note: the sample overall is small, and missing data on ethnicity makes it difficult to draw conclusions). Reasons for lower 3-year graduation rates include the requirement to take laboratory classes as pre-requisites to upper division classes; the requirement to get at least a "C" in certain classes before progressing in certain Concentrations (necessitating repeating classes or switching Emphases within the major, which may require different classes), or difficulty taking classes when they are scheduled due to crowding, personal or work scheduling conflicts or other factors. In addition, students wanting to pursue a post-baccalaureate Dietetic Internship offered through SJSU are required to have accrued over 400 hours of volunteer/work experience in the field, and take some additional courses which may extend the time to graduation.
 - There were no differences in graduation rates between URM/non-URM students.

¹⁵ The traditional tracking approach used for these metrics tracks students based on the academic major they declare at the beginning of their first semester as compared to the conventional tracking approach which is based on the latest declared major.

¹⁶ Even though we do not believe analyses of these data are meaningful, the required information is provided.

- Retention rates were high (84%) and **matched** those of CASA and SJSU.
- About 16 first-time graduate students entered the program each fall from 2006-2012. However, in 2012 only 8 students entered the program. Faculty retirements and new faculty needing to be oriented prior to providing advising, coupled with a more stringent selection process led to fewer admitted students. Due to the inability of students to complete their degree in a reasonable amount of time and difficulty in registering for lower division classes at SJSU, the Department now requires graduate students to complete most prerequisite classes prior to entry. Beginning Fall 2014, the GRE will be required. These new policies might lead to fewer qualified applicants in the short-term.
 - Among graduate students, the 3-year graduation rates **were lower** (22%) than CASA and SJSU. These low rates are not surprising since most students entering the program do not have a degree in nutrition, and must take many undergraduate prerequisite classes. (This should change in the future as described above.) Those who wish to become a dietitian (the majority of our MS students) must also take DPD classes. In addition, those pursuing the MS/RD route often participate in the SJSU 7-month Dietetic Internship; many postpone graduation until completion so they may still receive financial aid or defer loan payments. Finally, for many students, nutrition/dietetics is their second-career; many work or have young children, and do not attend school full-time.
 - No differences in graduation rates between URM/non-URM students were noted.
 - Retention rates were high (85%) and **matched or exceeded** those of CASA and SJSU.
- Graduation data show that from 2008/09 to 2012/13, **261 undergraduates** received a BS degree and **112 MS degrees** were awarded. (See Appendix E p. **141** for distribution of BS graduates based on Concentration/Emphases and for MS graduates based on Graduate Objective.)
 - Over half (54.4%, n=142) of BS degrees were awarded in Dietetics Concentration.
 - An increasing number of BS students graduated in the Packaging Concentration (9.2%, n=24, with 17 graduating in 2011/12 and 2012/13). The 3% (n=8) of Food Science BS graduates reflects the decline in faculty and/or student interest.
 - The remaining 33.4% (n=87) of BS graduates was comprised of students who received their degree in Nutritional Science (one of the 5 Emphases.) Department data indicate:
 - ✓ 11.5% (n=30) were Nutrition Education Emphasis
 - ✓ 7.3% (n=19) were Sports Nutrition
 - ✓ 5.7% (n=15) were Food Management
 - ✓ 4.6% (n=12) were Nutrition Science
 - ✓ 4.2% (n=11) were Environmental Health & Food Specialist

4b. Headcount in sections

- Over the past 5 years, the number of total courses has stayed the same, but the number of sections has increased 34% (from 73 to 98) primarily due to the 64% increase in number of upper division (primarily GE) courses.
 - In the MS program, 3 fewer courses have been offered since 2010, and the 61% drop in graduate level sections (from 29 to 18) is the result of fewer MS students enrolled in the program, and the requirement of 10 students per course. The department only offered 5 graduate level courses in Fall 2013.
- From 2009-2013, the average headcount enrollment per section has remained constant (at about 26). This includes an average headcount of 45.6 for lower division, 28 for upper division, and 5.3 for graduate division.

- The average headcount in labs has steadily decreased since 2010 (from 26 to 12.6). The decrease from Fall 2012 (15.8) to Fall 2013 (12.6) is likely due to dietetics students no longer being required to take the 1-unit Food Science lab (as part of the changes associated with the 120-unit requirement for graduation). Headcount may have decreased prior to that time due to lower graduate student enrollment, as MS/DPD students are required to enroll in 3 lab courses (NUFS 108L, NUFS 103L, NUFS 111L).
- For lecture courses, the decrease (from 42.3 to 37.1) was due to faculty not adding students above enrollment caps based on college enrollment targets/
- The headcount in seminar courses has increased in lower division courses (from 22 to 39.5); stayed the same in upper division and graduate courses.

4c. FTES, Induced Load Matrix

- FTES increased 15% (from 415.5 to 478.0) over the past 5 years (Exhibit 3b, p. 31).
 - FTES increased 5% in lower division (130.4 to 137.5) and 28% in upper division (250.5 to 320.8) but decreased 43% in graduate division (34.6 to 19.8) as students graduated and were not replaced, or as students enrolled part-time.
- The Induced Course Load Matrix (Exhibit 4, p. 32) shows that students from every Department at SJSU have taken at least one course offered by the NUFS department over the past 5 years.
 - Among majors, students from NUFS comprised the greatest percentage of lower and upper division and graduate level seats (e.g., 34.4%; 3,961 of a total of 11,502 seats).
 - ✓ Nutrition students comprised 18.6% (662 of 3,560) of lower division seats.
 - ✓ Nutrition students comprised 37.8% (2,779 of 7,356) of upper division seats.
 - ✓ Nutrition students comprised 88.6% (520 of 587) of graduate seats.
 - Following NUFS, Pre-nursing (8.7%, n=998), Kinesiology (5%, n=575) and Health Sciences (3.7%, n=428) students comprised the most seats.
 - Students outside the major comprised 65.6% of all seats, with greater numbers in lower-division as compared to upper-division courses.
 - Excluding NUFS students and graduate level classes, 38.8% of seats (n=2,898) were provided in lower-division NUFS courses while 61.2% (n=4,577) were provided in upper-division courses.
 - Over the past 5 years, there was a 46% increase in the number of seats provided by NUFS (e.g., 1,783 to 2,606), primarily due to the increased number of GE sections.

4d. FTEF (Full-time Equivalent Faculty), SFR (Student/Faculty Ratio), Percentage T/TT Faculty

- NUFS had a higher 5-year average SFR (25.0) compared to CASA (20.1) and SJSU (23.0).
 - The SFR decreased slightly (3%, from 25.9 to 25.0), primarily due to the large (42%) drop in graduate division (due to lower enrollments and smaller graduate classes).
- FTEF increased 18.6% (from 16.1 to 19.1) over the past 5 years.
 - FTEF increased 11.5% in lower division (2.6 to 2.9) and 28% in upper division (from 10.2 to 13.1). With some yearly fluctuations, FTEF for graduate division stayed at 3.2.
- The T/TT instructional faculty percentage of 21% (2013/14) is much lower than that of CASA (44%) and SJSU (51%). NUFS has always had a low ratio (due to the high number of part-time faculty who teach GE classes), but since 2009, the ratio decreased from 26.6 to its current 21%. (Exhibit 13 p. 46).

5. PROGRAM RESOURCES

5a. Faculty

- The department has 8 full-time faculty members (see p. 79). All are well qualified to teach in the Department and perform duties to maintain accreditation with the Accreditation Council for Education in Nutrition and Dietetics. When Dr. Belo retires, we will no longer have the faculty needed to support Institute of Food Technologists (IFT) accreditation (Appendix B2 p. 95).
 - The number of full-time faculty is insufficient to teach required classes, advise MS students, perform required accreditation activities, participate in college/university committee work, and to conduct research required for tenure and promotion.
 - The faculty discussed staffing and agrees that the priority is to hire a full-time tenure faculty with expertise in human nutrition/dietetics. On January 10, 2014 we were given permission from the Provost to recruit for a tenure-track faculty in this area.
 - The Packaging Program is woefully understaffed, relying on one full-time faculty (helped by 2-3 adjuncts) to teach classes, advise the increasing numbers of undergraduate and graduate students, liaise with industry, and supervise capstone experiences.
 - The Department anticipates the FERP/retirement of 2 professors (including the Department Chair) within the next 3-4 years. Two tenured faculty members have indicated interest in succeeding as department chair.
- There are currently 31 temporary part-time lecturers who teach the majority of GE classes, as well as classes in all Concentrations and Emphases. Some faculty members have been teaching for many years; others are new hires. There has been some concern with respect to qualifications of some faculty to teach classes and the methods by which faculty are assigned classes and/or recruited.

5b. Support staff

- Leah Olaivar is a full-time Department Coordinator II. Leah coordinates, oversees, communicates and performs all administrative office operational duties, including senior level administrative work for the Department Chair, and the Packaging Program and DPD/DI Directors. Leah supervises 2 part-time paid (1 work-study) student office helpers who work 10-15 hours/week.
- Jean Geary, Instructional Support Technician, is a full-time technician who handles laboratory and classroom instructional needs, purchasing and financial issues (Appendix p. 79)

5c. Facilities

- The Central Classroom Building (CCB) houses the Nutrition and Food Science labs and associated equipment (Appendix B1 p. 51 and B2 p. 96). The food-preparation modular teaching kitchen (CCB125) and a classroom with a demonstration area was recently remodeled.
- The Nutrition and Metabolism Laboratory is located in the Industrial Studies Building (Room 229A). Recently remodeled from donated funds, a treadmill, bioelectric impedance body composition analyzer and a resting metabolism analyzer are available to support research. The adjacent Student Learning Center (Room 229) allows for academic advising and a place for students to study, use computers, work together on class projects, and hold meetings. A white board with computer and other A/V capabilities is available.
- The SJSU Spartan Packaging Lab is a fully staffed 12-month unit that evaluates and develops formed packages and materials using ASTM and ISTA test procedures.
 - Test areas include rigid container evaluation, flexible pouch evaluation and package conditioning; package development includes prototype development, graphic development, Adobe Illustrator, ESKO Artios, Adobe Photoshop, package qualification; and test capabilities

include shock testing, vibration tests, cushioning development and evaluation, water gain and loss under various environmental conditions, headspace analysis, O₂, CO₂, compression testing, tensile test, edge crush, and blister evaluation.

6. OTHER STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND CHALLENGES

6a. Strengths

The Department has a number of strengths, including integration of four High Impact Practices (as defined by the Association of American Colleges and Universities) into the curriculum; recent receipt of material and financial donations which support students, faculty and facilities; faculty who secured external funding; faculty who have written books, published in peer-reviewed journals, and have presented research findings at local, state and national meetings; faculty and students who have been recognized at the state and federal level; and the ability, through GE classes, of being able to connect to all SJSU students by teaching science and other fields that are related to food and/or nutrition.

- **High impact practices include:**
 - Inclusion of collaborative assignments and projects in many courses.
 - ✓ For the NUFS 190 Nutrition Education lesson plan, groups of 3-4 students work together to complete research and worksheets and to develop nutrition education lesson plans for specific target audiences.
 - ✓ In NUFS 108L Nutrition Lab, students work with Nursing and Occupational Therapy in using the Nursing Simulation Lab for some assignments in NUFS 108L.
 - Opportunities for undergraduates to participate in faculty research.
 - ✓ Under Dr. Freedman's guidance, undergraduates worked side-by-side with graduate students helping to collect data on projects. For example, students examined:
 - The effect of tray-less dining on food waste in the campus Dining Commons.
 - The effect of point-of-purchase nutritional information on food choices
 - The processes involved in instituting a healthy food and beverage policy in the faith-based community.
 - Food intake patterns and plate waste among meal center guests at three local soup kitchens.
 - How reducing portion size reduces food intake and plate waste.
- Incorporation of service learning and community based-learning into coursework.
 - In NUFS 114A Community Nutrition, students are required to participate in 18-20 hours of experiential learning with community partners. Students are given direct experience with issues they are studying in the curriculum and to both apply what they are learning in real-world settings and reflect in a classroom setting on their service experiences
 - In NUFS 139 Hunger and Environmental Nutrition, students are required to participate in 12 hours of service learning.
- Requirement for all students to participate in an internship related to their career.
 - All NUFS/Pkg students complete a 90-hr field experience course in an area related to their Concentration/Emphasis while enrolled in NUFS 192 Field Experience in Nutrition, Food Science and Packaging Technology. Each semester, assessments are collected from field supervisors (Appendix D p. 136) and students provide written reflections on their experiences (Appendix D p. 144). Students are rated on a general set of learning outcomes that apply to all Concentrations/Emphases; they are also rated on learning outcomes specific to their Concentration/Emphasis. Supervisors are asked to rate students on a scale of 1 to 3 (with 1 indicating "Improvement Needed," 2 indicating "Satisfactory," and 3 indicating "Outstanding." A summary of data collected from 113 supervisors over the past 5 years (43% response rate based on 261 graduates) is found in Appendix E p. 141.

- In addition to the **major gifts and donations** previously described (p. 4), the NUFS department received \$75,000 from Phyllis Simpkins to remodel IS 229 and IS 230 and \$50,000 to finish the remodel of the Food Preparation Modular Laboratory in CCB 125.
- Faculty have received **external grant funding**, which provides support for research, travel, student assistantships, and opportunities for student/faculty research collaborations.
 - Professor McProud and Associate Professor Wagle have received a yearly California State Department of Education Cal Pro Net Contract to train child nutrition/school foodservice directors and other personnel. The yearly grant amount ranged from \$70,000 to \$250,000/year based on needs and State funds.
 - Associate Professor Freedman was the Principal Investigator (PI) or Co-Investigator (Co-I) on 3 grants providing almost \$300,000.
 - ✓ Kaiser Permanente Healthy Northern California HEAL Grant for the Healthy Campus Initiative (\$200,000) Co-I with Dr. Chuck Darrah, Anthropology.
 - ✓ Western Growers Community Garden Grant (\$1,500).
 - ✓ Santa Clara County Public Health Department, Communities Putting Prevention to Work Grant, \$90,000 (PI).
 - Assistant Professor Mauldin is the PI or Co-I on 5 grants providing over \$300,000.
 - ✓ New Investigator Grant Program, CSU Program for Education & Research in Biotechnology (CSUPERB) \$15,000 (PI) in collaboration with Dr. Janet King at Children’s Hospital Oakland Research Institute (CHORI).
 - ✓ Foundation Grant, MidPen Resident Services Corp., MidPen Housing \$12,000 in collaboration with Center for Healthy Aging in a Multicultural Population (CHAMP) (Dr. Diwan, Social Work, Dr. Chang, OT, and Nursing, Recreational Therapy, and Kinesiology faculty).
 - ✓ Curricular Innovation Program Grant, SJSU \$26,355 (PI) in collaboration with Drs. O’Leary-Kelley and Bawel-Brinkley, SJSU Valley Foundation School of Nursing (VFSN) and Dr. Smith, Occupational Therapy.
 - ✓ CASA Incentive Grant \$25,000 (PI) in collaboration with Dr. Goyal, VFSN and Dr. Kitzmiller, Santa Clara Valley Medical Center.
 - ✓ Foundation grant, Almond Board of CA (\$224,663) Co-I with Dr. King, CHORI.
- **Research productivity** has been demonstrated by peer-reviewed manuscripts published in scientific journal and posters presented at state and national meetings.
 - Dr. Freedman has had 21 manuscripts published; Dr. Hollenbeck has had 3 manuscripts published and Dr. McProud and Professor Wagle have each had 2 manuscripts published.
 - Posters of faculty research were accepted for at least half of all posters each year at the State Dietetics Association meeting; 5 to 8 posters/year were accepted at national meetings including the Academy of Nutrition and Dietetics Association meeting.
 - The department faculty have had 5 to 8 published research abstracts per year.
- **Faculty, alumni, or student accomplishments** include:
 - Faculty accomplishments
 - ✓ In 2013, Dr. Freedman received a “Guardians of Health Award” from the California Center for Public Health Advocacy; in 2012, she received an honorable mention in the Michelle Obama’s Let’s Move! Faith and Communities Video Challenge; her nominee Yan Yin Choy, won the Cesar Chavez Award from the CA Teacher’s Association; in 2011 she received the SJSU Research Foundation’s Outstanding Early Career Investigator Award, SJSU Research Foundation, and in 2009, the Provost’s Award for Excellence in Service Learning.
 - ✓ Dr. Sucher coauthored two books: Nutrition Therapy and Pathophysiology (2nd ed.) and Food and Culture (6th ed.)

- ✓ Dr. McProud was selected for, and served for 5 years at the Nutrition Advisory Council, which is advisory to the State Department of Education. She was Chair during 2012.
- ✓ Dr. Mauldin was a 2011/12 Center for Applied Research on Human Services Grants Academy mentee
- ✓ Izzie Brown was the author of the Boathouse Row Cookbook, Amazon: Seattle, 2011.
- ✓ Alan Finkelstein was the author of Hybrid Cuisine, Professional Press Printers: 2010.
- ✓ Judi Morrill and Ann Reisenauer authored the book Science, Physiology, and Nutrition for the Nonscientist, 4th ed. Oak Grove Publishing, 2012.
- ✓ Dr. Hollenbeck and Dr. Freedman each provide peer-reviews of scientific manuscript for over 13 different journals.
- Student accomplishments
 - ✓ Lillian Lu, CASA Outstanding MS Student Research Award, 2010
 - ✓ Hector Diaz, McNair Scholar, Outstanding CCRS presentation, 2012
 - ✓ Marilyn Baker-Venturini, Graduate Student Research Competition Winner, 2012
- Alumni accomplishments
 - ✓ Taisiya Kuprinova: Outstanding Young Dietitian of the Year, California Dietetic Assoc.
 - ✓ Jennifer Sato, MS, RD admitted into the doctoral program at UC Davis, 2013
 - ✓ Barbara Morris, MS, RD promoted to head dietitian at Santa Clara Valley Medical Center
 - ✓ Sally Chaves, MS, Board of Directors, Collective Roots

6b. Weaknesses

- Faculty issues: a low ratio of full-time to part-time faculty; lack of clear hiring standards for part-time faculty; general issues with workload.
- Student issues: low 3-year graduation rates of transfer students, inconsistent placement of graduates in careers relating to their degree; poor perceived advising issues.
- Curricular issues: the offering of many Concentrations/Emphases which allows students to examine different career paths but makes it difficult for them to transfer from one Concentration/Emphasis to another later in their education due to differences in program requirements; low enrollment of MS students preventing many graduate courses from being offered; no clear plan for collecting and reviewing assessment data among faculty members.

6c. Opportunities

- The Department has recently hired two new full-time tenure-track faculty members who will provide new insights and energy. We are looking forward to hiring a new faculty member.

6d. Challenges

- To provide advising and classes so that BS and MS students in the Food Science and Technology Concentration will be able to graduate.
- Revamping the curriculum to account for changes in requirements to become a Registered Dietitian (i.e., beginning in 2014, the MS degree will be required in order to become an RD).
- Integration of the Packaging Program into the nutrition program in light of changes to the Food Science and Technology Concentration.

7. DEPARTMENT ACTION PLAN

The Department is looking forward to a strategic review process that will begin Spring 2014. We will be reviewing existing Concentrations/Emphases, and issues noted in this report to be in need of strengthening. Of import, as related to Dietetics, we will be planning curriculum revisions related to the new entry-level degree requirement of the MS for becoming an RD, and related to the new Bachelor's Associate to accommodate non-MS students interested in Dietetics. (Planning is important since curriculum pathways must be in place in 2017.)

APPENDICES

Appendix A. Required Data Elements

**REQUIRED DATA EXHIBITS TO SUPPORT
THE SELF STUDY REPORT AND PROGRAM PLANNING PROCESS**
San Jose State University
(Prepared by the Institutional Effectiveness & Analytics: November, 19 2013)

The data exhibits developed to support the self study reports and program planning process at San José State University are intended to provide basic contextual information to Program Planning Committee and reviewers as

The program is expected to comment on data trends that are unusual, and to highlight data that figure in the self study report. Many programs may regularly compile the data required, but not all do so in a systematic or regular way. If your program has readily available data that are consistent with the basic requirements in the exhibits, you may provide the information on your own forms or in your own formats and are not required to use the exact forms

The information prepared in the data exhibit formats for all academic programs, corresponding colleges, and overall university is available at www.iea.sjsu.edu/ProgramPlanning.

For further assistance in completing the forms, please contact the Office of Institutional Effectiveness & Analytics.

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Exhibit 1 Number of Course Sections

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Curriculum and Instruction (Enrollment by Course Prefix):

Data Exhibit 1: Number of Course and Section Offered (for Fall Semesters Only)

Total						
Course Level		Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Lower Division	Course	8	8	9	8	9
	Section	13	14	18	17	16
Upper Division	Course	21	20	21	20	22
	Section	39	48	55	57	64
Graduate Division	Course	8	10	8	9	7
	Section	21	29	20	23	18
Total	Course	37	38	38	37	38
	Section	73	91	93	97	98

Lab						
Course Level		Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Upper Division	Course	1	1	2	2	3
	Section	1	1	3	4	5
Total	Course	1	1	2	2	3
	Section	1	1	3	4	5

Lecture						
Course Level		Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Lower Division	Course	5	5	6	6	6
	Section	9	11	14	14	13
Upper Division	Course	9	8	11	10	11
	Section	14	16	22	26	29
Total	Course	14	13	17	16	17
	Section	23	27	36	40	42

Seminar						
Course Level		Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Lower Division	Course	3	2	2	1	2
	Section	4	2	3	1	2
Upper Division	Course	9	9	6	6	6
	Section	16	22	22	24	23
Graduate Division	Course	5	7	6	6	5
	Section	5	7	7	6	5
Total	Course	17	18	14	13	13
	Section	25	31	32	31	30

(Continued on next page)

Number of Course Sections (cont'd)

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Supervision						
Course Level		Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Lower Division	Course	-	1	1	1	1
	Section	-	1	1	2	1
Upper Division	Course	2	2	2	2	2
	Section	8	9	8	3	7
Graduate Division	Course	3	3	2	3	2
	Section	16	22	13	17	13
Total	Course	5	6	5	6	5
	Section	24	32	22	22	21

Exhibit 2 Average Headcount per Section

Data Exhibit 2: Average Headcount Enrollment per Section (for Fall Semesters Only)

Total					
Course Level	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Lower Division	43.9	47.9	45.0	43.9	47.6
Upper Division	27.8	28.2	27.0	29.6	27.3
Graduate Division	6.1	5.0	5.8	4.2	5.4
Total	24.4	23.8	25.9	26.1	26.6

Lab					
Course Level	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Upper Division	24.0	26.0	17.3	15.8	12.6
Total	24.0	26.0	17.3	15.8	12.6

Lecture					
Course Level	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Lower Division	53.7	55.5	51.7	49.5	52.3
Upper Division	35.0	34.7	31.5	31.3	30.3
Total	42.3	43.1	39.4	37.7	37.1

Seminar					
Course Level	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Lower Division	22.0	29.0	28.3	46.0	39.5
Upper Division	33.4	33.0	31.5	32.3	32.7
Graduate Division	16.8	12.3	11.3	10.5	12.6
Total	28.3	28.1	26.8	28.5	29.8

Supervision					
Course Level	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Lower Division	-	2.0	1.0	4.0	3.0
Upper Division	4.2	4.9	6.0	11.7	7.6
Graduate Division	2.8	2.7	2.8	1.9	2.6
Total	3.3	3.3	3.9	3.5	4.3

Exhibit 3 Student to Faculty Ratio (2009-2013)

Data Exhibit 3a: Student/Faculty Ratios - SFR (for Fall Semesters Only)

Course Level	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Lower Division	45.4	49.6	46.3	47.8	53.9
Upper Division	23.5	23.6	21.7	24.6	23.3
Graduate Division	10.8	9.9	10.0	6.3	6.6
Total	24.7	24.8	24.3	25.0	24.6

Note: Student/Faculty Ratios (SFR) = Full-time Equivalent Students (FTES)/Full-time Equivalent Faculty (FTEF)

Data Exhibit 3b: Full-time Equivalent - Students - FTES (for Fall Semesters Only)

Course Level	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Lower Division	104.9	124.6	150.9	137.5	143.0
Upper Division	204.1	258.5	277.6	320.8	325.3
Graduate Division	29.1	32.9	26.3	19.8	21.5
Total	338.1	416.0	454.8	478.0	489.8

Data Exhibit 3c: Full-time Equivalent - Faculty - FTEF (for Fall Semesters Only)

Course Level	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Lower Division	2.3	2.5	3.3	2.9	2.6
Upper Division	8.7	10.9	12.8	13.1	14.0
Graduate Division	2.7	3.3	2.6	3.2	3.3
Total	13.7	16.8	18.7	19.1	19.9

Exhibit 4 Induced Course Load Matrixes

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Data Exhibit 4: Course Enrollment by Student Majors – *Induced Course Load Matrix* (Fall Semester)

Student Major	Courses Offered (seats)				
	Headcount	Lower Division	Upper Division	Graduate	Total
Aerospace Engineering	3	2	1	-	3
Animation/Illustration	2	1	1	-	2
Anthropology	7	1	6	-	7
Art	20	6	14	-	20
Aviation	3	3	-	-	3
Biological Sciences	18	7	12	-	19
Bus Admin/Accounting	25	3	22	-	25
Bus Admin/Accounting Info Syst	4	2	2	-	4
Bus Admin/Corp Financial Mgmt	8	1	7	-	8
Bus Admin/Finance	18	5	13	-	18
Bus Admin/Human Resource Mgmt	12	2	10	-	12
Bus Admin/International Business	9	3	6	-	9
Bus Admin/Management	38	8	30	-	38
Bus Admin/Management Info Syst	10	4	9	-	13
Bus Admin/Marketing	35	16	19	-	35
Chemical Engineering	1	-	1	-	1
Chemistry	2	1	1	-	2
Child and Adolescent Development	17	7	12	-	19
Civil Engineering	5	1	4	-	5
Communication Studies	25	2	23	-	25
Communicative Disorders and Sci	7	1	6	-	7
Computer Engineering	8	6	2	-	8
Computer Science	6	4	2	-	6
Creative Arts	2	-	2	-	2
Dance	2	2	-	-	2
Design Studies	9	4	5	-	9
Economics	4	1	3	-	4
Electrical Engineering	7	6	1	-	7
Engineering	4	4	-	-	4
English	8	2	6	-	8
Geology	1	1	-	-	1
Global Studies	3	-	3	-	3
Graphic Design	1	-	1	-	1
Health Science	60	18	48	-	66
History	4	2	2	-	4
Hospitality, Tourism, Event Mgmt	43	33	12	-	45
Humanities	1	-	1	-	1
Industrial Design	3	1	2	-	3
Interior Design	2	-	2	-	2
Journalism	22	4	20	-	24
Justice Studies	40	15	27	-	42
Kinesiology	95	54	49	-	103
Liberal Studies	3	3	-	-	3
Materials Engineering	2	1	1	-	2
Mathematics	3	-	3	-	3
Mechanical Engineering	13	5	8	-	13

Exhibit 4 Induced Course Load Matrix (cont'd)

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Meteorology	1	-	1	-	1
Music	3	-	3	-	3
Nursing	25	4	20	1	25
Nutritional Science	290	112	517	123	752
Occupational Therapy	5	3	2	-	5
Philosophy	1	1	-	-	1
Political Science	2	1	1	-	2
Pre-Nursing	163	140	46	1	187
Psychology	32	13	20	-	33
Recreation	7	2	5	-	7
Social Science	2	-	2	-	2
Social Work	33	3	26	4	33
Sociology	29	4	26	-	30
Software Engineering	2	2	-	-	2
Television-Radio-Film	11	1	10	-	11
Undeclared	45	42	3	-	45
World Languages and Literatures	3	1	2	-	3
Total	1,269	571	1,083	129	1,783

Student Major	Courses Offered (seats)				
	Headcount	Lower Division	Upper Division	Graduate	Total
Aerospace Engineering	4	3	1	-	4
African-American Studies	1	-	1	-	1
Animation/Illustration	5	4	1	-	5
Anthropology	5	1	5	-	6
Art	20	6	14	-	20
Aviation	5	5	1	-	6
Biological Sciences	43	14	32	-	46
Bus Admin/Accounting	39	6	33	-	39
Bus Admin/Accounting Info Syst	8	2	6	-	8
Bus Admin/Corp Financial Mgmt	11	2	9	-	11
Bus Admin/Entrepreneurship	3	1	2	-	3
Bus Admin/Finance	29	6	23	-	29
Bus Admin/Human Resource Mgmt	14	1	13	-	14
Bus Admin/International Business	11	3	8	-	11
Bus Admin/Management	46	12	36	-	48
Bus Admin/Management Info Syst	20	3	19	-	22
Bus Admin/Marketing	35	9	26	-	35
Chemical Engineering	1	-	1	-	1
Chemistry	11	3	9	-	12
Child and Adolescent Development	36	8	32	-	40
Civil Engineering	12	5	7	-	12
Communication Studies	19	-	19	-	19
Communicative Disorders and Sci	4	2	2	-	4
Computer Engineering	6	2	4	-	6
Computer Science	3	2	1	-	3
Creative Arts	2	2	-	-	2
Dance	3	2	1	-	3
Design Studies	16	2	14	-	16

Exhibit 4 Induced Course Load Matrix (cont'd)

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Economics	6	1	5	-	6
Electrical Engineering	16	9	7	-	16
Engineering	2	2	-	-	2
English	5	2	3	-	5
Environmental Studies	3	2	1	-	3
Geography	1	1	1	-	2
Global Studies	3	-	3	-	3
Graphic Design	2	-	2	-	2
Health Science	78	27	58	2	87
History	9	4	5	-	9
Hospitality, Tourism, Event Mgmt	46	36	14	-	50
Humanities	2	1	1	-	2
Industrial Design	3	2	1	-	3
Interior Design	8	2	6	-	8
Journalism	38	9	29	-	38
Justice Studies	48	7	42	-	49
Kinesiology	94	36	61	-	97
Liberal Studies	7	5	2	-	7
Mathematics	7	1	6	-	7
Mechanical Engineering	12	10	2	-	12
Meteorology	1	-	1	-	1
Music	2	1	1	-	2
Nursing	44	4	27	13	44
Nutritional Science	283	120	523	129	772
Occupational Therapy	15	7	10	-	17
Philosophy	1	1	-	-	1
Physics	1	-	1	-	1
Political Science	12	6	6	-	12
Pre-Nursing	177	146	57	-	203
Psychology	70	16	56	-	72
Recreation	7	3	4	-	7
Social Science	4	1	3	-	4
Social Work	26	3	21	2	26
Sociology	34	10	26	-	36
Software Engineering	2	1	1	-	2
Television-Radio-Film	11	3	8	-	11
Theatre Arts	2	-	2	-	2
Undeclared	109	84	32	-	116
World Languages and Literatures	4	1	4	-	5
Total	1,607	670	1,352	146	2,168

Exhibit 4 Induced Course Load Matrix (cont'd)

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Fall 2011 Student Major	Courses Offered (seats)				
	Headcount	Lower Division	Upper Division	Graduate	Total
Aerospace Engineering	3	1	2	-	3
African-American Studies	1	-	1	-	1
Animation/Illustration	3	1	2	-	3
Anthropology	10	-	10	-	10
Art	18	6	13	-	19
Aviation	2	1	1	-	2
Biological Sciences	36	13	23	-	36
Bus Admin/Accounting	39	7	32	-	39
Bus Admin/Accounting Info Syst	14	6	8	-	14
Bus Admin/Corp Financial Mgmt	10	1	9	-	10
Bus Admin/Entrepreneurship	4	-	5	-	5
Bus Admin/Finance	33	7	28	-	35
Bus Admin/Human Resource Mgmt	14	2	12	-	14
Bus Admin/International Business	20	4	16	-	20
Bus Admin/Management	61	18	44	-	62
Bus Admin/Management Info Syst	30	3	28	-	31
Bus Admin/Marketing	51	9	43	-	52
Chemical Engineering	3	3	-	-	3
Chemistry	13	4	9	-	13
Child and Adolescent Development	35	6	30	-	36
Civil Engineering	13	7	6	-	13
Communication Studies	34	5	30	-	35
Communicative Disorders and Sci	3	1	2	-	3
Computer Engineering	15	14	1	-	15
Computer Science	12	9	3	-	12
Creative Arts	1	-	1	-	1
Dance	2	1	1	-	2
Design Studies	13	4	9	-	13
Economics	12	4	9	-	13
Electrical Engineering	13	5	8	-	13
Engineering	7	7	-	-	7
English	9	3	6	-	9
Environmental Studies	6	4	4	-	8
Geography	3	-	3	-	3
Geology	2	-	2	-	2
Global Studies	2	-	2	-	2
Graphic Design	1	-	1	-	1
Health Science	89	27	71	-	98
History	8	6	3	-	9
Hospitality, Tourism, Event Mgmt	42	22	25	-	47
Industrial Design	2	-	2	-	2
Industrial/Syst Engineering	4	2	2	-	4
Interior Design	6	3	3	-	6
Journalism	29	6	23	-	29
Justice Studies	55	20	36	-	56
Kinesiology	121	51	77	-	128
Liberal Studies	3	1	2	-	3
Linguistics	1	1	-	-	1

Exhibit 4 Induced Course Load Matrix (cont'd)

Program Planning: RDE for Nutrition, Food Science, Packaging

Prepared Fall 2013

Mathematics	5	3	2	-	5
Mechanical Engineering	12	9	3	-	12
Meteorology	1	-	1	-	1
Music	5	2	3	-	5
Nursing	53	4	40	10	54
Nutritional Science	292	149	525	96	770
Occupational Therapy	25	7	19	-	26
Philosophy	2	1	1	-	2
Physics	1	1	-	-	1
Political Science	14	8	7	-	15
Pre-Nursing	194	135	85	-	220
Psychology	77	26	52	-	78
Recreation	12	4	7	1	12
Social Science	3	4	-	-	4
Social Work	30	3	18	9	30
Sociology	41	8	34	-	42
Software Engineering	3	2	1	-	3
Television-Radio-Film	11	1	10	-	11
Theatre Arts	3	1	2	-	3
Undeclared	156	142	25	-	167
World Languages and Literatures	9	5	4	-	9
Total	1,857	810	1,487	116	2,413

Student Major	Courses Offered (seats)				Total
	Headcount	Lower Division	Upper Division	Graduate	
Aerospace Engineering	2	1	1	-	2
Animation/Illustration	6	2	4	-	6
Anthropology	16	2	14	-	16
Art	17	6	12	-	18
Biological Sciences	32	8	24	-	32
Biomedical Engineering	2	2	-	-	2
Bus Admin/Accounting	38	7	31	-	38
Bus Admin/Accounting Info Syst	10	-	10	-	10
Bus Admin/Corp Financial Mgmt	9	2	7	-	9
Bus Admin/Entrepreneurship	5	1	4	-	5
Bus Admin/Finance	32	4	28	-	32
Bus Admin/General	8	4	4	-	8
Bus Admin/Human Resource Mgmt	24	2	22	-	24
Bus Admin/International Business	12	4	8	-	12
Bus Admin/Management	57	15	46	-	61
Bus Admin/Management Info Syst	20	1	19	-	20
Bus Admin/Marketing	43	12	31	-	43
Chemical Engineering	6	6	1	-	7
Chemistry	19	3	17	-	20
Child and Adolescent Development	53	4	53	-	57
Civil Engineering	13	5	8	-	13
Communication Studies	42	9	37	-	46
Communicative Disorders and Sci	9	2	7	-	9
Computer Engineering	9	8	1	-	9

Exhibit 4 Induced Course Load Matrix (cont'd)

Program Planning: RDE for Nutrition, Food Science, Packaging

Prepared Fall 2013

Computer Science	7	6	1	-	7
Creative Arts	2	-	2	-	2
Dance	6	3	4	-	7
Design Studies	14	3	12	-	15
Economics	11	1	10	-	11
Electrical Engineering	7	3	4	-	7
Engineering	2	1	1	-	2
English	14	3	11	-	14
Environmental Studies	3	2	1	-	3
Geography	2	1	1	-	2
Global Studies	4	-	4	-	4
Health Science	86	20	75	1	96
History	15	6	10	-	16
Hospitality, Tourism, Event Mgmt	57	23	45	-	68
Humanities	5	1	4	-	5
Industrial Design	5	4	1	-	5
Industrial Technology	4	4	-	-	4
Industrial/Syst Engineering	2	-	2	-	2
Interior Design	7	2	5	-	7
Journalism	47	6	41	-	47
Justice Studies	46	6	42	-	48
Kinesiology	111	42	75	-	117
Liberal Studies	2	1	1	-	2
Linguistics	2	-	2	-	2
Materials Engineering	1	1	-	-	1
Mathematics	10	2	8	-	10
Mechanical Engineering	9	2	7	-	9
Meteorology	4	1	3	-	4
Music	8	3	5	-	8
Nursing	34	4	22	9	35
Nutritional Science	296	157	587	80	824
Occupational Therapy	21	2	21	-	23
Philosophy	2	-	2	-	2
Physics	2	2	-	-	2
Political Science	9	4	6	-	10
Pre-Nursing	198	148	85	-	233
Psychology	75	5	71	-	76
Recreation	7	-	7	-	7
Social Science	4	-	4	-	4
Social Work	22	1	16	6	23
Sociology	46	5	42	-	47
Software Engineering	4	3	1	-	4
Television-Radio-Film	14	4	10	-	14
Theatre Arts	1	-	1	-	1
Undeclared	181	153	34	-	187
World Languages and Literatures	14	2	12	-	14
Total	1,907	747	1,687	96	2,530

Fall 2013	Courses Offered (seats)				
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Exhibit 4 Induced Course Load Matrix (cont'd)

Program Planning: RDE for Nutrition, Food Science, Packaging

Prepared Fall 2013

Student Major	Headcount	Lower Division	Upper Division	Graduate	Total
African-American Studies	2	2	-	-	2
Animation/Illustration	8	6	2	-	8
Anthropology	20	3	17	1	21
Art	13	5	10	-	15
Biological Sciences	58	22	39	-	61
Biomedical Engineering	1	-	1	-	1
Bus Admin/Accounting	40	8	34	-	42
Bus Admin/Accounting Info Syst	6	1	5	-	6
Bus Admin/Corp Financial Mgmt	15	4	11	-	15
Bus Admin/Entrepreneurship	12	7	5	-	12
Bus Admin/Finance	27	3	26	-	29
Bus Admin/General	10	7	3	-	10
Bus Admin/Human Resource Mgmt	15	-	15	-	15
Bus Admin/International Business	15	5	11	-	16
Bus Admin/Management	57	14	48	-	62
Bus Admin/Management Info Syst	29	2	29	-	31
Bus Admin/Marketing	37	7	31	-	38
Chemical Engineering	11	1	10	-	11
Chemistry	7	4	4	-	8
Child and Adolescent Development	48	7	43	-	50
Civil Engineering	16	1	16	-	17
Communication Studies	55	12	47	-	59
Communicative Disorders and Sci	8	-	8	-	8
Computer Engineering	1	1	-	-	1
Computer Science	23	13	10	-	23
Creative Arts	1	-	1	-	1
Dance	5	5	2	-	7
Design Studies	26	8	20	-	28
Economics	19	5	15	-	20
Electrical Engineering	12	2	10	-	12
Engineering	2	2	-	-	2
English	12	2	10	-	12
Environmental Studies	4	2	2	-	4
Geography	2	-	2	-	2
Geology	2	-	2	-	2
Global Studies	4	-	4	-	4
Graphic Design	4	-	4	-	4
Health Science	73	19	62	-	81
History	9	5	4	-	9
Hospitality, Tourism, Event Mgmt	42	12	33	-	45
Humanities	1	-	1	-	1
Industrial Design	5	1	4	-	5
Industrial Technology	4	3	1	-	4
Industrial/Syst Engineering	9	-	9	-	9
Interior Design	11	2	9	-	11
Journalism	60	13	52	-	65
Justice Studies	49	11	40	-	51
Kinesiology	122	62	67	-	129
Liberal Studies	2	1	1	-	2

Exhibit 4 Induced Course Load Matrix (cont'd)

Program Planning: RDE for Nutrition, Food Science, Packaging

Prepared Fall 2013

Linguistics	1	1	-	-	1
Materials Engineering	1	-	1	-	1
Mathematics	11	3	9	-	12
Mechanical Engineering	27	1	26	-	27
Meteorology	3	-	3	-	3
Music	9	4	5	-	9
Nursing	31	3	30	-	33
Nutritional Science	288	124	627	92	843
Occupational Therapy	15	4	12	-	16
Philosophy	3	2	1	-	3
Physics	1	1	-	-	1
Political Science	19	7	12	-	19
Pre-Nursing	131	87	68	-	155
Psychology	76	19	63	-	82
Recreation	9	1	8	-	9
Social Science	2	1	1	-	2
Social Work	22	1	19	4	24
Sociology	29	7	24	-	31
Software Engineering	8	4	4	-	8
Television-Radio-Film	6	3	3	-	6
Theatre Arts	2	2	-	-	2
Undeclared	214	196	35	-	231
World Languages and Literatures	16	1	16	-	17
Total	1,938	762	1,747	97	2,606

Exhibit 5 Applied, Admitted, Enrolled (2009-2013)

Students (Majors Only)

Data Exhibit 5: Application, Admission, and Enrollment of New Students by Cohort Type (for Fall Semesters Only)

Cohort Type	Fall 2009				Fall 2010				Fall 2011			
	#	Admit	Enroll	Show	#	Admit	Enroll	Show	#	Admit	Enroll	Show
	Applicant	Rate	Rate	Rate	Applicant	Rate	Rate	Rate	Applicant	Rate	Rate	Rate
First-time Freshman	148	55%	14%	26%	185	58%	12%	21%	133	72%	8%	11%
New Undergraduate Transfer	113	66%	29%	44%	211	26%	15%	58%	167	43%	12%	28%
First-time Graduate	86	22%	15%	68%	60	45%	32%	70%	87	37%	21%	56%
Total	347	50%	19%	38%	456	41%	16%	39%	387	51%	13%	25%

Note: Admit Rate (Admission/Application); Enrollment Rate (Enrollment/Application); Show Rate (Enrollment/ Admission)

Cohort Type	Fall 2012				Fall 2013			
	#	Admit	Enroll	Show	#	Admit	Enroll	Show
	Applicant	Rate	Rate	Rate	Applicant	Rate	Rate	Rate
First-time Freshman	178	71%	16%	22%	151	55%	1%	2%
New Undergraduate Transfer	195	42%	18%	43%	246	21%	4%	20%
First-time Graduate	80	37%	15%	41%	74	28%	18%	62%
Total	433	53%	17%	31%	471	33%	5%	16%

p. p.

Data was calculated as 4-year (upper table) and 5-year (lower table) averages due to the very low enroll and show rates for 2013, which appear to be anomalous to previous years. Data for % change for 4 years (2009-12) and for 5-years (2009-13) were also calculated.

Exhibit 6 Enrollment by Class Level with FTES (2009-2013)

Data Exhibit 6: Headcount Enrollment by Class Level (for Fall Semesters Only)

	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Freshmen	39	43	35	37	22
Sophomores	22	25	31	23	17
Juniors	71	67	83	73	59
Seniors	145	143	154	186	196
2nd/Post Bac	7	3	1	-	-
Graduates	89	80	63	49	52
Total Headcount Enrollment	373	361	367	368	346
Total FTE Enrollment	281.62	288.13	285.98	294.30	285.35

Exhibit 7 Enrollment by Major and Concentration (2009-2013)

Data Exhibit 7: Headcount Enrollment by Major/Concentration (for Fall Semesters Only)

	Fall 2009			Fall 2010			Fall 2011		
	UG	Grad	Total	UG	Grad	Total	UG	Grad	Total
Nutritional Science	176	89	265	170	80	250	174	63	237
Nutritional Science/Dietetics	73	-	73	72	-	72	82	-	82
Nutritional Science/Food Science	15	-	15	14	-	14	27	-	27
Nutritional Science/Packaging	20	-	20	25	-	25	21	-	21
Total	284	89	373	281	80	361	304	63	367

	Fall 2012			Fall 2013		
	UG	Grad	Total	UG	Grad	Total
Nutritional Science	198	49	247	166	52	218
Nutritional Science/Dietetics	68	-	68	64	-	64
Nutritional Science/Food Science	29	-	29	30	-	30
Nutritional Science/Packaging	24	-	24	34	-	34
Total	319	49	368	294	52	346

Exhibit 8 Degrees Awarded

Data Exhibit 8: Degree Awarded by Major and Concentration (for Academic Years=Summer + Fall + Spring)

	2008/09			2009/10			2010/11		
	Bachelor	Master	Total	Bachelor	Master	Total	Bachelor	Master	Total
Nutritional Science/Packaging	-	-	-	1	-	1	6	-	6
Nutritional Science	5	23	28	21	19	40	19	32	51
Nutritional Science/Dietetics	30	-	30	29	-	29	19	-	19
Nutritional Science/Food Science	4	-	4	1	-	1	-	-	-
Total	39	23	62	52	19	71	44	32	76

	2011/12			2012/13		
	Bachelor	Master	Total	Bachelor	Master	Total
Nutritional Science/Packaging	9	-	9	8	-	8
Nutritional Science	18	23	41	24	15	39
Nutritional Science/Dietetics	34	-	34	30	-	30
Nutritional Science/Food Science	-	-	-	3	-	3
Total	61	23	84	65	15	80

Exhibit 9 First Year Retention Rates (2009-2012)

Data Exhibit 9: 1st Year Retention Rates (for Fall Semesters Only)

First-Time Freshmen	Cohorts				
	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012
# Total Entering	24	21	22	11	28
1 st Year Retention Rate	66.7%	90.5%	95.5%	81.8%	85.7%
# URM Entering	6	6	4	4	4
1 st Year Retention Rate	66.7%	100.0%	100.0%	75.0%	75.0%
# Non-URM Entering	14	11	15	6	22
1 st Year Retention Rate	57.1%	81.8%	93.3%	100.0%	90.9%

New Undergrad Transfer	Cohorts				
	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012
# Total Entering	35	33	34	20	35
1 st Year Retention Rate	80.0%	84.8%	88.2%	90.0%	91.4%
# URM Entering	4	6	9	7	6
1 st Year Retention Rate	75.0%	83.3%	77.8%	85.7%	83.3%
# Non-URM Entering	23	22	17	9	23
1 st Year Retention Rate	78.3%	86.4%	88.2%	100.0%	95.7%

First-Time Graduate	Cohorts				
	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012
# Total Entering	15	13	19	18	8
1 st Year Retention Rate	80.0%	69.2%	84.2%	94.4%	100.0%
# URM Entering	-	2	2	1	-
1 st Year Retention Rate	-	100.0%	100.0%	100.0%	-
# Non-URM Entering	13	9	9	12	4
1 st Year Retention Rate	84.6%	55.6%	88.9%	91.7%	100.0%

Exhibit 10 Graduation Rates

First-Time Freshmen 6-year (2003-2007);

Undergraduate Transfer and Graduate 3-year (2006-2010)

Data Exhibit 10: Graduation Rates (First-time Freshman: 6-Year; New Transfer: 3-Year; First-time Graduate: 3-Year)

First-Time Freshmen	Cohorts				
	Fall 2003	Fall 2004	Fall 2005	Fall 2006	Fall 2007
# Entering	5	10	10	11	17
Graduation Rate	60.0%	60.0%	90.0%	45.5%	47.1%
# URM	-	2	2	4	3
Graduation Rate	-	100.0%	50.0%	75.0%	0.0%
# Non-URM	4	8	7	7	14
Graduation Rate	75.0%	50.0%	100.0%	28.6%	57.1%

New Undergrad Transfer	Cohorts				
	Fall 2006	Fall 2007	Fall 2008	Fall 2009	Fall 2010
# Entering	32	40	35	33	34
Graduation Rate	28.1%	27.5%	28.6%	27.3%	41.2%
# URM	7	10	4	6	9
Graduation Rate	28.6%	10.0%	50.0%	16.7%	44.4%
# Non-URM	16	20	23	22	17
Graduation Rate	31.2%	30.0%	26.1%	22.7%	41.2%

First-Time Graduate	Cohorts				
	Fall 2006	Fall 2007	Fall 2008	Fall 2009	Fall 2010
# Entering	21	20	15	13	19
Graduation Rate	23.8%	15.0%	40.0%	15.4%	15.8%
# URM	1	2	-	2	2
Graduation Rate	0.0%	0.0%	-	50.0%	0.0%
# Non-URM	10	12	13	9	9
Graduation Rate	10.0%	16.7%	38.5%	11.1%	22.2%

Note: Under-represented Minority (URM) = African-American, Hispanic, and American-Indian students
 Non-under represented Minority (Non-URM) = White and Asian/Pacific Islander students
 *Excluded Foreign Nationals, Non Responses, and Decline to State

Data Exhibit 11 Admit, Enroll and Show Rates

Cohort Type	# Applicants		Admit Rate		Enroll Rate		Show Rate	
	n	% change	%	% change	%	% change	%	% change
First-time Freshmen	161	+20	64	+29	13	+14	20	-15
New Undergrad Transfer	172	+72	44	-36	18	-38	43	-2
First-time Graduate	73	-30	35	+68	21	No	59	-40
Total	406	+25	49	+6	16	-11	33	-18

*Data are average percentages for 4 years (2009-12) from Exhibit 5.

Cohort Type	# Applicants		Admit Rate		Enroll Rate		Show Rate	
	n	% change	%	% change	%	% change	%	% change
First-time Freshmen	159	no	62	No	10	-93	16	-92
New Undergrad Transfer	186	+32	40	-68	16	-86	39	-55
First-time Graduate	73	No	34	+27	22	+20	59	-9
Total	418	+36	46	-34	14	-74	23	-58

*Data are average percentages for 5 years (2009-13) from Exhibit 5.

Data Exhibit 12 Average Yearly Graduation and Retention Rates of First-Time Freshmen, Undergraduate Transfer and Graduate Students in the NUFS Department as Compared to CASA and SJSU

First-Time Freshman	NUFS % (n)*	CASA (%)	SJSU (%)
Graduation rates Fall semesters, 2003 to 2007 (n=53)			
Graduation rate	60 (34)	44.3	47.0
URM graduation rate (n=11)	56 (6)	38.2	38.2
Non-URM graduation rate (n=40)	62 (25)	47.5	50.8
Retention rates Fall semesters, 2008 to 2012 (n=106)			
1 st year retention rate (n=89)	84.0 (89)	85.6	84.2
URM 1 st year retention rate (n=24)	83.3 (24)	80.8	79.3
Non-URM 1 st year retention rate (n=68)	84.6 (68)	87.9	86.8
New Undergraduate Transfer			
Graduation rates Fall semesters, 2006 to 2010 (n=174)			
Graduation rate	30.5 (53)	48.9	49.1
URM graduation rate (n=36)	27.7 (10)	48.4	45.4
Non-URM graduation rate (n=98)	30 (29)	49.2	50.1
Retention rates Fall semesters, 2008 to 2012 (n=157)			
1 st year retention rate	86.6 (136)	86.5	86.1
URM 1 st year retention rate (n=32)	81 (26)	83.7	84.2
Non-URM 1 st year retention rate (n=94)	88.3 (83)	88.1	86.5
First-Time Graduate			
Graduation rates Fall semesters, 2003 to 2007 (n=88)			
Graduation rate	22 (19)	65.0	65.0
URM graduation rate (n=7)	14 (1)	69.4	63.4
non-URM graduation rate (n=53)	20.7 (11)	64.5	59.1
Retention rates Fall semesters, 2008 to 2012 (n=73)			
1 st year retention rate	84.9 (62)	86.6	84.7
URM 1 st year retention rate (n=5)	100 (5)	87.4	85.7
Non-URM 1 st year retention rate (n=47)	82.3 (39)	86.3	82.2

*Data are average percentages for the 5 years presented in Exhibits 9 and 10. Only numbers (n) for the NUFS department are shown.

Data Exhibit 13 T/TT instructional faculty percentage¹⁷

	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
T/TT %	26.6	25.6	22.5	17.9	21.0

Note: T/TT% based on averages for each year from Table below.

INSTITUTIONAL EFFECTIVENESS & ANALYTICS
SAN JOSE STATE UNIVERSITY

[SJSU Home](#) : [IEA Home](#) : [Faculty](#) : [NUFS](#)

All Faculty Headcount by Tenure Status
Department of Nutrition & Food Science

Headcount	2009/2010			2010/2011			2011/2012			2012/2013			2013/2014	
	Fall 2009	Spring 2010	Avg	Fall 2010	Spring 2011	Avg	Fall 2011	Spring 2012	Avg	Fall 2012	Spring 2013	Avg	Fall 2013	Avg
Tenured	5	5	5	7	4	6	8	8	8	7	6	6	6	6
Probationary	3	3	3	3	3	3	1	1	1	1	1	1	1	1
Temp Lecturer	19	25	22	25	28	26	31	31	31	30	33	32	31	31
Total	27	33	30	35	35	35	40	40	40	38	40	39	38	38

¹⁷ The table below is incorrect as there are currently 2 probationary faculty; one was hired Fall 2013 and is not reflected in these numbers. The T/TT% has been adjusted to include Dr. LaSalle.

Appendix B. Accreditation Reports

Appendix B1. Accreditation Council for Education in Nutrition and Dietetics (ACEND)

San Jose State University

Didactic Program in Dietetics

Self-Study Report for Continued Accreditation

For

Accreditation Council for Education in Nutrition and Dietetics

June 25, 2012

**Application for Accreditation Cover Pages -- CADE 2008 ERAS
Didactic Programs in Dietetics**

Report being submitted (check one):

<input type="checkbox"/>	Self-Study Report for New Program Application – Eligibility Requirements	<input type="checkbox"/>	Self-Study Report for New Program Application – Accreditation Standards	<input type="checkbox"/>	Interim Report for New Program Accreditation
<input checked="" type="checkbox"/>	Self-Study Report for Continued Accreditation	<input type="checkbox"/>	Interim Report for Continued Accreditation	<input type="checkbox"/>	Program Assessment Report for Continued Accreditation

Date: June 25, 2012

Program name: Didactic Program in Dietetics (DPD)

Sponsoring institution: San Jose State University

City: San Jose **State:** CA 95192-0058

Degree granted — (check all that apply):

Baccalaureate **Master’s** **Certificate Program for Special Students***

Distance Education — (check all that apply):

General Education Courses **One or more DPD required courses (not general education)**

Existing Didactic Program: **Enter current enrollment.**

New Didactic Program: **Enter anticipated maximum number of students.**

Didactic Program in Dietetics					
	3rd Year Baccalaureate Degree DPD	4th Year Baccalaureate Degree DPD	Year 1 Completing Graduate Degree DPD	Year 2 Completing Graduate Degree DPD	*Special Students with a Degree & only completing DPD Requirements
Current Enrollment	46	155	Not applicable	Not Applicable	26

Program Director:

Ashwini Wagle, MS., RD	Department of Nutrition, Food Science and Packaging
_____ Name	_____ Business Address
Associate Professor	San Jose State University
_____ Title	_____ One Washington Square
961762	_____ San Jose, CA 95192-0058
_____ CDR Registration Number	_____ Ashwini.wagle@sjsu.edu
408-924-3110	_____ E-mail Address
_____ Telephone Number	_____ www.nufs.sjsu.edu
408-924-3114	_____ Web Address
_____ Fax Number	
_____ Signature	

The program is aware of and agrees to abide by the accreditation standards and policies and procedures established and published for accreditation by the Commission on Accreditation for Dietetics Education.

Administrators: Provide names(s), credentials, title(s), and signature(s) of Administrator(s) to whom program director is responsible.

Lucy McProud, PhD, RD

Name

Department Chairperson

Title

408-924-3103

Lucy.mcproud@sjsu.edu

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Signature

Ellen Junn, PhD

Name

Provost and Vice-President for Academic Affair

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**This form must be submitted with the application packet documenting compliance with CADE's 2008 Eligibility Requirements and Accreditation Standards.*

***The Commission on Accreditation for Dietetics Education will not process an application without the signature of the sponsoring institution's CEO or designated officer.*

Summary Information

Executive Summary of the Program

San Jose State University is one of 23 campuses in the California State University System, and 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, in the center of the world-famous Silicon Valley. This Metropolitan University enrolls approximately 30,000 students.

The history of San Jose State University began in 1857 in San Francisco 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 Teacher's 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 and master's degree programs in over 134 majors with 110 Concentrations housed in 7 colleges.

The Department of Nutrition, Food Science and Packaging (NUFS & PKG) at San Jose State University was the first nutrition department in the California State University (CSU) system. The Nutrition, Food Science and Packaging Department offers curricula and professional development for students pursuing careers as nutritionists, dietitians, food scientists, foodservice managers, and packaging professionals. The program began teaching the dietetics curriculum in the 1930s and was officially accredited by the American Dietetic Association (ADA) in 1956 under department head Dr. Clara Ruth Darby. The accreditation has allowed students who complete the required coursework to move forward to apply for a dietetic internship (DI), take the National Registration Examination for Dietitians, and become a Registered Dietitian (RD) certified through the Commission on Dietetics Registration.

SJSU had a Masters Practicum in Dietetics from 1981-1986. In 1985, SJSU was one of three programs participating in a Pilot Study of Approved Pre-Professional Practice Programs (AP4's). This was the predecessor to what is now known of as the DI, and was a supervised practice route toward becoming a RD. Based on this experience with our Masters Practicum Program, ADA approval was granted to our AP4 in 1986, and in 1987 our first AP4 students began their supervised professional experience program in various locations in the San Francisco Bay Area, such as hospitals and school districts. In 1991, the program was one of eight AP4's offered in California and one of 92 in the nation. Since 2004 all AP4 programs have been converted to Dietetic Internships.

The department has a total of 350 students (295 undergraduates and 55 graduate students). The full-time equivalent students (FTES) for the major for Fall 2011 were 473.8 and Spring 2012 was 440.8, with the average of 457.3 for the academic year 2011-2012. NUFS & PKG has the second highest FTES in the College of Applied Sciences and Arts (CASA). The Department offers 2-degree programs: Bachelor of Science (BS) in Nutritional Science and Master of Science (MS) in Nutritional Science. The BS offers three Concentrations: 1) Dietetics {accredited by The Accreditation Council for Education in Nutrition and Dietetics (ACEND)}, 2) Food Science and Technology {approved by the Institute of Food Technologists (IFT)}, and 3) Packaging. A general degree in Nutritional Science offers five Emphases: 1) Nutrition Science, 2) Nutrition Education, 3) Sports Nutrition, 4) Food Management, and 5) Environmental Food and Health Specialist. There are separate advisory boards for each Concentration. The NUFS & PKG Department confers one degree (Master of Science in Nutritional Science), which can be earned by one of 2 plans: *Plan A* with 30 units of coursework including completion and defense of a thesis, OR *Plan B* which includes 30 units of coursework including completion and defense of a project. The MS Program offers 7 Graduate Objectives: 1) Nutritional Science, 2) Nutrition Education, 3) Food Science, 4) Foodservice Management, 5) Gerontological Nutrition, 6) Packaging and 7) General.

Beginning in 1979 under Department Chairperson Dr. Rose Tseng, the department expanded its curriculum to include General Education courses. Since their inception, these courses have helped

introduce students outside of the major to the importance of nutrition and food science and have increased exposure of the department to other parts of the university. Currently, the Department has been certified to offer 8 General Education courses (e.g., NuFS 1A Physical Science of Food, NuFS 9 Introduction to Human Nutrition, NuFS 16 Science and Physiology of Nutrition, NuFS 115 Issues in Food Toxicology, NuFS 135 Health in a Multicultural Society, NuFS 139 Hunger and Environmental Nutrition, NuFS 144 Food Culture: Consuming Passions, and NuFS 163 Physical Fitness and Nutrition [team taught with the Kinesiology Department]) which meet requirements for graduation in several different categories. Currently, 44 sections of General Education courses are being offered in the Department.

The NUFS & PKG Department has 29 faculty: 8 tenured, 1 tenure-track (including one recently hired tenure-track faculty for the Dietetics Concentration who started Fall 2011) and 21 part-time temporary lecturers. Most full-time faculty have a heavy teaching load (12 units most semesters) unless given release time for other commitments and activities.

It is important to note that with current graduate student enrollment (55 students) and only 8 full-time faculty, an equal distribution of MS advising would mean that each full-time faculty member would be advising 7 students at a time. However, few graduate students in the program choose Food Science and Technology or Packaging objectives, leaving upwards of 50 students to be advised by 5 faculty members. Five faculty members share advising for close to 50 students. Despite the fact that faculty are not paid to work over the summer, graduate student advising places an enormous burden on those faculty who advise large numbers of students, and these faculty are forced to work over the summer just to keep up with their work.

Briefly describe any changes that have occurred in your sponsoring institution/organization over the last 5 years related to the following resources and how they have affected your program:

- Administrative support: In the last 5 years the California has experienced a shortfall in revenues. This has affected the ability of the University to hire faculty and staff and caused salary freezes, furloughs and temporary salary reductions. However, the program was able to hire a tenure-track faculty in 2011.
- Financial support: Reduced funding has decreased the amount of money available for purchasing laboratory equipment and supplies. Our departmental resources are currently adequate to meet our needs, as the department has recently undergone renovation.
- Learning resources: The Library has limited amounts of money to purchase journals and books. However, students continue to have access to appropriate resources such as the Cochrane Database of Systematic Reviews and the Evidence Analysis Library from Academy of Nutrition and Dietetics (AND). Efforts are being made to increase the number of “smart classrooms” on campus.
- Faculty/preceptors: Tenure-track faculty have not been laid off, but the inability to hire replacements of tenure-track faculty who have retired is very difficult. A Food Science faculty member retired in 2009 and no approval has been provided for a replacement; we are hopeful this position will be approved next year. In addition, the other remaining Food Science faculty is several years beyond retirement age so will most likely be deciding to retire soon. The professor who teaches Medical Nutrition Therapy courses has indicated that she will be retiring soon. Another reduction in the last 5 years has been the elimination of travel support of professional meetings from the general fund. However, we are grateful that this year the Dean has provided additional monies of \$60,000 that could be used to support travel expenses for professional development as well as computers and other equipment.
- Facilities: In the last 5 years we are happy that the Dean approved the majority of funding for remodeling of our food preparation modular Kitchen laboratory (around \$250,000) CCB 125 with some additional help from a generous donor (\$50,000). Prior to CCB 125, another classroom (CCB 122) was remodeled to include a demonstration counter and included removal of cabinets to increase the student capacity of the classroom space

- Support services: Staff layoffs occurred July 1, 2010. We are short a half-time Instructional Support Assistant III. This impacts our ability to provide services and support to lab classes. We are also short a half-time clerical position in the Department Office. This has led to innovations on the part of the staff and faculty to continue to respond in a timely manner to students' questions and requests.

Please write any other relevant comments. We are fortunate to have excellent part-time faculty. The faculty all works together to plan the curriculum and do research and provide leadership for the program.

Summary of the Self-Study Process

The Self Study process for the Didactic Program in Dietetics (DPD) in the Department of Nutrition, Food Science and Packaging at San Jose State University is ongoing and includes conducting outcomes assessment surveys of alumni, employers/dietetic internship preceptors and students every other year. Analysis of results of the surveys helps guide future planning of our dietetics programs.

The Self Study committee meetings were held twice per month from 2009 to 2012 and were composed of the DPD director, department curriculum Chairperson (who also teaches medical nutrition therapy and is the Dietetic Internship director), a nutrition education/community nutrition faculty member, and the department chairperson who also teaches foodservice management and other courses in the DPD curriculum. Curriculum and other issues were discussed at the annual meetings of the Dietetics Advisory Board from 2010 to 2012, which includes preceptors and other constituents and individuals who function as valuable resources for our programs. In addition the Department Chairperson, DPD Director and the DI Director also attended the Self-Study Buddy Workshop in Houston, TX in September 2010. The Department Chairperson attended the CADE Faculty Workshop in 2010 and 2011.

Accreditation related topics were also discussed at our annual department goal planning/strategic planning meetings, which include all full-time faculty. Needs for curriculum changes were indicated from alumni, employer/DI preceptor, and student surveys. Since the university process for formal curriculum changes in the catalog is lengthy and requires at least one year lead time, revisions needed were discussed at the 2010 department faculty goal planning/strategic planning meeting in May and submitted thereafter and curriculum changes took effect in Fall semester 2011.

The curriculum changes included implementation of a new one credit counseling course and a realignment of credits and content in several other courses which were needed to facilitate the curriculum modification overall and stay within the allotted amount of degree credits allowed for graduation. The revisions affected nutrition education, research methodology, human nutrition in the life span, and nutrition laboratory courses. The drafts were circulated to faculty for input and final drafts were passed on to the college level for comments as well as Undergraduate Studies at the university level.

Overall Organization and Clarity of the Self-Study Report

Please evaluate your program's completed self-study report using the rubric below (☑).

	Exemplary	Meets Expectations	Needs Improvement
Participation in the Self-Study Process	The self-study report was written and reviewed with broad-based input from students, faculty, preceptors, staff, administrators and a range of other stakeholders, such as patients, practitioners, and employers. <div style="text-align: right;">Exemplary ☐</div>	The self-study report was written and reviewed with broad-based input from students, faculty, preceptors, staff and administrators. <div style="text-align: right;">Meets Expectations ●</div>	The self-study report was written by a small number of individuals who did not seek broad input from students, faculty, preceptors, staff, and administrators. <div style="text-align: right;">Needs Improvement ☐</div>
Knowledge of the Self-Study Report	Students, faculty, preceptors, and staff are conversant in the major themes of the report and how the program intends to address any deficiencies. <div style="text-align: right;">Exemplary ☐</div>	Students, faculty, preceptors, and staff are aware of the report and its contents. <div style="text-align: right;">Meets ●</div>	Students, faculty, preceptors, and staff have little or no knowledge of the content of the self-study report or its impact on the program. <div style="text-align: right;">Needs Improvement ☐</div>
Completeness and Transparency of the Self-Study Report	All narratives and supporting documentation are thorough, clear and concise. The content appears thoughtful and honest. Interviews match the self-study findings. <div style="text-align: right;">Exemplary ☐</div>	All narratives and supporting documentation are present. The content is organized and logical. <div style="text-align: right;">Meets ●</div>	Information is missing or written in a dismissive, uninformative or disorganized manner. Portions of the content appear biased or deceptive. <div style="text-align: right;">Needs Improvement ☐</div>
Relevance of Supporting Documentation	Supporting documentation of activities is informative and used judiciously. <div style="text-align: right;">Exemplary ☐</div>	Supporting documentation is present when needed. <div style="text-align: right;">Meets ●</div>	Additional documentation is missing, irrelevant, redundant, or uninformative. <div style="text-align: right;">Needs Improvement ☐</div>
Evidence of Continuous-Quality Improvement	The program presents thoughtful, viable plans to not only address areas of deficiency, but also to further advance the quality of the program beyond the requirements of the Standards. <div style="text-align: right;">Exemplary ☐</div>	The program proactively presents plans to address areas where the program is in need of improvement. <div style="text-align: right;">Meets ●</div>	No plans are presented or plans do not appear adequate or viable given the issues and the context of the program. <div style="text-align: right;">Needs Improvement ☐</div>
Organization of the Self-Study Report	All sections of the report are complete and organized or hyper-linked to facilitate finding information, e.g., pages are numbered and sections have labeled or tabbed dividers. <div style="text-align: right;">Exemplary ☐</div>	The reviewer is able to locate a response for each standard and the supporting documentation with minimal difficulty. <div style="text-align: right;">Meets ●</div>	Information appears to be missing or is difficult to find. Sections are not well labeled. <div style="text-align: right;">Needs Improvement ☐</div>

Summary of the Evaluation of All Eligibility Requirements & Accreditation Standards (ERAS)

Eligibility Requirements & Accreditation Standards	Pg.	Meets		Partially Meets	Does Not Meet	N/A
<i>Eligibility Requirements</i>			mon itor			
1. Program Structure and Finances	3	●	□	○	○	
2. Prior Recognition and Operation		○	□	○	○	● US Only
3. Required Program Characteristics		●	□	○	○	
4. Requirements for Supervised Practice		●	□	○	○	○ DPD
5. Requirements for Program Directors		●	□	○	○	
6. Title IV Compliance for Dietetic Internships		○	□	○	○	● Not DI
7. Consortia		○	□	○	○	● 1 Program
<i>Program Planning and Outcomes Assessment</i>						
8. Program Mission		●	□	○	○	
9. Program Goals		●	□	○	○	
10. Program Outcomes		●	□	○	○	
11. Program Assessment		●	□	○	○	
12. On-going Program Improvement		●	□	○	○	
<i>Curriculum & Student Learning Outcomes</i>						
13. Learning Activities		●	□	○	○	
14. Program Concentrations		●	□	○	○	○ DPD/DTP
15. Curriculum Plan		●	□	○	○	
16. Curriculum Length		●	□	○	○	
17. Learning Assessment		●	□	○	○	
18. On-going Curricular Improvement		●	□	○	○	
<i>Program Management</i>						
19. Qualifications of the Program Director		●	□	○	○	
20. Responsibilities of the Program Director		●	□	○	○	
21. Program Resources		●	□	○	○	
22. Faculty		●	□	○	○	
23. Preceptors		○	□	○	○	● DPD
24. Continuing Professional Development		●	□	○	○	
25. Supervised-Practice Facilities		○	□	○	○	● DPD
26. Program Information		●	□	○	○	
27. Policies and Procedures		●	□	○	○	
28. Program Handbook		●	□	○	○	

Eligibility Requirements

Program Structure and Finances (DPD ER 1)

The Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges (WASC) accredits San Jose State University (SJSU). The Didactic Program in Dietetics (DPD) is housed in the Department of Nutrition, Food Science and Packaging, which is a part of the College of Applied Sciences and Arts (CASA), one of 7 colleges on campus.

The DPD is allotted funding from the Dean of CASA via the Department of Nutrition, Food Science and Packaging. The Dean provides funding for faculty salaries and benefits, supplies and equipment for laboratory and lecture courses, and various staff needed to operate the department: one Administrative Assistant, one Technician, some part-time student assistants, and a ½ time Department Chairperson (other half of workload assigned to teaching). See appendix E. for organizational charts outlining the integration of the program into the administrative structure of the university.

Budgetary needs for the program are determined annually. The Department Chair, along with the DPD Director, forecasts program needs and submits a budget to the Dean's office. Funding for the program comes under the department support for teaching. Current economic conditions and tightened budget are a reality, but teaching remains a core mission for the department. It has been determined that courses offered will be staggered and some courses may be offered only one semester a year. It has been determined that no full-time faculty will be laid off, however funds for travel to conferences and meetings may be limited. The department also offers a wide variety of SJSU Studies General Education courses, which ensures continuous enrollment and financial stability to the department. The fact that several faculty are actively involved in research and successfully compete for external funding also helps in ensuring the financial stability of the department and the program.

Nutrition, Food Science and Packaging Department Budget and Expenditures

Tenure/Track Faculty	\$ 610,943
Temp. Faculty/Grad. Asst.	\$ 658,375
Chair	\$ 66,840
Staff	\$ 96,720
Total	\$ 1,432,878
Operational Expenses (OE&E)	
Salary used for OE&E	\$ 60,000
OE&E Base Allocation	\$ 35,000
Supplies/Services	\$ 35,299
Student Assistant	\$ 11,098
OE&E Total	\$ 49,103

Program Structure and Finances ●	S	MI	NI
The program is housed in a college or university located in the U.S. or its territories and accredited in good standing by a U.S. regional institutional accrediting body for higher education.	●	○	○
The program is integrated within the administrative structure of the college university or sponsoring organization, as evidenced by an organization chart showing the relationship of the program to other programs/services.	●	○	○
The program has a budget to support the program.	●	○	○
Evaluation of the Criteria ●			
● Meets	<ul style="list-style-type: none"> ● No compliance problems are present. ● No compliance problems are present, but they may arise in the future (□ Monitor). ● Compliance problems exist, but all are being resolved successfully (□ Monitor). 		

Required Program Characteristics

BS in Nutritional Science: The Nutritional Science program offers 3 Concentrations: Dietetics, Food Science & Technology, and Packaging. A general degree in Nutritional Science offers 5 Emphases: Nutrition Science, Nutrition Education, Sports Nutrition, Food Management, and Environmental Food and Health Specialist.

Concentration in Dietetics: The Didactic Program in Dietetics (DPD) at SJSU is currently granted accreditation by the Accreditation Council in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics (AND). The DPD provides coursework to prepare students to meet didactic requirements for the Registered Dietitian (RD) Exam. Curriculum includes support courses from social, physical sciences, and life sciences. Students have the option to complete minors in business, chemistry, education, gerontology, health science, kinesiology, or journalism. A total of 123 units are required to complete the BS degree. With appropriate coursework (*community and nutrition education; foodservice procurement & management; institutional foodservice; food science; nutrition biochemistry & laboratory; medical nutrition therapy*) students are prepared for advanced degrees and post baccalaureate education (Dietetic Internship; DI). The DI offered by the Department is accredited by ACEND.

Required Program Characteristics ●		S	MI	NI
The DPD provides didactic instruction to meet the Foundation Knowledge and Learning Outcomes defined in Standard Two - Appendix A for entering a Dietetic Internship and		●	○	○
The DPD awards a degree. The DPD may award a baccalaureate degree, graduate degree or both. The institution is responsible for choosing and awarding a degree that is commensurate with the amount and complexity of the course work required to meet student-learning outcomes. If the DPD awards a graduate degree, the dietetics-specific knowledge must be achieved through prerequisite or graduate courses that are required for completion of the graduate degree.		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> • No compliance problems are present. • No compliance problems are present, but they may arise in the future (☐ Monitor). • Compliance problems exist, but all are being resolved successfully (☐ Monitor). 			

Requirements for Program Directors

Ashwini Wagle, MS, RD is an Associate Professor and Director of the Didactic Program in Dietetics (DPD) in the NUFS/PKG Department at SJSU. Wagle earned her MS in Food and Nutrition from Indiana University of Pennsylvania (IUP) in 1993. She comes to SJSU with over 10 years experience as a RD in several skilled nursing facilities and acute care hospitals in the San Francisco Bay Area. Professor Wagle worked as a part-time faculty in the NUFS/PKG Department from Aug 2003 to May 2005; she became a full-time Assistant Professor in Aug 2005, and she received tenure and promotion in August 2011. She became the DPD Director, Jan. 2011. Teaching is a very demanding and challenging profession, but the rewards of success cannot be measured. Ashwini Wagle has devoted the past 9 years of her professional life to SJSU because she believes and supports the mission of the university and the department.

Requirements for Program Directors ●		S	MI	NI
The program must have a designated director who				
• has earned at least a master's degree,		●	○	○
• is credentialed as a registered dietitian by the Commission on Dietetic Registration,		●	○	○
• has a minimum of three years professional experience post credentialing,		●	○	○
• is a full-time employee of the sponsoring institution as defined by the Institution/organization, and		●	○	○
• does not direct another CADE-accredited dietetics education program.		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> • No compliance problems are present. • No compliance problems are present, but they may arise in the future (☐ Monitor). 			

Standard One. Program Planning And Outcomes Assessment

Program Mission (DPD 1.1)

San José State University (SJSU)

San José State provides a comprehensive university education, granting bachelor's and master's degrees in 134 areas of study. Quality teaching and small classes are a priority at SJSU, where tenured professors teach introductory as well as advanced courses. One of the 200 top research universities in the nation, SJSU offers rigorous course work and research opportunities to more than 30,000 undergraduate and graduate students in 7 colleges. SJSU's location in the Silicon Valley makes it an exceptionally rewarding learning environment for students. Silicon Valley firms and agencies seek SJSU students for internships, summer work programs and for assistance with research and development projects. Silicon Valley firms employ more graduates from SJSU than from any other university in the nation.

Mission: In collaboration with nearby industries and communities, SJSU faculty and staff are dedicated to achieving the university's mission as a responsive institution of the state of California: To enrich the lives of its students, to transmit knowledge to its students along with the necessary skills for applying it in the service of our society, and to expand the base of knowledge through research and scholarship.

Department of Nutrition, Food Science and Packaging

Mission: In collaboration with community and industry, the mission of the Department of Nutrition, Food Science and Packaging is to empower students through knowledge, skills and practical experience to become qualified professionals in the fields of nutrition and dietetics, food science, packaging, foodservice management and/or environmental health so that they may serve a diverse society and expand the knowledge base of these disciplines through applied research.

Didactic Program in Dietetics (DPD)

Program Mission (1.1): The Didactic Program in Dietetics (DPD) transmits knowledge and skills at the undergraduate level that are needed for competent dietetics practice to improve the quality of life in diverse communities.

The DPD mission follows the mission for the university, college and department in providing necessary education and professional skills to the students so that they can serve a diverse and global community. The program mission also focuses on improving knowledge base through applied research similarly to the university and college mission. The San Francisco Bay area and Silicon Valley especially provide a rich and diverse environment for students to apply and practice their skills in the area of dietetics.

Students on completion of the DPD Program are prepared academically to be eligible for the dietetic internship and the Dietetic Technician Registered exam. The undergraduate DPD curriculum is rigorous to provide the academic knowledge and courses such as NUFS 192 Field Experience prepare students for real world experience in the area of nutrition and dietetics.

Program Mission ●		S	MI	NI
The program has a mission that distinguishes it from every other program in the college/university/organization.		●	○	○
The program mission is compatible with the mission statement or philosophy of the sponsoring college/university/organization.		●	○	○
The program mission is consistent with the academic preparation for dietetics practice.		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> • No compliance problems are present. • No compliance problems are present, but they may arise in the future (<input type="checkbox"/> Monitor). • Compliance problems exist, but all are being resolved successfully (<input type="checkbox"/> Monitor). 			

Program Goals (DPD 1.2)

To define the program’s mission, goals have been established that reflect the ends towards which the program’s resources and faculty efforts will be directed. The Didactic Program in Dietetics (DPD) at San Jose State University had established 2 goals.

Goal #1: The program will prepare graduates to be competent for entry into supervised practice or other post-graduate programs through quality educational offerings

Goal #2: To foster a desire to improve the quality of life in diverse communities.

These goals support the mission of the DPD involving transmission of knowledge and skills needed for competent dietetics practice to improve quality of life in diverse communities. As the population of United States increases, the need for competent dietetic professionals to serve diverse populations will increase. Faculty members serve as role models of the program’s commitment to service diverse populations by the involvement with varied community groups on campus and off-campus. Students are encouraged to join the student clubs, local dietetic groups and also volunteer at local food banks, community dining centers etc. through the service learning component in several courses taught in the curriculum.

The goals were modified, based on program assessment and changes in accreditation standards. The individuals involved in developing the DPD goals included the DPD director (also teaches foodservice management and cultural courses), The dietetic internship director who is also the curriculum chair and teaches medical nutrition therapy, as well as the nutrition education/community nutrition faculty member, and the Department Chairperson (who also teaches foodservice management). The goals were later discussed at a faculty meeting and refinements were made in the wording and structuring the sentences. The refined goals and objectives were reviewed with the Advisory Board.

Program Goals ●		S	MI	NI
The program has goals that reflect the program’s mission.		●	○	○
The program's goals are accomplished through activities conducted by the faculty, preceptors and graduates.		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> • No compliance problems are present. • No compliance problems are present, but they may arise in the future (<input type="checkbox"/> Monitor). • Compliance problems exist, but all are being resolved successfully (<input type="checkbox"/> Monitor). 			

Program Outcomes (DPD 1.3)

Intended program outcome statements with target measures were established to assess achievement of each of the program goals from year 2007-2011. All intended outcome measures are listed below for each goal. CADE-required outcomes are in **bold**.

Goal #1: The program will prepare graduates to be competent for entry into supervised practice or other post-graduate programs through quality educational offerings

- Outcome measure 1.a: **Over a 5-year period, at least 80% of the students completing the DPD program will pass the RD exam on the first attempt.**
- Outcome measure 1.b: **Over a 5-year period, 60% of students will apply to a supervised practice program within 12 months of graduating.**
- Outcome measure 1.c: **60% of those students applying to a supervised practice program will be accepted.**
- Outcome measure 1.d: **At least 70% of dietetic internship supervisors will rate their degree of overall satisfaction with the education and preparation of their SJSU student as ≥ 3.0 on a 5.0 scale.**
- Outcome measure 1.e: **60% of students will complete the program in 3 years, or, 150% of the time planned for completion.**

Goal #2: To foster a desire to improve the quality of life in diverse communities.

- Outcome measure 2a: At least 50% of students will indicate participation in their community.
- Outcome measure 2b: At least 20% of those graduates not accepted into a supervised practice program will take the DTR exam.

These outcome measures support the program goals of the DPD involving transmission of knowledge and skills needed for competent dietetics practice to improve quality of life in diverse communities. The individuals involved in developing the DPD goals and outcome measures included the DPD director (also teaches foodservice management and cultural courses), The dietetic internship director who is also the curriculum chair and teaches medical nutrition therapy, as well as the nutrition education/community nutrition faculty member, and the Department Chairperson (who also teaches foodservice management). The goals and outcome measures were then discussed at a faculty meeting and refinements were made in the wording and structuring the sentences. The final draft was reviewed with the Advisory Board.

Program Outcomes ●		S	MI	NI
The program has established expected program outcomes with appropriate target measures to assess achievement of each of the program's goals.		●	○	○
Each outcome measure is aligned to one or more of the program goals.		●	○	○
Expected program outcome measures <i>must</i> include, but are not limited to, the following:		●	○	○
<ul style="list-style-type: none"> • Program Completion Percentage of students enrolled in the professional courses in the third year of a bachelor-level CP/ICP/DPD or first year of a graduate-level CP/ICP/DPD that are expected to complete program/degree requirements within 150% of the time planned for completion. 		●	○	○
<ul style="list-style-type: none"> • Graduate Performance (DPD 1.3.2 see below) Supervised Practice Application Rate for the program meets CADE's national benchmarks for monitoring dietetic education programs.* Supervised Practice Acceptance Rate for the program meets CADE's national benchmarks for monitoring dietetic education programs.* Additional expected outcome measures determined by the DPD for graduates not applying to or accepted to supervised practice programs 		●	○	○
<ul style="list-style-type: none"> • The Pass Rate for graduates taking the registration exam meets CADE's national benchmarks for monitoring dietetic education programs.* 		●	○	○
<ul style="list-style-type: none"> • Other measures of graduate and program performance appropriate to assess the full intent of the program mission and goals (such as employer satisfaction, graduate school acceptance rates, contributions to the community, continuing education activities, professional leadership (DPD-DI program satisfaction with DPD graduates). 		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> • No compliance problems are present. • No compliance problems are present, but they may arise in the future (<input type="checkbox"/> Monitor). • Compliance problems exist, but all are being resolved successfully (<input type="checkbox"/> Monitor). 			

Program Assessment (DPD 1.4)

The program has had a written plan to document and guide its assessment process as long as they have been required by CADE Accreditation Standards. The plan is designed to include feedback from faculty, students, graduates, and employers. Preceptors, administrators, and the Dietetics Advisory Committee are also involved in reviewing assessment data and using the results to evaluate the DPD Program at SJSU. The program assessment process has been implemented on a continuous basis as evidenced by the data collection, summary, and analysis provided below.

In developing our Self-Study Report for ACEND, the summary of the feedback and data collected over the last 5 years was not put in the Planning Matrices, but was included in a discussion that follows:

Outcome measure 1.a: Over a 5-year period, at least 80% of the students completing the DPD program will pass the RD exam on the first attempt.

Outcome measure met. The 5-year first-time pass rate on the RD exam for our DPD students was 91% so the outcome measure was met. Data from the Registration Examination for Dietitians 5 Year Summary Report, from 2007 to 2011, indicate that 110 students (first timers) have taken the exam and 100 have passed. The percentage pass rate (91%) for first-time candidates is higher than the minimum (80%) set by The Academy of Nutrition and Dietetics. The results are further summarized below:

Registration Examination for Dietitians: 5-Year Summary Report (2007-2011)

Year	Number Taking the Exam (First Timers)	Number Passing the Exam	Annual Passing Rate (%)	5-Year Average Pass Rate (%)
2007	18	15	83%	88.5%
2008	19	18	95%	86%
2009	31	29	93.5%	90%
2010	19	17	89.5%	92%
2011	23	21	91%	91%
Total	110	100	91%	

Outcome measure 1.b: Over a 5-year period, 60% of students will apply to a supervised practice program within 12 months of graduating.

Year	BS/DPD Graduates	MS/DPD Graduates	Total DPD Graduates	Total DI Applications	% Applied
2007-2008	19	12	31	28	90 %
2008-2009	35	23	58	38	65 %
2009-2010	50	19	69	26	38 %
2010-2011	38	32	70	22	31 %
2011-2012	36	14	50	39	78 %
Total	178	100	278	153	55 %

Outcome measure not met.

Over the last 5-year period, an average of 55 % of the graduates applied for supervised practice programs the academic year they completed the program. There are several reasons identified that affect a student's decision to apply for supervised practice program right after graduation. Some of the reasons identified are:

1. Some students are offered jobs or get married and leave the program, to either apply at a later date or never return to SJSU.

2. Several students are not eligible for the internal dietetic internship program at SJSU, due to the eligibility cut-off of 3.00 GPA for all DPD courses. These students prefer to work in the field before retaking classes and applying for DI.
3. Several students with student loans etc. and those supporting themselves prefer to take a break before applying to the dietetic internships due to the high costs involved with the DI's at SJSU and outside.
4. Several students are now opting to get their DTR certification and working before applying for the dietetic internships.
5. SJSU DPD program also has several international students enrolled and many students are not required to complete the dietetic internship or the Registered Dietitian (RD) certification to practice in their countries.

Outcome measure 1.c: 60% of those students applying to a supervised practice program will be accepted.

Year	External DI Applicants	Internal DI Applicants	External Accepted	External Not Accepted	Internal Accepted	Internal not accepted	Percentage Acceptance Rate
2007	8	27	3	5	27	0	86 %
2008	6	26	2	4	24	2	81 %
2009	12	23	5	7	23	0	80 %
2010	4	25	2	2	25	0	93 %
2011	11	28	3	8	26	2	74 %
2012-Spring	16	8	7	9	8	0	62.5 %
Total	57	137	22	35	133	4	80 %

Over the last 5-year period, the supervised practice acceptance rate has averaged at 80% and hence the target outcome measure has been met.

Outcome measure 1.d: At least 70% of dietetic internship supervisors will rate their degree of overall satisfaction with the education and preparation of their SJSU student as ≥ 3.0 on a 5.0 scale.

Regarding the employers/dietetic internship supervisors 100% (n=28) selected a score of "3" or above in regards to their overall satisfaction with their SJSU graduate/student. These results were higher than the 70% outcome measure target so outcome measure #1.c was met.

This is an overall response but the survey was broken down into different categories and the results from this survey are used in curriculum review. See Appendix G. for a copy of the survey. Surveys were sent out in October 2010 with 103 surveys sent out to employers/dietetic internship supervisors with an average return rate of 46% (n=47). Twenty-eight dietetic internship preceptors/employers completed the survey.

Please indicate your overall degree of satisfaction with your SJSU student/employee

Answer Options	Response Percent	Response Count
Very Unsatisfied (1)	0.0%	0
Unsatisfied (2)	0.0%	0
Neutral (3)	3.6%	1
Satisfied (4)	46.4%	13
Very Satisfied (5)	50.0%	14
Not Applicable	0.0	0
Total answered questions		28

Outcome measure 1.e: 60% of students will complete the program in 3 years, or, 150% of the time planned for completion.

Outcome was met for undergraduate students in the last 3 years with an average of 66% students completing the program in 3 years, or 150% of the time planned for completion.

Year beginning Freshman courses	# of undergraduate students	# graduating in 3 years	% graduating in 3 years
2011	62	36	58%
2010	63	38	60%
2009	62	50	81%
2008	81	35	43%
2007	72	19	26%
Total	340	178	52%

For graduate students, 150% of time would be 4.5 years and outcome was met.

Year beginning Freshman courses	# of graduate students	# graduating in 4.5 years	% graduating in 4.5 years
2011	25	18	72%
2010	24	17	72%
2009	33	24	72%
2008	38	23	61%
2007	25	12	48%
Total	145	94	65%

San Jose State University is a commuter school with the majority students working part-time or full-time to pay for school. Also, recent budget cuts have led to fewer courses being offered, reduced number of sections being available and also several DPD courses being offered only once per year (either fall or spring semester).

Undergraduate students pursuing baccalaureate degree in Nutritional Science with Concentration in Dietetics are identified as DPD students once they enroll in NUFS 108A Nutrition and Metabolism course in their junior year. The time for planned completion is 2-3 semesters after completion of NUFS 108A depending if the student opts to apply for the internal dietetic internship or external internship.

Graduate students are required to complete their MS course load along with their DPD program prior to the start of the supervised practice and hence have a time planned for completion of 4.5 years along with the dietetic internship.

Outcome measure 2a: At least 50% of students will indicate participation in their community. Outcome measure was met for both undergraduate and graduate students pursuing the DPD program.

Year	# of students	# in community service	Percentage
2007	97	97	100%
2008	119	119	100%
2009	95	95	100%
2010	87	87	100%
2011	87	87	100%

All DPD students complete 12-15 hours community service in a nutrition related field or community setting in NUFS 139 Hunger and Environmental Nutrition, and NUFS 114A Community Nutrition. Undergraduate students are also required to complete 90 hours in the area of nutrition and dietetics as part of NUFS 192 Field Experience course. In addition, 18-20 students are chosen to participate in the Nutrition Education Action Team (NEAT) through the campus health center every semester. The NEAT comprises of a dynamic group of trained student educators who advocate healthy nutrition practices to SJSU students and community members. Members of NEAT present nutrition education seminars and workshops, provide one-on-one counseling, and coordinate events for both the National Eating Disorders Awareness Week and the National Nutrition Month. NEAT is part of the peer health program located in the SJSU Student Health Center.

Outcome measure 2b: At least 20% of those graduates not accepted into a supervised practice program will take the DTR exam.

Outcome measure was met for the years 2010 and 2011.

Year	# of students not accepted into supervised practice program	# of students taking DTR exam	%
2011	10	2	20%
2010	2	4	50%
2009	0	0	
2008	0	0	
2007	0	0	

Students who are not accepted for supervised practice program are encouraged by the DPD Director to apply for the DTR exam. In the past 2 years 6 students have taken the DTR exam and 4 (67%) have passed on the first attempt. Prior to 2010, students did not take the DTR exam upon completion of the DPD program.

Program Assessment Plan

Goal #1: The program will prepare graduates to be competent for entry into supervised practice or other post-graduate programs through quality educational offerings						
Mission reference: competent dietetics practices						
Outcome measure	Data Needed	Data Already Available	Groups Assessed	Assessment Methods	Who will Conduct Assessment	Timeline
Over a 5-year period, at least 80% of the students completing the DPD program will pass the RD exam on the first attempt.	RD Exam Scores	Yes	Graduates	CDR Exam Summary Reports	CDR provides to Program Director	Annually
Over a 5-year period, 60% of students will apply to a supervised practice program within 12 months of graduating.	Dietetic Internship (DI) Acceptance Data	Yes	Dietetic Internship Applicants	Communication with Applicants via email	Program Director	Assess each of 2 Dietetic Internship Application periods
60% of those students applying to a supervised practice program will be accepted.	DI Acceptance Data	Yes	Dietetic Internship Applicants	Communication with Applicants via email	Program Director	Assess each of 2 Dietetic Internship Application periods
At least 70% of dietetic internship supervisors will rate their degree of overall satisfaction with the education and preparation of their SJSU student as ≥ 3.0 on a 5.0 scale.	Preceptors' ratings of DPD graduates preparation for DI	Yes	Dietetic Internship Preceptors	Survey	Program Director	Annually
60% of students will complete the program in 3 years, or, 150% of the time planned for completion.	Retention Figures	Yes	Students	Descriptive Statistics	Program Director	Annually
Goal #2: To foster a desire to improve the quality of life in diverse communities.						
Mission reference: improve the quality of life in diverse communities						
At least 50% of students will indicate participation in their community.	Demographic data	Yes	Students	Descriptive statistics	Program Director	Annually
At least 20% of those graduates not accepted into a supervised practice program will take the DTR exam.	Demographic data	Yes	Graduates	Descriptive statistics	Program Director	Annually

Program Assessment ●		S	MI	NI
The program has a written plan for ongoing assessment of the program's mission, goals and expected outcomes that includes the following:		●	○	○
<ul style="list-style-type: none"> Each program goal and the outcome measures that will be used to assess achievement of the goal. 		●	○	○
<ul style="list-style-type: none"> Qualitative and/or quantitative data needed to determine if expected outcome measures have been achieved. 		●	○	○
<ul style="list-style-type: none"> Groups from which data will be obtained; internal stakeholders (such as students, graduates, administrators, faculty, preceptors) and external/those not involved with the program (such as employers, practitioners, dietetics education program directors, faculty from other disciplines) must be represented. 		●	○	○
<ul style="list-style-type: none"> Assessment methods that will be used to collect the data. 		●	○	○
<ul style="list-style-type: none"> Individuals responsible for ensuring data are collected. 		●	○	○
<ul style="list-style-type: none"> Timeline for collecting the necessary data. 		●	○	○
The program has implemented the assessment process on a continuous basis.		●	○	○
The assessment process provides evidence of the following:				
<ul style="list-style-type: none"> Data on actual program outcomes for each track or option are collected, summarized and analyzed by comparing actual outcomes with expected outcomes according to the timeline in the assessment plan. 		●	○	○
<ul style="list-style-type: none"> Data analysis is used to assess the extent that expected program outcomes and goals are being achieved. 		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> No compliance problems are present. No compliance problems are present, but they may arise in the future (☐ Monitor). Compliance problems exist, but all are being resolved successfully (☐ Monitor). 			

On-going Program Improvement (DPD 1.6)

1.6.1 Program Strengths

- Program strengths include strong 5-year passage score history regarding the Registration Examination for Dietitians for first time test takers of 91%.
- Over the last 5-year period, 80% of those applying to supervised practice programs the year they completed the program were accepted.
- All DPD students are involved in community service in a nutrition related field or diverse community setting during the completion of DPD coursework.
- Strong part-time faculty who can supplement the program.
- Metropolitan area offers many sites for students to obtain work experience or volunteer experience in the dietetics fields while attending school.

1.6.1 Areas for Improvement

- More tenure-track faculty to replace core faculty who have retired and faculty who will retire in the near future. Currently the ratio is 38% tenured/tenure-track to 62% temporary part-time faculty, and once the other 2 faculty retire the ratio will be 28% tenured/tenure-track to 72% temporary part-time faculty.
- Fewer students applied to supervised practice programs than expected.

#1.6.2 Short –term Strategies for the Future:

- Utilize Masters' degree instructors until approval can be obtained to hire tenure-track faculty.
- Identify those students who are following track for verification statement and those only desiring a degree.
- With the addition of staff, offer courses more often

1.6.2 Long-term Strategies for the Program:

- Continue to submit requests for a tenure-track food science faculty and a tenure-track medical nutrition therapy faculty
- Incorporate University "cluster hire" themes into faculty position requests as well as justify need for core faculty.

1.6.3 Cost of Short-and-Long-Term Strategies

- The cost of a tenure-track faculty is approximately \$75,000 plus benefits so 2 faculty would cost \$150,000 plus benefits. A request has been submitted to the Dean for a tenure-track position.

1.7.1 Institutional Assessment

- The university is preparing for the WASC accreditation review. The President conducted 49 town hall meetings in Fall 2011 to collect input for the University Strategic Plan. Spring semester 2012 the Provost is hosting several forums to obtain feedback on a University Academic Plan through 2017. Included are five goals: Unbounded Learning, Agility through Technology, 21st Century Spaces, Spartan Pride and Helping and Caring. The College of Applied Sciences and Arts Strategic Plan coordinates with the University Strategic Plan and Academic Plan. Each of the ten departments of the College provides plans and achievements each year that meet the overall College Strategic Plan.
- When requests are made for faculty positions, an accounting of achievements and how they fit into the overall strategic planning of the University and college are required.

On-going Program Improvement ●		S	MI	NI
Results of the assessment process are used to identify strengths and areas for improvement.		●	○	○
Results of the assessment process are based on achievement of expected program outcomes and goals.		●	○	○
Areas in the assessment process include policies, procedures, curriculum, faculty, preceptors and resources.		●	○	○
● Actions are taken to maintain program strengths and address areas for improvement identified through the assessment process.		●	○	○
● Short- and long-term strategies are planned to maintain or improve program effectiveness and achievement of expected program outcomes and goals in future years.		●	○	○
● If the program does not meet CADE's national benchmarks for pass rates for dietetic education programs, the program implements and monitors a plan of action that addresses program components, including policies, procedures, curriculum and methods of assessing student learning as they progress through the program, to improve graduate performance.		●	○	○
● If other expected outcome measures are not achieved, the program implements and monitors strategies to improve results.		●	○	○
● Costs to accomplish short and long term strategies are included in the budgeting process.		●	○	○
Programmatic planning and outcomes assessment is integrated with institutional planning and assessment.		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> ● No compliance problems are present. ● No compliance problems are present, but they may arise in the future (<input type="checkbox"/> Monitor). ● Compliance problems exist, but all are being resolved successfully (<input type="checkbox"/> Monitor). 			

Standard Two. Curriculum And Student Learning Outcomes

Learning Activities (DPD 2.1)

The curriculum is planned to cover the Foundation Knowledge and Learning Outcomes of the accreditation standards (see Appendix A). The Curriculum Planning Matrix (Appendix C) provides a list of courses that meet the Knowledge Requirements for RDs. Courses are sequenced to build upon one another. In many cases a "C" grade is required in pre-requisite science and nutrition courses in order to advance to the next level of nutrition course. This promotes preparedness for the next level of coursework and promotes future success in mastery of course content.

Various courses provide curriculum coverage of various conditions such as overweight and obesity, diabetes, cancer, cardiovascular, gastrointestinal and renal diseases at different levels of complexity: NuFS8 Nutrition for the Health Professions, NuFS106A Human Nutrition in the Life Span, NuFS108A Nutrition and Metabolism, NuFS109 Advanced Nutrition, NuFS110A and 110B Medical Nutrition Therapy, NuFS108L Nutrition Laboratory. Many courses in the curriculum provide didactic learning about nutrition care for various populations and diverse cultures including infants children, adolescents, adults, pregnant/lactating females, and the elderly: NuFS106A Human Nutrition in the Lifespan, NuFS190 Nutrition Education, NuFS114A Community Nutrition and NuFS144 Food and Culture; and NuFS110A and B Medical Nutrition Therapy.

The main courses that provide didactic learning on all interventions defined in the nutrition care process include NuFS110A Medical Nutrition Therapy and the sequel course NuFS110B Medical Nutrition Therapy. (There is also an advanced Medical Nutrition Therapy course NuFS220A, but it is supplementary (elective only) and is required for those students completing our dietetic internship, but is not required for the four year degree Concentration in dietetics due to credit limitations).

Learning Activities ●		S	MI	NI
The curriculum is planned to provide learning activities to attain all the Foundation Knowledge and Learning Outcomes (Appendix A) defined for entering a Dietetic Internship for eligibility for the RD examination.		●	○	○
Didactic learning activities prepare students to implement the nutrition care process in pre-professional supervised practice with various populations and diverse cultures, including infants, children, adolescents, adults, pregnant/lactating females and the elderly.		●	○	○
Didactic and supervised practice learning activities prepare students to implement all nutrition interventions defined in the nutrition care process (food and/or nutrient delivery, nutrition education, nutrition counseling and coordination of nutrition care) in pre-professional supervised practice.		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> • No compliance problems are present. • No compliance problems are present, but they may arise in the future (<input type="checkbox"/> Monitor). • Compliance problems exist, but all are being resolved successfully (<input type="checkbox"/> Monitor). 			

Curriculum Plan (DPD 2.2)

The curriculum plan includes completing support courses in science and statistics prior to advancing to higher-level major courses. The sequence of nutrition courses includes Freshman Year – Nutrition for Health Professions NuFS8 (prereq. Chem1A or Chem30A with “C” grade or better or instructor consent).

Junior Year – Human Nutrition in the Life Span NuFS106A (prerequisite: NuFS8 and Hprf100W Writing Workshop; Nutrition and Metabolism NuFS108A (prerequisite: Biochemistry Chem132 and NuFs106A; (both with a “C” or better) and Biol66 Physiology; Food Science NuFS101A (prerequisite: Chem30B or Chem8 Organic Chemistry and college basic food preparation course). Research Methodology in Nutrition and Food Science NuFS106B (prerequisite: Statistics; co-requisite NuFS106A and Hprf100W); Foodservice Production Management NuFS111 (prerequisites: NuFS101A Food Science, NuFS8); Foodservice Management Laboratory NuFS111L (prerequisites: NuFS101A Food Science, NuFS8, Micr20 Bacteriology Chem1A [Co-requisite NuFS111]); Nutrition Counseling NuFS191 (prerequisite NuFS106A).

Senior Year – Advanced Nutrition NuFS109 (prerequisite: Biochemistry Chem132 and NuFS106A (both with grades of “C” or better); Hprf100W, Biol66 Physiology and Statistics; Nutrition Laboratory NuFS108L (prerequisite: Chem132 and Biochemistry Lab Chem132L, statistics; co-requisite: Nutrition and Metabolism NuFS108A); Medical Nutrition Therapy NuFS110A (prerequisite: Nutrition and Metabolism NuFS108A with grade of “C” or better; co-requisite: NuFS109 Advanced Nutrition); second course in Medical Nutrition Therapy NuFS110B (prerequisite: NuFS110A Medical Nutrition Therapy and NuFS109 Advanced Nutrition with “C” grade or better in each); NuFS190 Nutrition Education (prerequisite: NuFS106A and senior standing); Community Nutrition NuFS114A (prerequisite: NuFS106A and senior standing); Foodservice Procurement NuFS112 (prerequisite: NuFS111 and NuFS111L Lab); NuFS103 Food Processing 1 (prerequisite: Chem30B or Chem8, NuFS101, HPrf100W).

The sequential nature of the curriculum and the requirement of key science and nutrition courses as prerequisites promote depth and breadth of learning.

A variety of educational approaches are used throughout the dietetics curriculum. Laboratory/Activity courses are excellent learning environments and are included in a variety of courses including Food Science NuFS101A, Food Processing and Packaging I NuFS103, Foodservice Production Management Laboratory NuFS111L, Nutrition Laboratory NuFS108L, Medical Nutrition Therapy NuFS110A & B, Foodservice Procurement NuFS112, Foodservice Systems Management NuFS113, Field trips are included in the Foodservice Systems Management course NuFS113 and Foodservice Procurement NuFS112, Role-playing is practiced in the Counseling course NuFS191 as well as Nutrition Education NuFS190, and

planning and presentation of table displays at health fairs is included in Community Nutrition NuFS114A. Simulation and real world scenarios have been incorporated in NUFS 108L Nutrition laboratory course to give students necessary skills in acute-care settings. Nutrition students work in collaboration with nursing students in a structured environment to give students an experience of a hospital like setting, patient interviews to conduct initial nutrition assessments.

Interdisciplinary learning opportunities occur in the Writing Workshop course HPRF100W that is taken by the students from the four health professions areas: nursing, health science, occupational therapy and nutrition. Some group projects are incorporated that include students from a variety of health professionals on the team. Other interdisciplinary learning experiences are being planned. Nursing has a new simulation laboratory and our nutrition laboratory professor has obtained a grant to support interdisciplinary activities for our students with nursing and occupational therapy students in the Nursing Simulation Laboratory.

There are many opportunities for students to develop, professional skills throughout the curriculum. Courses that foster collaboration and teamwork include Foodservice Systems Management NuFS113, Foodservice Procurement NuFS112, and Foodservice Production Management lecture NuFS111 and Laboratory NuFS111L. All have projects/activities that involve a team approach. Critical thinking/problem solving activities occur in the Nutrition Laboratory NuFS108L, Food Processing & Packaging I NuFS103, and Medical Nutrition Therapy NuFS110A and B. Learning related to self-assessment skills and personal/professional attitudes and values occurs in Nutrition Education NuFS190, Professionalism NuFS31 and Counseling NuFS191. Cultural competence is learned in Community Nutrition NuFS114A and Food and Culture NuFS144 and Health Issues in a Multicultural Society Hprf135. Leadership and decision-making skills are learned in Foodservice Systems Management NuFS113 and practiced in the field experience course NuFS192.

Curriculum Plan ●	S	MI	NI
The program's curriculum plan includes the following:	●	○	○
Identification of course(s) that students will complete to meet each of the Foundation Knowledge and Learning outcomes, included the Support Knowledge defined in Appendix A.	●	○	○
Organized, sequential courses that logically progress from introductory learning activities and build on previous knowledge to achieve the expected depth and breadth of knowledge and competency upon completion of the program.	●	○	○
Culminating experiences (such as planned staff experience) to demonstrate entry-level competence.	●	○	○
A variety of educational approaches necessary for delivery of curriculum content, to meet learner needs and to facilitate expected learning outcomes, e.g. field trips, role-playing, simulations, problem-based learning, classroom instruction, laboratory experiences and other practice-related experiences.	●	○	○
Opportunities for students or interns to participate in interdisciplinary learning activities.	●	○	○
Opportunities for students or interns to develop collaboration and skills.	●	○	○
Opportunities for students or interns to develop problem solving and critical thinking skills.	●	○	○
Opportunities for students or interns to develop self-assessment skills.	●	○	○
Opportunities for students or interns to develop personal and professional attitudes and values.	●	○	○
Opportunities for students or interns to develop cultural competence.	●	○	○
Opportunities for students or interns to develop leadership and decision-making skills.	●	○	○
DPD: Course syllabi with clearly defined objectives reflecting the breadth and depth of course content and expected student performance	●	○	○
Evaluation of the Criteria ●			

● Meets	<ul style="list-style-type: none"> • No compliance problems are present. • No compliance problems are present, but they may arise in the future (<input type="checkbox"/> Monitor). • Compliance problems exist, but all are being resolved successfully (<input type="checkbox"/> Monitor).
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Curriculum Length (DPD 2.3)

The DPD Curriculum length is based on the program mission and goals. The university has a limit of 120 semester units (credits) for graduation. However, we have been approved for an additional three units over the 120 units maximum for the dietetics Concentration to aid us in meeting the DPD competencies and Foundation Knowledge Requirements. (Note: Engineering has been approved for 12 extra units over the 120-unit maximum).

The Didactic Program in Dietetics Curriculum (Dietetics Concentration) can be completed in four years full-time (four semesters). Numerous support courses in science are completed during the freshman and sophomore years so that sequential major courses can be taken during Junior and Senior years.

Curriculum Length ●	S	MI	NI
The curriculum's length including planned number of supervised practice hours is based on the program mission and goals.	●	○	○
The curriculum's length conforms to commonly accepted practice in higher education.	●	○	○
The curriculum's length is consistent with the program's learning outcomes.	●	○	○
Evaluation of the Criteria ●			
● Meets	<ul style="list-style-type: none"> • No compliance problems are present. • No compliance problems are present, but they may arise in the future (<input type="checkbox"/> Monitor). • Compliance problems exist, but all are being resolved successfully (<input type="checkbox"/> Monitor). 		

Learning Assessment (DPD 2.4)

The constituents involved in the plan for assessing competency learning outcomes include the DPD Director, the DI Director, the community nutrition/nutrition education professor, and the Department Chairperson (who also teaches a foodservice management course and other courses). The Dietetic Advisory Board was consulted for input as well as the regular faculty at faculty meetings. Surveys were administered every 2 years to obtain feedback from alumni, employers/dietetic internship supervisors, and current students.

Students are achieving competencies based on passage of the RD exam (91% 5 year passage rate), as well as performance on exams, projects, and laboratory activities identified. Instructors review results of student achievement on the activities delineated in the Learning Assessment Plan as well as other routine tests, exams, projects, etc.; deviations from the expected are discussed with faculty and the program director. Changes based on reviews are implemented as appropriate. Examples include NUFS 191 Nutrition Counseling course was created to meet students' needs in the area of counseling. A scholarly paper was added to NUFS 106B Research Methodology and the course was increased from 1 to 2 units.

Now that the new counseling course has been implemented in Fall 2011 the DPD program shows strength in all areas. Areas of improvement hinge on obtaining approval to hire more full-time tenure-track faculty in core subject areas to replace faculty who have already retired or plan to retire in the near future. **See Learning Assessment Matrix in Appendix B.**

Learning Assessment ●		S	MI	NI
The program has a written plan for ongoing assessment.		●	○	○
The plan for ongoing assessment demonstrates the process by which students are regularly evaluated on their acquisition of the knowledge and abilities necessary to attain each competency/learning outcome specified in Appendix A :		●	○	○
The written plan includes		●	○	○
● The assessment methods that will be used		●	○	○
● The didactic and/or supervised practice course(s)/rotation(s) in which assessment will occur		●	○	○
● The individuals responsible for ensuring assessment occurs		●	○	○
● The timeline for collecting formative and summative assessment data		●	○	○
The program has implemented the process for assessing intern competencies/student learning outcomes:		●	○	○
Data on actual intern/student learning outcomes are collected, aggregated, and analyzed by comparing to expected competencies/outcomes according to the timeline in the assessment plan.		●	○	○
Analysis of aggregate data is used to determine the extent that expected competencies/learning outcomes are being achieved.		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> ● No compliance problems are present. ● No compliance problems are present, but they may arise in the future (<input type="checkbox"/> Monitor). ● Compliance problems exist, but all are being resolved successfully (<input type="checkbox"/> Monitor). 			

On-going Curricular Improvement (DPD 2.6)

Formal curriculum review occurs yearly and also involves discussion at faculty meetings, and input from the Dietetics Advisory Board, employers, alumni and students. Over the past 5 years curriculum has been analyzed. More performance minimums have been included in prerequisites such as earning a “C” grade or higher in support courses before one can move on to the next course in the sequence. The new tenure-track nutrition and metabolism professor has added strength, rigor and application to the nutrition laboratory course. Since cultural competency is a program goal the course Food and Culture NuFS144 has been substituted for another required general education course: Hunger and Environmental Nutrition NuFS139. The writing of a term paper has been included in the research methodology course NuFS106B and removed from NuFS106A Human Nutrition in the Life Span since there was so much content to cover in the NuFS106A course. In order to accommodate the writing component in NuFS106B an extra unit was needed and that was deducted from the Nutrition Laboratory NuFS108L, which became one unit instead of 2. To accommodate the new counseling course NuFS191, one unit was deducted from the Nutrition Education course NuFS190 so it is now 2 units instead of 3. Additional learning activities have been added to the curriculum based on student feedback. These include a simulation component in NuFS 108L Nutrition laboratory, role-playing in NuFS 190 Nutrition Education, field trips in NuFS 112 Foodservice Procurement and NuFS 113 Foodservice Systems Management.

Faculty have a variety of backgrounds and specialties. They bring new knowledge and technology from these areas to the curriculum as they maintain their specialties and areas of interest with continuing education opportunities. This new knowledge and technology is then incorporated into the curriculum as appropriate. Examples include use of simulation laboratory in collaboration with nursing to give students real life experiences in healthcare in NUFs 108L Nutrition laboratory and incorporation of library information literacy in NUFs 106B Research Methodology course.

Students evaluate instructors and courses at the end of each semester and these evaluations are shared with the instructors of record. In addition, information gleaned from these evaluations is used to determine comparability of learning experiences. Likewise, during student learning outcome assessment analysis, trends are investigated in differences between modalities and instructors.

It was discovered that many students were not enrolling in the NuFS31 Professionalism course soon enough. The NuFS31 Professionalism course provides advising on course planning and sequencing as well as career counseling and ethics training. Surveys indicated that there were 108 students who answered the question regarding “what semester after coming to SJSU did you enroll in the NuFS31 Professionalism course?” Results showed that 34% of students enrolled in their third semester, 22% in their fourth semester, 10% in their second semester and only 6% in their first semester. To encourage students to enroll in NuFS31 Professionalism during an earlier semester in their course sequence, a proposed curriculum change was submitted to add the NuFS31 Professionalism course as a prerequisite to the NuFS106A Human Nutrition in the Life Span course, which will take effect Fall semester 2012. This prerequisite change will require students to enroll in NuFS31 Professionalism during an earlier semester in their sequence of coursework.

On-going Curricular Improvement ●		S	MI	NI
Ongoing, formal review of the program curriculum maintains or improves educational quality.		●	○	○
Didactic and supervised practice course/rotation objectives undergo ongoing, formal review.		●	○	○
Curricular content undergoes ongoing, formal review.		●	○	○
Curricular length undergoes ongoing, formal review.		●	○	○
Educational methods undergo ongoing, formal review.		●	○	○
Curriculum review uses results of the student/intern learning and program outcomes assessment processes to determine strengths and areas for improvement.		●	○	○
Curriculum review includes awareness and integration of new knowledge and technology impacting dietetics practice.		●	○	○
Curriculum review includes assessment of comparability of educational experiences when different courses, delivery methods (such as distance education) or supervised practice sites are used to accomplish the same educational objectives.		●	○	○
Curriculum review includes assessment of consistency of learning outcomes when different courses, delivery methods (such as distance education) or supervised practice sites are used to accomplish the same educational objectives.		●	○	○
Curriculum review results in actions to maintain or improve student learning.		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> • No compliance problems are present. • No compliance problems are present, but they may arise in the future (□ Monitor). • Compliance problems exist, but all are being resolved successfully (□ Monitor). 			

Standard Three. Program Management

The DPD Director position in the Department of Nutrition, Food Science and Packaging at San Jose State University is a full-time faculty tenured or tenure-track position. The current DPD Director receives 0.2 release time for the DPD Director responsibilities. The program director is responsible for all aspects of the DPD program. In addition to teaching responsibilities, the DPD Director may also function as one of the dietetic internship coordinators visiting dietetic interns at various sites along with preceptors. The DPD Director is also required to maintain 5 office hours per week to include advising and consultation with students.

Required Qualifications: Earned a minimum of Masters’ degree from an accredited institution in nutrition, dietetics, food service management or related field; Registered Dietitian in California; evidence of professional preparation and experience in the practice of dietetics; demonstrated knowledge in the area(s) of specialization as well as strong communication, writing, and research skills; evidence of effective teaching at the university level for at least 3 years post-RD; knowledge and awareness of professional development related to area of specialization.

Qualifications of the Program Director ●		S	MI	NI
The program director is a full-time employee of the sponsoring college/university/organization.		●	○	○
The program director has the authority, responsibility and sufficient time allocated to manage the program.		●	○	○
The program director's other responsibilities do not compromise the ability to manage the program.		●	○	○
Responsibilities and time allocation for program management are reflected in a formal position description for the program director and approved by administration.		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> ● No compliance problems are present. ● No compliance problems are present, but they may arise in the future (□ Monitor). ● Compliance problems exist, but all are being resolved successfully (□ Monitor). 			

Responsibilities of the Program Director (DPD 3.1)

The Didactic Program in Dietetics (DPD) Director is responsible for directing the Didactic Program in Dietetics (DPD) in the Department of Nutrition, Food Science and Packaging. The DPD Director is responsible for:

1. Ensuring that the program remains in compliance with standards set by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) by conducting program planning and assessment, maintenance of accreditation, and writing the self-study for re-accreditation;
2. Advising and mentoring undergraduate students pursuing the dietetics Concentration and completing their DPD requirements and also graduate students completing their DPD requirements along with their MS program;
3. Participating in course, curriculum and policy development;
4. Maintaining intra- and inter-program communication;
5. Conducting systematic and continuous evaluation of the program.
6. The DPD Director also teaches a range of nutrition, foods related and/or dietetics courses including Foodservice Production management, Foodservice Procurement; maintains a program of research and scholarship, including service on graduate committees; and participates in service activities.
7. The DPD Director must have the ability to work with and be sensitive to the educational needs of a diverse urban population that includes U.S. ethnic minorities and/or women.

8. The Didactic Program Director is responsible for advising students of the AND application process and providing the official CDR forms (*Declaration of Intent to Complete Degree* and *Approved Minimum Academic Requirements and Verification Statement*) required to apply and begin an ACEND accredited dietetic internship.
9. A portion of the NUFSS 280 A– Dietetic Internship course is devoted to the application process for ACEND accredited dietetic internships. The process of gaining admission to a dietetic internship is extensively covered in this course. Materials to assist with applying for a dietetic internship are also available from the DPD Director.
10. The DPD Program provides training in the DICAS and D&D Computer Matching for all graduates.
11. Some students may choose to delay application to a dietetic internship and seek immediate employment in the field of food, nutrition and dietetics following completion of their DPD requirements. The DPD Program Director will provide the appropriate forms and assistance with the dietetic internship application process when requested by past graduates. Verification statements are permanently maintained in the Program Director’s office.

Responsibilities of the Program Director ●		S	MI	NI
The program director responsibilities include development of policies and procedures for effectively managing all components of the program.		●	○	○
The program director responsibilities include development of policies and procedures to ensure fair, equitable and considerate treatment of prospective and enrolled students (such as program admission, retention and completion policies).		●	○	○
The program director responsibilities include student/intern recruitment.		●	○	○
The program director responsibilities include student/intern advising.		●	○	○
The program director responsibilities include student/intern evaluation.		●	○	○
The program director responsibilities include student/intern counseling.		●	○	○
The program director responsibilities include maintenance of program accreditation, including timely submission of fees, reports and requests for major program changes.		●	○	○
The program director responsibilities include maintenance of CP/ICP/DPD/DTP student records, including student advising plans and verification statements.		●	○	○
Verification statements are kept indefinitely.		●	○	○
The program director responsibilities include maintenance of complaints about the program received from students/interns or others, including disposition of the complaint.		●	○	○
The program director responsibilities include ongoing review of program curriculum to meet the accreditation standards.		●	○	○
The program director responsibilities include communication and coordination with program faculty, preceptors and others involved with the program.		●	○	○
The program director responsibilities include facilitation of processes for continuous assessment of program. .		●	○	○
The program director responsibilities include facilitation of processes for continuous assessment of student/intern learning outcomes.		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> ● No compliance problems are present. ● No compliance problems are present, but they may arise in the future (□ Monitor). ● Compliance problems exist, but all are being resolved successfully (□ Monitor). 			

Program Resources (DPD 3.2)

The administrative, technical and other support services available to dietetics students is the same as for all students in the Department of Nutrition, Food Science and Packaging. We are a self-standing department (not being a subsection of another unit) and can give dietetics students major attention since they comprise the majority of student majors in the department. As was stated earlier administration includes a Department Chairperson (50% administration/50% teaching); who reports to the Dean of the College of Applied Sciences and Arts. We have a full-time tenured Associate Professor serving as the DPD Director. A full-time Technician handles laboratory and classroom instructional needs, purchasing and financial issues. A full-time Department Coordinator (Administrative Assistant) and 2 part-time students (one of whom is work study) provide support to the department. The University provides additional support services (e.g., the Writing Center, Disability Resource Center, Financial Aid office, Health Center, and Counseling Center) that are available to dietetics students.

The annual budget for the DPD is a major part (61%) of the department’s annual budget as the majority of students in the department are Dietetics students. Funds provided for the DPD program are adequate to provide faculty, equipment and supplies for instruction. Faculty and Administration continue to work together to facilitate the hire of tenure-track faculty to replace those who have already retired or who plan to rehire in the near future. Work is also ongoing to provide funding to cover registration fees and travel expenses incurred when attending professional meetings for professional development. We are thankful for the additional \$60,000 provided by the Dean this year which augmented professional development monies (beyond the \$500 per year regular amount provided), and went to the purchase of computers and other equipment needed for instruction.

Program Resources ●		S	MI	NI
The program has the administrative support needed to accomplish its goals. .		●	○	○
The program has the financial support needed to accomplish its goals.		●	○	○
The program has the learning resources needed to accomplish its goals.		●	○	○
The program has the physical facilities needed to accomplish its goals.		●	○	○
The program has the support services needed to accomplish its goals.		●	○	○
The annual budget for the program or other financial information, such as percentage of department budget allocated to support the program, is sufficient to produce the desired outcomes.		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> ● No compliance problems are present. ● No compliance problems are present, but they may arise in the future (<input type="checkbox"/> Monitor). ● Compliance problems exist, but all are being resolved successfully (<input type="checkbox"/> Monitor). 			

Faculty (DPD 3.3).

In addition to the DPD Director several other faculty teach profession-specific program courses. A combination of tenure-track and part-time temporary faculty teach in the DPD program; all meet the University criteria for appointment. Tenure-track faculty members in NUFS are required to have earned a doctoral degree. Foodservice Management tenure-track faculty are required to have professional work experience and a minimum of a Masters degree due to the extreme shortage of experienced professionals who have a doctorate in the field. Part-time temporary faculty are required to have a MS degree with the exception of the Culinary Principles and Practices NuFS21 course instructor who has a BS degree and extensive restaurant operations management experience. (He also has many years of teaching experience and has served as VP of the California Restaurant Association). (Completion of NuFS21 can be waived if a student demonstrates prior culinary knowledge). Sixteen faculty teach courses in the DPD program (including choices for 4 units of major elective courses) (see chart below).

Of faculty, 7 are tenured, 1 is tenure-track and the remaining 8 are part-time temporary. All have academic degrees in their field. Ten of 16 (62.5%) are Registered Dietitians. All bring a wealth of experience and knowledge to the program.

Students evaluate faculty at the end of each semester and these evaluations are shared with the individual instructors. Trends are noted and addressed. Faculty remains current in their fields as evidenced by continued credentialing. Faculty has routine, yearly evaluations. All faculty and staff are provided orientation to the program during their initial orientation to the University, College and Department. In addition, semi-annually updates are provided at the faculty meetings and yearly departmental faculty retreat.

Course (units)	Course Title (Semester) F=Fall; S=Spring	Instructor	Tenured/PT Temp
NuFS 8 (3)	Nutrition for Health Prof (F,S)	Freiberg, MS, RD	PT Temp
NuFS 31 (1)	Professionalism in NuFS (F,S)	McProud, PhD RD; Wagle, MS RD	Tenured
NuFS 101A (4)	Food Science (F,S)	Ting, MS	PT Temp
NuFS 103 (3)	Food Processing I (F,S)	Belo, PhD	Tenured
NuFS 106A (3)	Human Nutrition in Life Span (F,S)	Brown, MS RD; Steinberg, MS RD	PT Temp
NuFS 106B (2)	Research Method Nutrition (F,S)	Freedman, PhD	Tenured
NuFS 108A (3)	Nutrition & Metabolism (S)	Hollenbeck, PhD	Tenured
NuFS 108L (1)	Nutrition Lab (F,S)	Mauldin, PhD, RD	Tenure-track
NuFS 109 (3)	Advanced Nutrition (F)	Hollenbeck, PhD	Tenured
NuFS 110A,B (6)	Medical Nutrition Therapy A (F), B (S)	Sucher, ScD, RD	Tenured
NuFS 111 (2)	Foodservice Prod Management (S)	Wagle, MS, RD	Tenured
NuFS 111L (2)	Foodservice Prod Management Lab (F, S)	Finkelstein, MBA	PT Temp
NuFS 112 (2)	Foodservice Procurement (F)	Wagle, MS, RD	Tenured
NuFS 113 (3)	Foodservice Systems Management (S)	McProud, PhD, RD	Tenured
NuFS 114A (3)	Community Nutrition (S)	Freedman, PhD	Tenured
HPrf 135 (3)	Health in Multicultural Society (F, S)	Fee, MA	PT Temp
NuFS 144 (3)	Food & Culture: Consuming Passions (F, S)	Wagle, MS, RD	Tenured
NuFS 190 (2)	Nutrition Education (F)	Freedman, PhD	Tenured
NuFS 191 (1)	Nutrition Counseling (F, S)	Herb, PhD	PT Temp
NuFS 192 (2)	Field Experience (F, S)	McProud, PhD, RD	Tenured

4 units Major Elective courses selected from the following:

NuFS 20 (2)	Sanitation (F, S)	Finkelstein, MBA	PT Temp
NuFS 104A (3)	Cultural Aspects of Food (S)	Finkelstein, MBA	PT Temp
NuFS 105 (3)	Trends in Nutrition (S)	Cahill, MS, RD	PT Temp
NuFS 116 (3)	Aging and Nutrition (S)	Fee, MA	PT Temp
NuFS 123 (3)	Sports Nutrition (F)	Brown, MS, RD	PT Temp
NuFS 134 (3)	Complementary & Alt Health Practices (S)	Fee, MA	PT Temp
NuFS 194 (1)	Entrepreneurial Nutrition (Alt, F)	Knoblauch, MS, RD	PT Temp
PKG 107 or 169 (3)	Principles of Pkg/Food Packaging (F, S)	Yambrach, PhD	Tenured

Faculty ●	S	MI	NI
The program has a sufficient number of qualified faculty or preceptors to provide the depth and breadth of learning activities required in the curriculum.	●	○	○
The program has a sufficient number of qualified faculty or preceptors to provide the diversity of practice.	●	○	○
In addition to the program director, other faculty teaches profession-specific courses in the program.	●	○	○
Program faculty, including the program director, meets the college/university's/institution's criteria for appointment.	●	○	○
Evaluation of the Criteria ●			
● Meets	● No compliance problems are present.		

- No compliance problems are present, but they may arise in the future (Monitor).
- Compliance problems exist, but all are being resolved successfully (Monitor).

Continuing Professional Development (DPD 3.3.3)

Evidence of continued competency appropriate to teaching responsibilities included professional work experience as a Registered Dietitian, or other job backgrounds related to food science, foodservice management, and packaging. Faculty attends local professional development sessions offered by the San Jose Peninsula District of the California Dietetic Association or Northern California Institute of Technologists. Tenured/Tenure-track faculty provide the leadership for overall curriculum planning and updates and revisions and attend the state annual meeting of the California Dietetic Association as well as the national annual meeting of the Academy of Nutrition and Dietetics. Each year 50% of the research our faculty and their graduate students author posters displayed at the California Dietetic Association Annual Meeting. Last year 8 Research Posters were approved for presentation at the annual meeting of the Academy of Nutrition and Dietetics (FNCE). This is a typical yearly indication of our faculty’s productivity and professional growth. One faculty (Dr. Sucher) is a coauthor of 2 books, Nutrition Therapy and Pathophysiology 2e. Nelms, Sucher, Lacey & Roth, Wadsworth/Cengage Publishing Corp. St. Paul, MN, 2011. Food and Culture 6th Edition. Goyan, Kittler, Sucher & Nelms, Wadsworth/Thomson Publishing Corp. St. Paul, MN, 2012.

The entire tenured/tenure-track faculty has published several articles in refereed journals. This shows strong evidence of the faculty’s efforts to advance the profession of dietetics. Faculty are also officers in the local district of the California Dietetic Association and Dr. Sucher has been elected to a state office. In addition, the Department Chairperson Lucy McProud has been selected by the State of California Board of Education to be a member of the Child Nutrition Advisory Council and is currently serving as Interim Chair of the council. The faculty who are registered dietitians maintain their RD status, which further indicates continued competency. In addition, the program goals, objectives and on-going assessment are reviewed at the annual faculty meetings. Student input is reviewed as applicable. The current accreditation standards and/or any changes in the standards are reviewed.

Continuing Professional Development ●		S	MI	NI
Program faculty, including the program director, and preceptors show evidence of continued competency appropriate to teaching responsibilities, through professional work experience, graduate education, continuing education, research or other activities leading to professional growth and the advancement of their profession.		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> • No compliance problems are present. • No compliance problems are present, but they may arise in the future (<input type="checkbox"/> Monitor). • Compliance problems exist, but all are being resolved successfully (<input type="checkbox"/> Monitor). 			

Program Information (DPD 3.4)

3.4.1 Program information about the DPD is provided to prospective students and the public at large. DPD information is available on the department website www.nufs.sjsu.edu under the DPD webpage. Description of program mission, goals, outcomes, DPD Director contact information, DPD policies and procedures, and instructions for transcript evaluations for US students and foreign students is available. The webpage also provides information on cost for the program. Instructions for DT Pathway are also available for students choosing the DTR route after graduation.

3.4.2 The program information is provided on the department website www.nufs.sjsu.edu. Other sources include the dietetic brochure, a fact sheet regarding department program offerings, and a dietetic curriculum advising form handout. The information included on the department website is updated each year or when a curriculum or program change takes place. The department fact sheet, dietetics brochure, and dietetics curriculum-advising handout are available in the handout cabinet located in the hallway right outside the

department office in Central Classroom Building Room 200. Information provided includes descriptions of the program, minor, goals, and graduate outcomes. The process to become a Registered Dietitian is explained. Estimated expenses for tuition, books and lab fees are available. Accreditation status and ACEND address and telephone number are provided. The University provides admission requirements and the academic calendar. Graduation and DPD completion requirements are explained in the university catalog as well as the dietetics advising form handout.

Program Information ●	S	MI	NI
The program provides clear, consistent and accurate information about all program requirements and components to prospective students/interns and the public at large.	●	○	○
All information about the program specified below is readily available to prospective students/interns and the public.	●	○	○
If various print and electronic methods are used, such as a catalog, program bulletin, brochure and web site, all of the information is in one place or each provides references to where the remaining information can be found.	●	○	○
Information about the program includes at least the following:	●	○	○
<ul style="list-style-type: none"> • Description of the program, including mission, goals and graduate outcomes that will be monitored for program effectiveness. 	●	○	○
<ul style="list-style-type: none"> • Description of how the program fits into the credentialing process to be a registered dietitian and state certification/licensure for dietitians, if applicable (CP/ICP/DI 3.6.2.2; DPD 3.4.2.2) 	●	○	○
<ul style="list-style-type: none"> • Cost to student/intern, such as estimated expenses for travel, housing, books, liability insurance, medical exams, uniforms and other program-specific costs, in addition to application fees and tuition. 	●	○	○
<ul style="list-style-type: none"> • Accreditation status, including the full name, address, and phone number of CADE. 	●	○	○
<ul style="list-style-type: none"> • Admission requirements for all options for which the program is accredited. 	●	○	○
<ul style="list-style-type: none"> • Academic and/or program calendar or schedule. 	●	○	○
<ul style="list-style-type: none"> • Graduation and program completion requirements for all options for which the program is accredited. 	●	○	○
Evaluation of the Criteria ●			
● Meets	<ul style="list-style-type: none"> • No compliance problems are present. • No compliance problems are present, but they may arise in the future (☐ Monitor). • Compliance problems exist, but all are being resolved successfully (☐ Monitor). 		

Policies and Procedures (DPD 3.5)

Non-Discrimination and Equal Opportunity Student recruitment and admissions to the Didactic Program in Dietetics (DPD) follow San Jose State University (SJSU) and California State University (CSU) policies, procedures and practices, which comply with state and federal laws and regulations ensuring nondiscrimination and equal opportunity. See SJSU catalog for non-discrimination policy and explanation of due process. There are no separate application forms for dietetics from the online university application. Since the University is recently considered impacted, the admission criteria are very high: for transfer students 3.35 GPA. Change of major to Dietetics once admitted to SJSU requires a minimum GPA of 2.5 and completion of Chem1A with a grade of “C” or better and the best students are selected based on the target number of majors assigned.

Web links:

University Catalog: <http://info.sjsu.edu/home/catalog.html>

University Admission Information: <http://info.sjsu.edu/home/admission.html>

SJSU Articulation: <http://info.sjsu.edu/home/artic.html>

Policies and Procedures ●		S	MI	NI
Program policies, procedures and practices related to student recruitment and admission complies with state and federal laws and regulations to ensure nondiscrimination and equal opportunity. .		●	○	○
The program has written policies and procedures that protect the rights of enrolled students/interns.		●	○	○
Written policies and procedures are consistent with current institutional practice.		●	○	○
Policies and procedures are provided to students/interns, but are not limited to the following:		●	○	○
<ul style="list-style-type: none"> University- or College-based program has policies and procedures required by institutional regional accreditation, ordinarily published in the university/college catalog or intern handbook 	●	○	○	
<ul style="list-style-type: none"> Withdrawal and refund of tuition and fees. 	●	○	○	
<ul style="list-style-type: none"> Scheduling and program calendar, including vacation and holidays. 	●	○	○	
<ul style="list-style-type: none"> Protection of privacy of student or intern information. 	●	○	○	
<ul style="list-style-type: none"> Access to personal. 	●	○	○	
<ul style="list-style-type: none"> Access to student/intern support services, including health services, counseling and testing and financial aid resources. 	●	○	○	
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> No compliance problems are present. No compliance problems are present, but they may arise in the future (□ Monitor). Compliance problems exist, but all are being resolved successfully (□ Monitor). 			

Program Handbook (DPD 3.6)

The DPD has written policies and procedures that protect the rights of enrolled students and are consistent with current university practice. Enrolled students have access to the online university catalog and the online student department handbook. See attached. All students admitted to the university are required to attend an orientation session before they can enroll in any courses. At the orientation session they learn about the university catalog and policies and procedures, as well as accessibility to department websites. Freshmen stay overnight to allow for numerous activities over 2 days and the university outreach staff provides coursework advising. The students receive information at this time regarding the requirements to become a practitioner, including education, viable routes to supervised practice and passage on the credentialing exam. Freshman students are also told about department policies and procedures in the NuFS 31 Professionalism course and students plan their projected sequence of coursework toward graduation as an assignment. Transfer students are required to attend a daylong university orientation. The last part of the day includes a visit to the student's major department and a discussion of departmental policies and procedures, curriculum offerings, and their ability to access the online program handbook. A discussion of courses needed for the first semester is also included.

The university catalog covers withdrawals and refund of tuition and fees policy, scheduling and program calendar, including vacations and holidays, protection of privacy of student information, access to personal files, and access to student support services such as the health center, counseling, financial aid, the disability resource center, and the writing center.

Student complaints are handled according to university policy. Students first speak to the instructor about the complaint, then the department chairperson, and if still not satisfied they are free to discuss the issue with the associate dean of the college and then the university ombudsperson. An academic student fairness committee hearing may or may not apply depending on the ombudsperson's judgment. Students are given information on how to contact ACEND after all other avenues have been exhausted, if the student is still not satisfied. A record of student complaints is maintained in the Director's office.

Assessment of prior learning and credit toward program requirements are decided based on curriculum articulation agreements with other colleges/universities. If there are no articulation agreements then an analysis of the course description, prerequisites and number of semester or quarter units/credits is noted and a the DPD Director makes a decision. For international students, an international transcript evaluation by a creditable organization is required for the transcript evaluation involved in completing a Declaration of Intent form for the students. Please see appendix H. for university catalog listing courses for DPD program. For assessing culinary skills there is a pre-test exam that is offered prior to each semester to determine if the Culinary Principles and Practices NuFS 21 or equivalent college level course be completed or not prior to enrolling in NuFS 101A Food Science.

The course catalog descriptions indicate prerequisite requirements. A minimum of a "C" grade is often required before one can progress to the next course in the sequence (e.g., in order to progress to NuFS 108A Nutrition and Metabolism the student must complete NuFS 106A Human Nutrition in the Life Span with a minimum "C" grade, Chem 132 Biochemistry with a "C" grade, the Junior writing course for health professions majors HPrf 100W and Biol 66 Physiology.) If the student does not achieve a "C" in NuFS 106A and Chem 132 they can retake the course(s) to improve their grade, be counseled to change majors, or leave the Dietetics Concentration to pursue another curriculum offered within the department (e.g., Emphases in Nutrition Education, Food Management, Environmental Food and Health Specialist, or the Packaging Concentration [all of which do not require biochemistry]; or less likely the Emphases in Sports Nutrition, Nutrition Science or the Concentration in Food Science and Technology which all require biochemistry, but don't specify a minimum "C" grade to continue the sequence of courses in the major). The DPD Director, graduate student peer advisors and other full-time faculty provided advisement. Office hours are posted by the Department Office door and those of the graduate student peer advisors are also posted on the website. Student learning assessment is continuously reviewed and those students not reaching the expected benchmarks are counseled, offered remediation and advised regarding the most appropriate course for them. Disciplinary/ termination procedures are covered in the university catalog. Faculty members are obligated to report all instances of academic misconduct to the Office of Student Conduct and Ethical Development. The university handles notification of probation and disqualification for students falling below a 2.0/4.0 Grade Point Average (GPA). Students who wish to be reinstated need to show that they can achieve "B" grade work in relevant courses that have been identified as pertinent to their major. Since the university is considered impacted, rules are in place to limit a student's ability to change majors once they have completed 90 units (out of 123 units for the dietetics Concentration). At 90 units the student is required to file paperwork toward graduation progress. All students who supply transcripts of completion of degree and required DPD courses will receive Verification Statements in a timely manner.

Web links: University Catalog: <http://info.sjsu.edu/home/catalog.html>

University Admission Information: <http://info.sjsu.edu/home/admission.html>

SJSU Articulation: <http://info.sjsu.edu/home/artic.html>

SJSU Policies and Procedures, Class Schedule, Final Exam Schedule: <http://info.sjsu.edu/home/schedules.html>

Department of Nutrition, Food Science and Packaging information: www.nufs.sjsu.edu

Program Handbook ●		S	MI	NI
Additional policies and procedures specific to the program including supervised practice components are provided to students in a program handbook on a timely basis.		●	○	○
● Insurance requirements, including those for professional liability.		●	○	○
● Liability for safety in travel to or from assigned areas.		●	○	○
● Injury or illness while in a facility for supervised practice.		●	○	○
● Drug testing and criminal background checks if required by the supervised practice facilities.		●	○	○
● Educational purpose of supervised practice to prevent the use of students to replace employees.		●	○	○
● Filing and handling complaints from students and preceptors that includes recourse to an administrator other than the program director and prevents retaliation.		●	○	○
● Assessment of prior learning and credit toward program requirements (coursework and/or experiential).		●	○	○
● If the program grants credit or supervised practice hours for prior learning, it must define procedures for evaluating equivalency of prior education or experience to the knowledge and/or competencies covered by the courses or rotations for which the credit is granted.		●	○	○
● Formal assessment of student learning and regular reports of performance and progress at specified intervals throughout the program, such as within and at the conclusion of any given course, unit, segment or rotation of a planned learning experience.		●	○	○
● Program retention and remediation procedures when student performance does not meet criteria for progressing in the program.		●	○	○
● Disciplinary/termination procedures.		●	○	○
● Graduation and/or program completion requirements for all options including maximum amount of time allowed to complete program requirements in place at the time student enrolls.		●	○	○
Verification statement procedures ensuring that all students completing requirements as established by the program, not just those applying to Dietetic Internships, receive verifications statements in a timely manner. .		●	○	○
Evaluation of the Criteria ●				
● Meets	<ul style="list-style-type: none"> ● No compliance problems are present. ● No compliance problems are present, but they may arise in the future (<input type="checkbox"/> Monitor). ● Compliance problems exist, but all are being resolved successfully (<input type="checkbox"/> Monitor). 			

Appendix A. Program Assessment Matrices for Didactic Program in Dietetics

Didactic Program in Dietetics, Department of Nutrition, Food Science and Packaging, San Jose State University

The Didactic Program in Dietetics (DPD) transmits knowledge and skills at the undergraduate level that are needed for competent dietetics practice to improve the quality of life in diverse communities.

Prepare graduates to be competent for entry into supervised practice or other post-graduate programs through quality

dietetics practices

	Data Needed	Data Already Available	Groups Assessed	Assessment Methods	Who will Conduct Assessment	Timeline
100% of the program will attempt.	RD Exam Scores	Yes	Graduates	CDR Exam Summary Reports	CDR provides to Program Director (PD)	Annually
Students will program	Dietetic Internship Acceptance Data	yes	Dietetic Internship Applicants	Communication with Applicants via email	PD	Assess each of 2 Dietetic Internship Application periods
to a will be	Dietetic Internship Acceptance Data	yes	Dietetic Internship Applicants	Communication with Applicants via email	PD	Assess each of 2 Dietetic Internship Application periods
ship of education and ment as ≥ 3.0	Dietetic Internship preceptors' ratings of DPD graduates preparation for DI	yes	Dietetic Internship Preceptors	Survey	PD	Annually
the the time	Retention Figures	Yes	Students	Descriptive Statistics	PD	Annually

Improve the quality of life in diverse communities.

Improve the quality of life in diverse communities

licate y.	Demographic data	Yes	Students	Descriptive statistics	PD	Annually
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Appendix B. Learning Assessment Matrix

Ongoing Assessment of Core Knowledge for the RD Assessment Period from 2007 to 2012

Background: The Learning Assessment Planning Matrix is used to assess the Foundation Knowledge & Competencies/ Learning Objectives specified in Appendix A of ACEND's Accreditation Standards and to document learning outcomes over a 5-year period. At the end of 5 years, the completed portions of the form can be used as evidence of the degree to which the program is helping students to learn.

Directions: List at least one assessment method with the learning objectives per competency. Specify the rotation in which the assessment will occur and identify the individuals or groups responsible for ensuring that the assessment takes place and the timeframe for collecting the data. Optional: Feel free to also include the actual outcomes over the 5-year lifetime of the plan.

1. Scientific and Evidence Base of Practice: integration of scientific information and research into practice				
	Learning objective and the assessment methods that will be used	Rotation or class in which assessment will occur	Individuals responsible for ensuring assessment occurs	Timeline for collecting formative & summative data
KRD 1.1: The curriculum must reflect the scientific basis of the dietetics profession and must include research methodology, interpretation of research literature and integration of research principles into evidence-based practice.	80% of the students will score at least 80% on the final "information literacy assessment," and 80% of the students will score at least 70% on their research paper.	NuFS 106B	Instructor	Yearly
KRD 2.1: The curriculum must include opportunities to develop a variety of communication skills sufficient for entry into pre-professional practice.	70% of students will receive a grade of "5/8" or better on medical chart note.	NUFS 110A/B	Instructor	Yearly
KRD 2.2: The curriculum must provide principles and techniques of effective counseling methods.	80% of students receive a grade of "B" or better on counseling simulation.	NUFS 191	Instructor	Yearly
KRD 2.3: The curriculum must include opportunities to understand governance of dietetics practice, such as the Scope of Dietetics Practice and the Code of Ethics for the Profession of Dietetics; and interdisciplinary relationships in various practice settings.	80% of the students will score a "C" or better on the Ethics assignment.	NUFS 31	Instructor	Yearly

	Learning objective and the assessment methods	Rotation or class	Individuals responsible	Timeline
KRD 3.1: The curriculum must reflect the principles of Medical Nutrition Therapy and the practice of the nutrition care process, including principles and methods of assessment, diagnosis, identification and implementation of interventions and strategies for monitoring and evaluation.	70% of students will receive a grade of "5/8" or better on medical chart note and case study.	NUFS 110A	Instructor	Yearly
KRD 3.2: The curriculum must include the role of environment, food, nutrition and lifestyle choices in health promotion and disease prevention.	80% of the students will receive a grade of 80 or better on exam questions related to behavioral choices, health promotion and disease prevention	NUFS 106A	Instructor	Yearly
KRD 3.3: The curriculum must include education and behavior change theories and techniques.	70% of students will receive at least at least a 75% on exam questions relating to behavior change theories.	NUFS 190	Instructor	Yearly
KRD 4.1: The curriculum must include management and business theories and principles required to deliver programs and services.	80% of the students will receive a grade of 80 or better on exam questions related to management and business theories applied to marketing and delivery of programs and services.	NUFS 113	Instructor	Yearly
KRD 4.2: The curriculum must include content related to quality management of food and nutrition services.	80% of the students will receive a grade of 80 or better on exam questions related to food preparation basics, HACCP and other food safety principles.	NUFS 111	Instructor	Yearly
KRD 4.3: The curriculum must include the fundamentals of public policy, including the legislative and regulatory basis of dietetics practice.	80% of students will receive a grade of 75% or better on the legislative assignment	NUFS 114A	Instructor	Yearly

	Learning objective and the assessment methods	Rotation or class	Individuals responsible	Timeline
KRD 4.4: The curriculum must include content related to health care systems.	80% of the students will receive a grade of 80 or better on exam questions related to policies and regulation on food and nutrition services.	NUFS 112	Instructor	Yearly
KRD 4.5: The curriculum must include content related to coding and billing of dietetics/nutrition services to obtain reimbursement for services from public or private insurers	70% of students will answer coding and billing questions on exams accurately.	NUFS 110A	Instructor	Yearly
KRD 5.1: The food and food systems foundation of the dietetics profession must be evident in the curriculum. Course content must include the principles of food science and food systems, techniques of food preparation and application to the development, modification and evaluation of recipes, menus and food products acceptable to diverse groups.	80% of students will receive a grade of “B” or better on the menu-planning project.	NUFS 111	Instructor	Yearly
KRD 5.2: The physical and biological science foundation of the dietetics profession must be evident in the curriculum. Course content must include organic chemistry, biochemistry, physiology, genetics, microbiology, pharmacology, statistics, nutrient metabolism and nutrition across the lifespan.	80% of the students will score at least 70% on the essay portion of course exams.	NUFS 108A	Instructor	Yearly
KRD 5.3: The behavioral and social science foundation of the dietetics profession must be evident in the curriculum. Course content must include concepts of human behavior and diversity, such as psychology, sociology or anthropology	70% of the class will score a “C” or better on the Panel Presentation project describing an ethnicity’s current healthcare problems, health disparities/ barriers to healthcare; traditional cultural perceptions of health and illness and traditional cultural healing methods; historical background, political issues, or discrimination/racism.	NUFS 135	Instructor	Yearly

C. Curriculum Planning Matrix
Matrix of Courses Aligned with Foundation Knowledge Requirements and Expected Learning Outcomes (DPD)

Courses & Rotations	KRD 1.1	KRD 2.1	KRD 2.2	KRD 2.3	KRD 3.1	KRD 3.2	KRD 3.3	KRD 4.1	KRD 4.2	KRD 4.3	KRD 4.4	KRD 4.5	KRD 5.1	KRD 5.2	KRD 5.3
Semester 1															
Chem 1A :General Chem (5)														X	
NuFS 31 Professionalism (1)				X											
Semester 2															
Chem 30B: Intro Chem (Organic) (3)														X	
NuFS 8: Nutrition for the Health Professional (3)	X														
Semester 3															
Stat 95 or HS 67:Statistics (3)														X	
Psyc 1: General Psychology(3)															X
Semester 4															
NUFS 101B: Computer Applications (3)		X							X						
Biol 66: Physiology (5)														X	
Micr 20: Bacteriology (5)														X	
Semester 5															
NuFS 106A Human Nutrition In Life Span (3)						X								X	
NuFS 101A: Food Science (4)													X		
Chem 132: Biochemistry -lecture (4)														X	
Chem 132L: Biochemistry Lab (1)														X	
Semester 6															
NuFS 106B: Research Methodology (2)	X														
NuFS 111: Foodservice Production Management (2)				X					X				X		
NuFS 191: Nutrition Counseling (1)			X												
NuFS 144: Food Culture: Consuming Passions(3)						X							X		
NuFS 135: Health in a Multicultural Society (3) or NuFS 104A Cultural Aspects of Food (3)													X		X
NuFS 108A: Nutrition Metabolism														X	
Semester 7															
NuFS 110A: Medical Nutrition Therapy (3)	X	X		X	X				X						
NuFS 190: Nutrition Education (2)		X			X		X								
NuFS 108L: Nutrition Lab (1)									X						
NuFS 109: Advanced Nutrition (3)														X	
NuFS 112: Foodservice Procurement (2)								X			X		X		
Semester 8															
NuFS 110B: Medical Nutrition Therapy (3)	X	X		X	X				X			X			
NuFS 113: Foodservice Systems Management (3)		X						X							
NuFS 114A: Community Nutrition (3)		X				X				X	X				
NuFS 103: Food Processing (2)													X		

Appendix D. Core Knowledge for the RD

1. Scientific and Evidence Base of Practice: integration of scientific information and research into practice
 - KRD 1.1 The curriculum must reflect the scientific basis of the dietetics profession and must include research methodology, interpretation of research literature and integration of research principles into evidence based practice.
2. Professional Practice Expectations: beliefs, values, attitudes and behaviors for the professional dietitian level of practice.
 - KRD 2.1 The curriculum must include opportunities to develop a variety of communication skills sufficient for entry into pre-professional practice. (Tip: Students must be able to demonstrate effective and professional oral and written communication and documentation.)
 - KRD 2.2 The curriculum must provide principles and techniques of effective counseling methods. (Tip: Students must be able to demonstrate counseling techniques to facilitate behavior change.)
 - KRD 2.3 The curriculum must include opportunities to understand governance of dietetics practice, such as the Scope of Dietetics Practice and the Code of Ethics for the Profession of Dietetics; and interdisciplinary relationships in various practice settings.
3. Clinical and Customer Services: development and delivery of information, products and services to individuals, groups and populations
 - KRD 3.1 The curriculum must reflect the principles of Medical Nutrition Therapy and the practice of the nutrition care process, including principles and methods of assessment, diagnosis, identification and implementation of interventions and strategies for monitoring and evaluation.
 - KRD 3.2 The curriculum must include the role of environment, food, nutrition and lifestyle choices in health promotion and disease prevention.
 - KRD 3.3 The curriculum must include education and behavior change theories and techniques.
4. Practice Management and Use of Resources: strategic application of principles of management and systems in the provision of services to individuals and organizations
 - KRD 4.1 The curriculum must include management and business theories and principles required to deliver programs and services.
 - KRD 4.2 The curriculum must include content related to quality management of food and nutrition services.
 - KRD 4.3 The curriculum must include the fundamentals of public policy, including the legislative and regulatory basis of dietetics practice. (Tip: Students must be able to explain the impact of a public policy position on dietetics practice.)
 - KRD 4.4 The curriculum must include content related to health care systems. (Tip: Students must be able to explain the impact of health care policy and different health care delivery systems on food and nutrition services.)
 - KRD 4.5 The curriculum must include content related to coding and billing of dietetics/nutrition services to obtain reimbursement for services from public or private insurers
5. Support Knowledge: knowledge underlying the requirements specified above.
 - KRD 5.1 The food and food systems foundation of the dietetics profession must be evident in the curriculum. Course content must include the principles of food science and food systems, techniques of food preparation and application to the development, modification and evaluation of recipes, menus and food products acceptable to diverse groups.
 - KRD 5.2 The physical and biological science foundation of the dietetics profession must be evident in the curriculum. Course content must include organic chemistry, biochemistry, physiology, genetics, microbiology, pharmacology, statistics, nutrient metabolism and nutrition across the lifespan.
 - KRD 5.3 The behavioral and social science foundation of the dietetics profession must be evident in the curriculum. Course content must include concepts of human behavior and diversity, such

as psychology, sociology or anthropology.

E. Accreditation Letter from CADE for Dietetics Program

Accreditation Council for Education in Nutrition and Dietetics

the accrediting agency for the
 Academy of Nutrition
and Dietetics

120 South Riverside Plaza
Suite 2000
Chicago, Illinois 60606-6995
312.899.0040 ext. 5400
www.eatright.org/acend

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November 27, 2013

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Ashwini R. Wagle, MS, RD
Director, Didactic Program in Dietetics
San Jose State University
Department of Nutrition, Food Science and Packaging
One Washington Square
San Jose, CA 95192-0058

Dear Ms. Wagle:

The interim report dated July 29, 2013 in response to the May 3, 2013 decision letter from the Accreditation Council for Education in Nutrition and Dietetics (ACEND) board has been reviewed and accepted. Thank you for providing ACEND with documentation regarding Standards 22 and 23. The Program continues to be accredited for a Didactic Program in Dietetics at the baccalaureate level.

Our records indicate that the next Program Assessment Report will be due in 2017. For more information about the requirements for submitting the report, please refer to the ACEND Policy and Procedure Manual. The Manual can be found on the Program Director Portal, which can be accessed on the ACEND Web site. In addition, to help you prepare for your next review, you are strongly encouraged to attend one of the ACEND Program Director Workshops. The workshop covers the latest information on ACEND accreditation, higher education and other issues facing your program. Registration information for the workshop is available in the ACEND portal.

If the Program wants to propose major changes, you must submit the changes in writing to ACEND for review and approval prior to implementation. ACEND maintains the right to require an interim report, self-study, and/or site visit as a result of these changes. Guidelines for reporting major changes are on the n Program Director Portal.

Accreditation Letter from CADE for Dietetics Program (cont'd)

Ashwini R. Wagle, MS, RD

November 27, 2013

Page 2 of 2

Thank you for your interest in and support of dietetics education and students. If you have any questions, please call the ACEND staff at 800-877-1600 ext. 5400.

Sincerely,



Anne Kendall, PhD, RD, LDN

Chair, Accreditation Council for Education in Nutrition and Dietetics

AK/bg

cc: Mohammad Qayoumi, PhD
Ellen Junn, PhD
Charles Bullock, PhD
Lucy M. McProud, PhD, RD

Appendix B2. Institute of Food Technologists (IFT) Accreditation Materials
**p. above Application for Approval/Reapproval of Undergraduate Degree
in Food Science and Technology**

I. Date of application submission:

September 1, 2010

II. Name of persons completing this application:

Dr. Panfilo S. Belo/Dr. Lucy McProud

Professional title: Professor/Dept. Chairperson
Mail address: Department of Nutrition, Food Science and Packaging
San Jose State University
One Washington Square
San Jose, CA 95192
Email address: pbelo@casa.sjsu.edu; lmcproud@casa.sjsu.edu
Office phone: 408-924-3108; 408-924-3103
Fax number: 408-924-3114

III. Description of administrative unit

A. Name of Institution: San Jose State University
B. Name of College: College of Applied Sciences and Arts
C. Name of Department: Department of Nutrition, Food Science and Packaging
D. Department Head/Chair: Dr. Lucy M. McProud

E. All undergraduate degrees (including Emphses) granted by the Department

BS Nutritional Sciences with Concentrations in:

- Food Science & Technology,
- Dietetics
- Packaging
- No Concentration

F. Of those above, degree(s) (including Emphses) to be evaluated for IFT approval

BS Nutritional Science with Concentration in Food Science and Technology

IV. Description of faculty

A. Food Science faculty (place an asterisk by course numbers of required courses)

Name	Highest Degree	Appointment	Specialization(s)	Courses Taught
1. Panfilo S. Belo	Ph.D.	Professor	Food Chemistry	NuFS 103,* 117,* 118,* 122,* 216
2. Fritz Yambrach	Ph.D.	Associate Professor	Packaging	PKG 107,* 169*
3. Clarie Hollenbeck	Ph.D.	Professor	Metabolism/Food Toxicology	NuFS 108A, 109, 115,* 150,* 219AB, 295
4. Lucy McProud	Ph.D.	Professor	Food Science/ Administration	NuFS 031,* 113, 201, 242
5. Nancy, Lu ¹	Ph.D.	Professor	Nutritional Biochemistry	NuFS 101*, 108L, 298, 299
6. Carl Anderson	Ph.D.	Part-time	Food Processing/ Microbiology	NuFS 133**
7. Eric Wilhelmson	Ph.D.	Part-time	Food Engineering	NuFS 155**

¹Dr. Lu holds MS degree in Food Science and Ph.D. in Nutritional Science

B. Additional faculty (including those from other departments) teaching Food Science courses

Name	Highest Degree	Appointment	Specialization(s)	Courses Taught
John Boothby	Ph.D.	Professor	Microbiology/ Food Science	Micro 123*,123L*

C. Any extenuating circumstances regarding faculty that should be considered

Dr. Miriam Perry who taught Food Science (NuFS 101A), Food Processing & Packaging II (NuFS 133) and Food Process Engineering (NuFS 155) recently retired. Because of the current budget problem the California State University (CSU) is experiencing, a hiring freeze has delayed the process for her replacement. However, since the Packaging Program has now joined our department from Engineering, Dr. Yambrach is an additional full-time faculty member.

V. Description of facilities

Our current website www.nufs.sjsu.edu has not been updated to include a description of NuFS department facilities. The department main office, nutrition and food science lecture and laboratory facilities are located in Central Classroom Building (CCB) and the packaging lecture and laboratory facilities are located in Industrial Studies (IS) building. Lecture and laboratory rooms in both buildings are all electronically wired ("smart" rooms), with wireless internet and with audio visual equipment.

- Equipment available for teaching undergraduates in the program: We maintain the following equipment and scientific instruments for undergraduate instruction in food chemistry and food analysis laboratory:
 - High Performance Liquid Chromatography (HPLC) equipped with UV and RI detectors
 - Gas-Liquid Chromatography with flame ionization and EC detectors
 - Tecator Kjeltic system (with digester, distillation and titration units for nitrogen/protein analysis)
 - Atomic Absorption spectrophotometer
 - Ohm Titration system for Karl Fisher moisture determination

- Single beam (and double beam visible-UV) spectrophotometers
 - Water Activity Meters (Rotonic Hygroskop DT, Sprint a_w meter & Aqua Lab a_w meter)
 - Sorvall high speed refrigerated centrifuge
 - Soxhlet and goldfish fat extraction apparatus
 - Fluorometer
 - Desk top refractometer
 - IR moisture balances
 - Hunter Tristimulus colorimeter
 - Parr Bomb calorimeter
 - Aquasorp Isotherm generator
 - Sterilizer
 - Isotemp refrigerated circulator
 - Babcock apparatus
 - Laboratory size dehydrator
 - Labonco freeze dryer
 - Vacuum & Air convection ovens
 - Analytical balances
 - pH meters
 - Desk top centrifuges
- In another **food laboratory** that contains instruments including pH meters, Brookfield Synchroelectric Viscometer LVT, Penetrometer, Digital Thermometers, and hand held Refractometers we conduct sensory evaluation, food principles, and quality assurance hands-on activities. Our **packaging laboratory** is equipped with equipment/instruments that permit hands-on lab activity related to food packaging (i.e. headspace analysis, permeability of food packages to air/oxygen and moisture, etc.). There is also a **food microbiology lab** within the Department of Biological Sciences that is utilized for hands-on food microbiology exercises and maintains equipment that permits the analysis /detection of various microorganisms in food.
 - The department maintains **2 teaching laboratories** for food chemistry, food analysis and nutrition hands-on activities. We also have a smaller specialized instrumentation room off of one of the main laboratories that houses our more expensive analytical instruments. We have another teaching laboratory where we conduct hands-on sensory evaluation, beginning food science principles and quality assurance activities. Our packaging instructional laboratories located in another building are fully equipped and are used in food related type of laboratory activities. Food microbiology hands-on laboratory activities are conducted in the Department of Biological Sciences microbiology laboratories.

D. Pilot plant/processing capabilities

We have a pilot plant that includes the following equipment available for both demonstration and hands-on activities in food processing and food engineering: static retort, thin film evaporator, spray dryer freeze dryer, extruder, steam jacketed kettle and various smaller pieces of equipment to prepare food products for processing. Our packaging pilot plant located in another building that contains various types of equipment related to package evaluation: sealers, headspace analysis, etc.

E. Explanations of accessibility if above facilities are not in-department or on-campus

We have access to the fluid mechanics laboratory in the Department of Mechanical Engineering at SJSU where pumping equipment, and fluid transfer measurement equipment is located.

F. Any extenuating circumstances regarding facilities that should be considered

None

VI. Description of curriculum

A. Specific website containing course descriptions for background and departmental courses:

The SJSU Fall 2010 – Spring 2012 Catalog can be accessed at:

<http://info.sjsu.edu/home/catalog.html> (page 354 – 360)

B. Required courses in each of the following background subjects:

Course Name	Dept.	No.	Credits	Lab. Included
Chemistry				
General Chemistry	Chem	1A, 1B	5,5	Yes
Organic Chemistry	Chem	8	3	No
	Chem	9	1	Yes
Biochemistry	Chem	135	4	No
Quantitative Chemistry	Chem	55	4	Yes
Physical Chemistry	Chem	160	4	No
Biological Sciences				
Biology	Biol	10	3	No
General Microbiology	Micro	20	5	Yes
Human Physiology	Biol	66	5	Yes
Human Nutrition				
Nutrition for Health Professions	NuFS	008	3	No
Physics				
General Physics	Phys	2A	4	Yes
Mathematics				
Calculus	Math	30	3	No
Statistics				
Statistics	Stat	95	3	No
Communications				
Written	HPrf	100W	3	No
Oral	Comm	20	3	No
Ethics				
Business	Bus	2	3	No

C. Any extenuating circumstances regarding background courses that should be considered: None

D. Required courses (excluding background courses) listed in numerical order

Course Number	Credit Hour/ Semester	<u>Title</u>
NuFS 031	1	Professionalism in Nutrition, Food Science & Packaging
NuFS 101A	4	Food Science
NuFS 103	3	Food Processing & Packaging I
NuFS 117	3	Food Evaluation Techniques
NuFS 118	3	Food Chemistry
NuFS 122	3	Food Analysis
NuFS 133	3	Food Processing & Packaging II
NuFS 150	2	Food and Nutritional Toxicology
NuFS 155	3	Food Process Engineering
NuFS 192	2	Field Experience Nutrition, Food Science & Pkg Tech
PKG 107	3	Principles of Packaging
Micro 123	3	Food Microbiology

E. Elective courses offered, listed in numerical order

General Education (GE) Requirements are 27 credit hours. Of the 51 total required by the university, 24 satisfied by specific major.

American Institutions (6). Of the 6 credits required by the university, all may be satisfied within general education requirements as specified in schedule of classes.

Physical Education (Kin) (2)

VII. coverage of IFT Core Competencies

The following tables show the required food science courses in which the IFT Core Competencies in Food Chemistry and Analysis, Food Safety and Microbiology, Food Processing and Engineering, Applied Food Science and Success Skills are covered.

IFT CORE COMPETENCY/COURSE (Key: X - covered in detail; O – covered to some extent)		Required Food Science Courses											
		Principles of Packaging	Food Microbiology	Field Experience in Nutrition, Food Science	Food Process Engineering	Food and Nutritional Toxicology	Food Processing & Pack II	Food Analysis	Food Chemistry	Food Evaluation Techniques	Food Processing & Pack I	Food Science	Professionalism in Nutrition, Food Science
		PKG 107	Micro 123	NuFS 192	NuFS 155	NuFS 150	NuFS 133	NuFS 122	NuFS 118	NuFS 117	NuFS 103	NuFS 101A	NuFS 031
1. Food chemistry and analysis	Understand the chemistry underlying the properties and reactions of various components.						O	X	X		X	X	
	Have sufficient knowledge of food chemistry to control reactions in foods.							X	X		O	O	
	Understand the major chemical reactions that limit shelf life of foods.								X		X	O	
	Be able to use the laboratory techniques common to basic and applied food chemistry.							X	O			O	
	Understand the principles behind analytical techniques associated with food.							X				O	
	Be able to select the appropriate analytical technique when presented with a practical problem.							X					
	Demonstrate practical proficiency in food analysis laboratory.							X					

IFT CORE COMPETENCY/COURSE (Key: X - covered in detail; O – covered to some extent)		Required Food Science Courses											
		<u>NuFS 031</u>	<u>NuFS 01A</u>	<u>NuFS 103</u>	<u>NuFS 117</u>	<u>NuFS 118</u>	<u>NuFS 122</u>	<u>NuFS 133</u>	<u>NuFS 150</u>	<u>NuFS 155</u>	<u>NuFS 192</u>	<u>Micro 123</u>	<u>PKG 107</u>
II. Food safety and	Be able to identify the important pathogens and spoilage microorganisms in foods and the conditions under which they will grow.		O									X	
	Be able to identify the conditions under which the important pathogens are commonly inactivated, killed or made harmless in foods		O	X								X	
	Be able to utilize laboratory techniques to identify microorganisms in food.											X	
	Understand the principles involving food preservation via fermentation.			X								X	
	Understand the role and significance of microbial inactivation, adaptation and environmental factors (i.e. a _w , pH, temperature) on growth and response of microorganisms in foods.			X				X				X	
	Be able to identify the conditions, including sanitation practices, under which the important pathogens and spoilage micro-organisms are commonly inactivated, killed or made harmless.		X	X				X				X	
III. Food processing & engineering	Understand the sources and variability of food raw material and their impact on food processing operations.			X				X		X			
	Know the spoilage and deterioration mechanisms in foods and methods to control deterioration and spoilage.			X				X					
	Understand the principles that make a food product safe for consumption.			X				X					
	Understand the transport processes and unit operations in food processing as demonstrated both conceptually and in practical laboratory settings.			X				X		X			
	Be able to use the mass and energy balances for a given food process.									X			
	Understand the unit operations required to produce a given food product.			O				X		X			
	Understand the principles and current practices of processing techniques and the effects of processing parameters on product quality.			X				X		X			
	Understand the properties and uses of various packaging materials.			X									X
	Understand the basic principles and practices of cleaning and sanitation in food processing operations.		O	X				X		X			
Understand the requirements for water utilization and waste management in food and food processing.			O				X		X				

IFT CORE COMPETENCY/COURSE (Key: X - covered in detail; O – covered to some extent)		Required Food Science Courses											
		NuFS 031	NuFS 01A	NuFS 103	NuFS 117	NuFS 118	NuFS 122	NuFS 133	NuFS 150	NuFS 155	NuFS 192	Micro 123	PKG 107
IV. Applied food science	Be able to apply and incorporate the principles of Food Science in practical, real-world situations and problems.		X	X			X	X		X	X		
	Know how to use computers to solve Food Science problems.		O	O						X	X		
	Be able to apply statistical principles to Food Science applications.				X		X	X			X		
	Be able to apply the principles of Food Science to control and assure the quality of food products.		O	O				X		X			
	Understand the basic principles of sensory analysis.		O		X								
	Be aware of current topics of importance to the food industry.			O							X		
	Understand government regulations required for the manufacture and sale of food products.			O			X		X			O	
	Demonstrate the use of oral and written communication skills.	X		O			X	X		X	X	X	
V. Success Skills	Define problem, identify potential causes and possible solutions, and make thoughtful recommendations.						X		X	X	X	X	X
	Apply critical thinking skills to new situations.	O	O	O	X	X	X			X	X	O	O
	Commit to the highest standards of professional integrity and ethical values.	X											
	Work and/or interact with individuals from diverse cultures.	X	X	X	X	X	X	X		X	X	X	X
	Explain the skills necessary to continually educate oneself.	X									X		
	Work effectively with others.		X	X	X	X	X	X		X	X	X	
	Provide leadership in a variety of situations.			X		X	X				X		
	Deal with individual and/or group conflict.										O		
	Independently research scientific and nonscientific information.								X		X		
	Competently use library resources.		X	X	X	X	X	X	X	X		X	X
	Manage time effectively.		X	X		X	X	X		X	X	X	
	Facilitate group projects.		O		X				X				
Handle multiple tasks and pressures.		O							X	X			

VIII. Course outcomes and assessments

A & B. The specific learning outcomes (A) and tools used to assess learning outcomes (B) for each required food science course are shown in the following tables.

NuFS 031 - Professionalism in Nutrition, Food Science and Packaging

IFT Competency	Learning Outcome	Bloom's Taxonomy*	Assessment Tool(s)	Learning Activities
Be aware of topics of importance to the food industry .	Explain current events that relate to Food Science and Technology.	I, II	Current events assessed as to relationship to Food Science and Technology.	Share current events in class.
Demonstrate the use of oral and written communication skills.	Describe steps in career path.	III	Evaluation of Portfolio.	Write biography, resume and career path and share highlights orally.
Commit to the highest standards of professional integrity and ethical values.	Recognize ethical issues that can occur in Food Science and Technology and Professional and Personal Values that can be applied.	V, VI	Evaluation of oral report and written report.	Description of ethical dilemmas and application of professional and personal values.
Work and/or interact with individuals from diverse cultures.	Effectively work with a team.	II	Evaluate group project.	Group project related to ethical dilemmas.
Explain the skills necessary to continually educate oneself.	Recognize steps in career path and need for obtaining further knowledge.	V, VI	Evaluate reflections written on Professional meeting and Portfolio.	Assignment to attend Professional meeting; development of career plan in portfolio.
Work effectively with others.	Effectively work with a team.	II	Evaluate group project.	Group project related to ethical dilemmas.
Provide leadership in a variety of situations.	Lead and participate in group project.	VI	Ethical Dilemma Project assessed.	Ethical dilemma group project activity.
Deal with individual and/or group conflict.	Make group decision despite conflicts.	VI	Evaluation of group project for cohesiveness.	Ethical Dilemma group project activity.

Blooms Taxonomy Key: I – Remember; II – Understand; III – Apply; IV – Analyze; V – Evaluate; VI – Create

NuFS 101A – Food Science (Lecture and Laboratory)

IFT Competency	Learning Outcome	Bloom's Taxonomy	Assessment Tool(s)	Learning Activities
Understand the chemistry underlying the properties and reactions of various components.	Explain the chemistry underlying the properties of various major and minor food constituents.	I, II	Quizzes, and examinations. Evaluation of assignments and laboratory results.	Lecture, reading assignments, class discussions
Be able to apply and incorporate the principles of Food Science in practical, real-world situations and problems	Use general food science concepts to understand key principles as they relate to specific food products and to relate the complexity of food from nutritional to quality aspects.	II, III	Test questions – short essay, homework assignments.	Class discussions, reading assignments and lectures
Work effectively with others and/ interact with individuals from diverse cultures.	Demonstrate team building skills through in carrying out group assignments and laboratory projects.	III	Evaluate interaction between group/lab partners and ability to complete assigned projects/lab experiments.	Student will work together with their partners and other pairs to complete group assignments and lab. Exercises.
Facilitate group projects.				
Be able to identify the conditions, including sanitation practices, under which the important pathogens and spoilage microorganisms are commonly inactivated, killed or made harmless	Discuss microbial deterioration mechanisms, the principles of sanitation practices to control pathogenic and spoilage microorganism and evaluate the effect of various environmental conditions and food processing environments on microorganism in food.	I, II, III, V	Exam questions: short essay, homework assignments and lab reports.	Lecture, class discussions related to specific experiments. Review exam questions in class.
Competently use library resources.	Use library resources available on campus	III	Evaluation of library assignment	Use of library resource staff.
Manage time effectively.	Show self motivation and ability to prioritize goals	III	Meet course deadlines and complete lab work on time	Reading assignment on time management.

NuFS 103 – Food Processing & Packaging I (Lecture and Laboratory)

IFT Competency	Learning Outcome	Bloom's Tax.	Assessment Tool(s)	Learning Activities
Understand the chemistry underlying the properties and reactions of various components.	Identify and explain the chemical properties of the major (water, carbohydrate, lipid and protein), and the minor (vitamins, enzymes, minerals, pigments, and additives) constituents of foods;	I, II	Examinations, problem sets and laboratory reports	Lecture, class discussions, review of problem sets prior to examinations and lab activities
Understand the major chemical reactions that limit shelf life of foods.	Recognize & understand the major desirable and undesirable chemical changes that food constituents can undergo during processing, storage of food.	II, IV	Examinations, problem sets, laboratory reports/ notebook	Lecture, class discussions and lab activities.
Be able to identify the conditions under which the important pathogens are commonly inactivated, killed or made harmless in foods	Understand and explain the effect of moisture, a_w , chemical additives, heat, refrigeration and freezing, radiation and high pressure on growth of pathogens in food.	II, IV	Examinations and problem sets	Lecture, class discussions and review of problem sets
Understand the principles involving food preservation via fermentation.	Explain the biochemical and preservation aspects of food fermentation.	II	Written examination & laboratory experiment	Lecture, class discussions and lab experiments
Understand the role and significance of microbial inactivation, adaptation and environmental factors (i.e. a_w , pH, temperature) on growth and response of microorganisms in foods.	Identify and explain the intrinsic and environmental aspects of foods and how they affect the growth and metabolism of food borne Microorganisms.	II, IV	Written examination, problem sets/library assignment and lab reports.	Lecture, class discussions, assignments/pr oblem sets and lab experiments,
Be able to identify the conditions, including sanitation practices, under which the important pathogens and spoilage microorganisms are commonly inactivated, killed or made harmless	Compare and contrast food spoilage and pathogenic microorganisms how their growth are enhanced or inactivated.	II, IV	Written examination, problem set/library assignment and report.	Lecture, class discussions and review discussions problem set/library assignment.

NuFS 103 – Food Processing & Packaging I (Lecture and Laboratory) (cont'd)

Know the spoilage and deterioration mechanisms in foods and methods to control deterioration and spoilage.	Identify and explain the various types of food deterioration, their deteriorative mechanism and the factors that enhance or inhibit them.	II, IV	Written examination, problem set/assignment and lab reports	Lecture, class discussions, assignments /problem sets and lab experiments
Understand the principles that make a food product safe for consumption.	Identify and explain the principles, development and implementation of new technologies designed to remove health hazards associated with microbial pathogens and enhance food quality.	I, II	Written examination, laboratory assignment	Lecture, class discussions of laboratory assignment.
Understand the sources and variability of food raw material and their impact on food processing operations.	Explain why the enormous variability of plant and animal biological systems and the number of different food products available, will greatly influence the steps and unit operations in their manufacture/processing.	II, IV	Written examination, problem set/assignment	Lecture, class discussions and review of problem set, assignment.
Understand the transport processes and unit operations in food processing as demonstrated both conceptually and in practical laboratory settings.	Describe and contrast the various transport system used for solid, liquid and semi-solid food materials and the various unit operations they go through in the preservation and processing of safe and good quality food products.	II, IV	Written examination and problem set/assignment	Lecture, discussion of problem set, assignment
Understand the principles and current practices of processing techniques and the effects of processing parameters on product quality.	Explain how preservation and production of good quality and safe food products are accomplished by using one or more of a range of technologies/operations including washing, grinding, mixing, cooling, storing, heating, freezing, filtering, fermenting, extracting, centrifuging, frying, drying, concentrating, pressuring, irradiating, microwaving and packaging.	II, IV	Written examination and laboratory report	Lecture and laboratory activity

Blooms Taxonomy Key: I – Remember; II – Understand; III – Apply; IV – Analyze; V – Evaluate; VI – Create

IFT Competency	Learning Outcome	Bloom's Tax.	Assessment Tool(s)	Learning Activities
Be able to apply statistical principles to Food Science applications.	Demonstrate critical thinking skills in the planning, data collection and selection of statistical methods in sensory data analysis and testing of hypothesis, interpretation & communication of sensory data/results.	II, III, VI	Written exam, problem set/assignment and laboratory report.	Lecture, laboratory activities, class discussion and review of problem set and exam.
	Determination of threshold for the four basic tastes	III	Written exam and lab report.	Lecture, discussions, lab exercise
	Plan, design, conduct, analyze and write report on a discrimination test and use statistics to make inferences.	VI	Written examination, discrimination test report.	Lecture, discrimination test exercise.
Understand the basic principles of sensory analysis.	Apply the basic anatomy and physiology of human sensory systems to understand the mechanisms of taste, smell, texture and hearing sensations.	II, III	Written examination and laboratory reports	Lecture, class discussions and laboratory activity and assignment
Apply critical thinking skills to new situations.	Explain the basic principles of objective and subjective methods of food analysis and how these principles are applied in quality control, quality assurance, new product development, product improvement and basic research in food science and technology.	II	Written examination and laboratory reports	Lecture, class discussions and laboratory exercises.
Work and/or interact with individuals from diverse cultures.	Demonstrate team building, leadership and organization skills through laboratory group activities and group assignments. Work effectively with others to carry out specific assignments and projects	II, VI	Observations of leadership and group dynamic skills; meeting project, assignment, and report deadlines.	Laboratory activities and group projects and assignments.
Work effectively with others.				
Provide leadership in a variety of situations.				
Facilitate group projects.				

NuFS 118 – Food Chemistry (Lecture and Laboratory)

IFT Competency	Learning Outcome	Bloom's Tax.	Assessment Tool(s)	Learning Activities
Understand the chemistry underlying the properties and reactions of various components.	Explain the chemistry of the major and the minor constituents of foods including their structure, properties and reactions.	II	Written examination	Lectures and class discussions
Have sufficient knowledge of food chemistry to control reactions in foods.	Identify and discuss the major chemical reactions that occur during food preparation, processing and storage and the intrinsic and environmental factors that affect the rates of these reactions.	II	Written examination and laboratory reports	Lecture and laboratory experiments.
Understand the major chemical reactions that limit shelf life of foods.	Apply the principle of kinetics of deteriorative chemical reactions (lipid oxidation, Maillard browning, etc.) in predicting shelf life of foods.	III	Written examination and laboratory reports	Reading assignments, lectures, & discussions of lab results
Apply critical thinking skills to new situations.	Solve specific problems in food chemistry for a wide variety of current and important topics.	III, IV	Primarily short essay exam questions, homework, problem set assignments	Reading assignments, lectures and class discussions
Work and/or interact with individuals from diverse cultures.	Demonstrate team building, organizational and leadership skills through laboratory group activities and group assignments. Work effectively with others to carry out specific assignments and projects	III	Observations of leadership and group dynamic skills; project and assignment reports.	Group assignments and laboratory experiments
Work effectively with others.				
Provide leadership in a variety of situations.				
Competently use library resources.	Search the scientific literature and find appropriate explanation to chemical deterioration reactions occurring during processing and storage of food.	III	Written and oral reports of selected topic	Searching the scientific literature
Manage time effectively.	Demonstrate effectiveness in completing various tasks on time.	III	Meet deadline of submission of project/assignment final report	Oral and written presentations

Blooms Taxonomy Key: I – Remember; II – Understand; III – Apply; IV – Analyze; V – Evaluate; VI – Create

NuFS 122 – Food Analysis (Lecture and Laboratory)

IFT Competency	Learning Outcome	Bloom's Taxonomy	Assessment Tool(s)	Learning Activities
Understand the chemistry underlying the properties and reactions of various components.	Explain the chemistry and the physical properties involved in the analysis of the major and minor components of raw and processed foods.	II	Written exam, evaluation of lab notebook and laboratory reports.	Lectures, class discussions and laboratory activities.
Have sufficient knowledge of food chemistry to control reactions in foods.	Identify and describe the various intrinsic and environmental factors that affect the rates of chemical reactions in.	II, IV	Written examination and laboratory reports	Lectures, class discussions, lab activities.
Be able to use the laboratory techniques common to basic and applied food chemistry.	Identify and select appropriate official or standard method in the analysis of a specific food component/nutrient in a specific food product.	II, III	Written examination and laboratory reports	Lectures, class discussions and laboratory activities.
Understand the principles behind analytical techniques associated with food.	Explain the principles behind the analytical techniques (chemical, physical and instrumental) used in the analysis of food constituents/nutrients.	II	Written examination laboratory reports and lab performance.	Lectures, lab discussions and activities
Be able to select the appropriate analytical technique when presented with a practical problem.	Apply analytical methods in the analysis of nutrient composition of a commercial food product and compare the results to the values given in the nutritional label.	III, IV	Written examination laboratory reports and lab performance	Lectures, lab discussions and activities
Demonstrate practical proficiency in food analysis laboratory.				
Be able to apply and incorporate the principles of Food Science in practical, real-world situations and problems.	Understand how qualitative and quantitative analyses are applied in quality control, quality assurance, new product development, product improvement and basic research in food science and technology.	II, IV	Written examination lecture & laboratory assignments	Lectures, lab discussions and activities
Be able to apply statistical principles to Food Science applications.	Implement appropriate statistical techniques in the analysis of analytical data such as precision and accuracy of analytic measurements and hypothesis testing.	III, IV	Written examination laboratory notebook and reports	Lectures, lab discussions and activities

NuFS 122 – Food Analysis (Lecture and Laboratory) (cont'd.)

Be able to apply the principles of Food Science to control and assure the quality of food products.	Identify desired quality attributes that decline after harvest or during storage and apply analytical methods to monitor these quality attributes.	II, III	Written examination, problem set/assignment.	Lectures, class discussions
Understand government regulations required for the manufacture and sale of food products.	Identify and describe function and activities of the various federal, state and international agencies involved in the development, and implementation of food laws and regulations.	III	Written examination	Lectures and class discussions
Demonstrate the use of oral and written communication skills.	Prepare a written and oral presentation of a project on analytical technique used in the determination of antioxidants in food.	VI	Evaluations of oral presentation and written report	Scientific literature search, oral presentation and written report.
Apply critical thinking skills to new situations.	Solve food analysis related questions and problems.	III	Written exams and evaluation of problem set/assignment	Lectures, class discussions of problem set/assignment
Work and/or interact with individuals from diverse cultures.	Demonstrate team building, leadership and organization skills through laboratory group activities. Work effectively with others to carry out specific assignments and projects	III	Observations of leadership and group dynamic skills, project and assignment reports	Group assignments and laboratory experiments.
Work effectively with others.				
Provide leadership in a variety of situations.				
Competently use library resources.	Search the scientific literature and find appropriate analytical procedures for food product analysis.	III, VI	Evaluation of written and oral reports	Searching the scientific literature.
Manage time effectively.	Prepare and follow workable time schedule for laboratory group project and individual lab assignments.	VI	Meet submission deadline of laboratory reports and assignments	Oral presentation and written report
Facilitate group projects.	Plan, coordinate and execute a group project on instrumental method of food analysis.	VI	Evaluation of group final project report	Written report of the group project.

Blooms Taxonomy Key: I – Remember; II – Understand; III – Apply; IV – Analyze; V – Evaluate; VI – Create

NuFS 133 – Food Processing & Packaging II (Lecture and Laboratory)

IFT Competency	Learning Outcome	Bloom's Taxonomy	Assessment Tool(s)	Learning Activities
Understand the principles behind analytical techniques associated with food.	Apply analytical techniques in quality assurance and control as applied in food processing environment.	III	Written exams	Lectures and laboratory activities
Understand the role and significance of microbial inactivation, adaptation and environmental factors (i.e. a_w , pH, temperature) on growth and response of microorganisms in foods.	Apply the principles of water activity, pH and temperature in controlling undesirable microorganism in the development of new food products.	III	Written exams and product development project report.	Lectures and laboratory activity
Be able to identify the conditions, including sanitation practices, under which the important pathogens and spoilage microorganisms are commonly inactivated, killed or made harmless.	Apply critical thinking skills in the design of new a new food product including quality systems such as HACCP, sanitation, and GMP	III, VI	Final written report of the design of new food product project.	Literature search, laboratory activity and discussions.
Understand the sources and variability of food raw material and their impact on food processing operations.	Learn and apply various quality assurance/control tools and models to monitor specifications for raw materials and final product.	II, III	Written examinations, assignment report	Lectures and class discussions
Know the spoilage and deterioration mechanisms in foods and methods to control deterioration and spoilage.	Be able to explain and apply the general principles of HACCP and GMP in the control of spoilage and deterioration processes during processing and production of good quality and safe product.	II, III	Written examinations and project report.	Lectures, class discussions and library assignment
Understand the principles that make a food product safe for consumption.				

Blooms Taxonomy Key: I – Remember; II – Understand; III – Apply; IV – Analyze; V – Evaluate; VI – Create

NuFS 133 – Food Processing & Packaging II (Lecture and Laboratory) (cont'd.)

Understand the transport processes and unit operations in food processing as demonstrated both conceptually and in practical laboratory settings.	Identify the various transport processes involved in the development of specific food products.	II	Written examination and library assignment report.	Lectures and class discussions
Understand the unit operations required to produce a given food product.	Explain the impact of the complex nature or variability of biological systems used as raw materials on food processing unit operations and on the quality and safety of the final product. Be able to explain basic principles and concepts of the various food preservation/processing method and the unit operations involved in product development & processing of dairy, fruit and vegetable products. Should have knowledge of important food borne spoilage and pathogenic microorganisms and familiar with the methods, including sanitation, GMP and HACCP, to control spoilage, pathogen contamination and maintain the safety of food product.	I, II	Written examination and library assignment report.	Lectures and class discussions
Understand the principles and current practices of processing techniques and the effects of processing parameters on product quality.				
Understand the basic principles and practices of cleaning and sanitation in food processing operations.				
Understand the requirements for water utilization and waste management in food and food processing.				
Be able to apply and incorporate the principles of Food Science in practical, real-world situations and problems.				
Be able to apply statistical principles to Food Science applications.	Apply statistical process control (SPC) techniques to improve product safety and quality and to recognize probability distributions and their relationship to control charts.	II	Written exam questions, test problems	Lectures, homework problems

Blooms Taxonomy Key: I – Remember; II – Understand; III – Apply; IV – Analyze; V – Evaluate; VI – Create

NuFS 133 – Food Processing & Packaging II (Lecture and Laboratory) (cont'd.)

Be able to apply the principles of Food Science to control and assure the quality of food products.	Be able to integrate, chemical, biochemical, microbiological and sensory analysis principles in the development of food products that are safe, nutritious and flavorful.	III	Written examinations and written project report	Lectures and class discussions
Demonstrate the use of oral and written communication skills.	Be able to communicate scientific information to technical and nontechnical audience through oral and written reports.	VI	Evaluation of written and oral presentation of project.	Class discussions, written report, oral presentation.
Define problem, identify potential causes and possible solutions, and make thoughtful recommendations.	Identify key principles of product development process and distinguish ideas for precepts and prototypes using critical thinking and other problem solving schemes.	II	Written examinations and project report evaluation.	Lectures and class discussions
Work and/or interact with individuals from diverse cultures.	Demonstrate ability to work productively in collaboration with other individuals with diverse skills, and cultural background.	III	Evaluation of group project.	Project report discussions
Work effectively with others.				
Facilitate group projects.				
Independently research scientific and nonscientific information.	Plan, coordinate and execute a food product development and processing group project.	VI	Evaluation of project.	Project report discussions.
Competently use library resources.				

Blooms Taxonomy Key: I – Remember; II – Understand; III – Apply; IV – Analyze; V – Evaluate; VI – Create

IFT Competency	Learning Outcome	Bloom's Taxonomy	Assessment Tool(s)	Learning Activities
Be able to apply statistical principles to Food Science applications.	Implement appropriate statistical techniques in planning, design, collection, and analysis and interpretation of sensory analysis data.	II, III	Written exams problem sets, assignments	Lectures, discussions of problem sets and assignments
Understand the basic principles of sensory analysis.	Relate the importance of sensory analysis to the science of toxicology.	II	Written exams	Lectures and class discussions
Understand government regulations required for the manufacture and sale of food products.	Identify and describe the functions of agencies (federal, state & international) that are involved in the toxicological aspects of our food supply.	I, II	Written exams and assignments	Lectures, discussions of reading assignments
Independently research scientific and nonscientific information.	Interpret published statistical data on the toxicological aspects of food additives. Use of resources (library and web-based) concerning toxicology/safety of food that are used in regulatory decision-making process.	II, III	Written exams & evaluation of reading assignment and term paper.	Lectures, discussions of reading assignments
Competently use library resources.				
	Understand the scope of importance of the science of toxicology in food science and technology and nutritional science and the basic principles and concepts of toxicology and how these are applied in the study of the toxicological aspects of food/diet;	II	Written exams & evaluation of reading assignment	Lectures, discussions of reading assignments
	Identify the various classes of toxicants and potentially undesirable compounds present in various biological food systems, their chemical properties and toxic effects;			
	Explain the impact of toxicology on food processing and the impact of food processing on food/nutritional toxicology;			
Facilitate group projects.	Plan, coordinate and execute group project on current issues/problems in food/nutritional toxicology.	VI	Oral and written presentation of group project	Discussions of group projects

Blooms Taxonomy Key: I – Remember; II – Understand; III – Apply; IV – Analyze; V – Evaluate; VI – Create

IFT Competency	Learning Outcome	Bloom's Taxonomy	Assessment Tool(s)	Learning Activities
Understand the sources and variability of food raw material and their impact on food processing operations.	Understand the source and variability of raw food materials and how they affect processing operations.	II	Written examinations	Lectures and class discussions on raw materials handling
Understand the transport processes and unit operations in food processing as demonstrated both conceptually and in practical laboratory settings.	Explain the concepts of material and energy balances in food processing system, unit operations in food processing, the physics of fluid flow and mechanisms of heat transfer. Will be able to set up equations and solve energy balances for complex process flow systems (i.e. batch mixing) and thermal process calculations. Apply engineering principles in the understanding of various food processing operations such as thermal processing, freezing and thawing of foods, evaporation, dehydration and Concentration.	II, III, IV, V	Written examinations, report on laboratory assignments, evaluation of problem sets and assignments	Lectures, laboratory hands-on and demonstration assignments and discussions of the various process and review of the problem sets assignments.
Be able to use the mass and energy balances for a given food process.				
Understand the unit operations required to produce a given food product.				
Understand the principles and current practices of processing techniques and the effects of processing parameters on product quality.				
Understand the basic principles and practices of cleaning and sanitation in food processing operations.	Develop and apply sanitation program for a selected processed food product including the actual food process, the food processing facility, water utilization and waste management.	VI	Written exam and final report on processed food project	Lectures, class discussion and project report.
Understand the requirements for water utilization and waste management in food and food processing.				
Be able to apply and incorporate Food Science principles in practical, real-world situations and problems.	Demonstrate mathematical, computer, statistical and critical thinking skills to design and conduct experiments, collect and interpret data and predict the impact of raw material and processing changes in food safety and nutritional and sensory quality.	II, III, IV, V	Written examinations, problem sets, homework assignments and evaluation of performance on laboratory assignments	Lectures, laboratory activity, class discussions of problem sets and assignments
Know how to use computers to solve Food Science problems.				
Be able to apply the principles of Food Science to control and assure the quality of food products.				
Define problem, identify potential causes and possible solutions, and make thoughtful recommendations.				
Apply critical thinking skills to new situations.				

NuFS 155 – Food Process Engineering (Lecture and Laboratory) (cont'd)

IFT Competency	Learning Outcome	Bloom's Taxonomy	Assessment Tool(s)	Learning Activities
Demonstrate the use of oral and written communication skills.	Communicate scientific knowledge effectively both orally and in writing.	VI	Evaluation of oral and written presentation of projects and assignments	Discussion of project reports
Work and/or interact with individuals from diverse cultures.	Demonstrate ability to work productively in collaboration with other individuals with diverse skills, and cultural background.	VI	Evaluation of project report	Class room and laboratory activities
Work effectively with others.				
Manage time effectively.	Develop time management skills to fulfill multiple tasks and meet submission deadlines of project reports.	VI	Meet submission deadline of laboratory reports and assignments	Oral presentation and written report
Handle multiple tasks and pressures.				

*Blooms Taxonomy Key: I – Remember; II – Understand; III – Apply; IV – Analyze; V – Evaluate; VI – Create

IFT Competency	Learning Outcome	Bloom's Taxonomy	Assessment Tool(s)	Learning Activities
Be able to apply and incorporate the principles of Food Science in practical, real-world situations and problems.	Apply principles of food science to projects assigned by field supervisor.	III	Evaluation by field supervisor.	Log of learning experiences.
Know how to use computers to solve Food Science problems.	Apply computer skills to solve issues presented by field supervisor.	III, V	Evaluation of solutions developed for problems assigned	Utilize computer software as available in field experience, such as food labeling software or statistical packages, or do internet searches from reliable sources for background information.
Be able to apply statistical principles to Food Science applications.	Collect and analyze data statistically and draw appropriate conclusions.	IV	Evaluation of tables of data analyzed.	Statistical analysis of data based on project assigned by field supervisor.
Be aware of current topics of importance to the food industry.	Describe current issues of interest to the food industry.	I, II	Assessment of questions asked and answers provided by field supervisor, indicating awareness of student.	Literature searches related to food science problems.
Demonstrate the use of oral and written communication skills.	Articulate in both oral and written communication.	II, IV	Oral and written reports of activities and reflections of experiences and evaluation by field supervisor.	Oral report presented to Professionalism class and written abstract shared
Apply critical thinking skills to new situations.	Assess the scientific basis for popular food fads/beliefs.	IV, V	Evaluation by field supervisor.	Project assigned by field supervisor.
Define problem, identify potential causes and possible solutions, and make thoughtful recommendations.	Effective problem solving ability.	IV, V, VI	Evaluate problem solving process utilized for logic, thoroughness, and creativity by field experience supervisor.	Projects assigned by field supervisor related to such topics as product development or quality control.

NuFS 192 – Field Experience in Nutrition, Food Science & Packaging (cont'd.)

IFT Competency	Learning Outcome	Bloom's Taxonomy	Assessment Tool(s)	Learning Activities
Work and/or interact with individuals from diverse cultures.	Effectively work with staff members of diverse backgrounds.	II	Evaluation of results of group effort (e.g. written report) by field supervisor.	Group activity assigned by field supervisor.
Explain the skills necessary to continually educate oneself	Recognize steps toward keeping up to date in field.	I, II	Evaluation of oral discussions about keeping abreast of new developments in field by field supervisor.	Attendance at professional meetings; company staff meetings as allowed.
Work effectively with others.	Effectively work as a team with staff members.	II	Evaluation of results of group efforts, by field supervisor.	Project assigned by field supervisor involving other staff members as a team.
Provide leadership in a variety of situations.	Lead and participate in a group project of staff members as appropriate.	VI	Evaluation of leadership by field supervisor, via preparation demonstrated.	Activity assigned by field supervisor.
Independently research scientific and nonscientific information.	Research further information on topics through library search of scientific literature.	IV, VI	Assessment of scientific literature review.	Assigned by field supervisor to find updated scientific based information on topic.
Handle multiple tasks and pressures.	Develop timelines that address multiple projects occurring at the same time (e.g. Gantt chart or PERT chart)	II, IV	Assessment of multiple project timelines by field supervisor.	Prepare timelines and daily status reports.
Manage time effectively.	Develop and follow timelines for projects.	II	Evaluation of timelines by field supervisor.	Prepare project timelines and weekly status report.

*Blooms Taxonomy Key: I – Remember; II – Understand; III – Apply; IV – Analyze; V – Evaluate; VI – Create

IFT Competency	Learning Outcome	Bloom's Taxonomy	Assessment Tool(s)	Learning Activities
Be able to identify the important pathogens and spoilage microorganisms in foods and the conditions under which they will grow.	Identify and classify common food borne microorganisms according to the food or foods they are most likely to affect based on the intrinsic and environmental properties of the food and be able to assess the most suitable storage method for a given product.	I, II	Short essay and multiple choice questions, class discussions and laboratory reports/note book	Lectures, laboratory experiments and class discussions
Be able to identify the conditions under which the important pathogens are commonly inactivated, killed or made harmless in foods				
Be able to utilize laboratory techniques to identify microorganisms in food.	Carry out series of tests in the laboratory to isolate and identify common food borne spoilage and pathogenic microorganisms.	IV	Written examinations and evaluation of laboratory notebook and reports.	Lectures, laboratory discussions and laboratory activities
Understand the principles involving food preservation via fermentation.	Contrast and explain the biochemical aspects of various types of food fermentation	II	Written examination and laboratory reports.	Lectures, laboratory experiments and class discussions
Understand the role and significance of microbial inactivation, adaptation and environmental factors (i.e. a_w , pH, temperature) on growth and response of microorganisms in foods.	Growth requirements of common food borne spoilage and pathogenic microorganisms and understand intrinsic and environmental aspects of specific food products and they can affect or modify growth and metabolic processes of these microorganisms	II IV	Written examinations (combination of short essay and multiple choice questions). Evaluation of laboratory notebook and reports.	Lectures, class discussions, laboratory experiments
Demonstrate the use of oral and written communication skills.	Communicate scientific knowledge effectively both orally and in writing.	VI	Evaluation of oral and written presentation of projects/ assignments	Discussion of project reports
Work and/or interact with individuals from diverse cultures.	Demonstrate ability to work productively in collaboration with other individuals with diverse skills, and cultural background.	VI	Evaluation of project report	Class room and laboratory activities
Work effectively with others.				

IFT Competency	Learning Outcome	Bloom's Taxonomy*	Assessment Tool(s)	Learning Activities
Understand the properties and uses of various packaging materials.	Identify and contrast the various types of packaging materials, their properties, their advantages and disadvantages.	II	Written examinations and laboratory activity Report.	Lectures, class discussions and laboratory activity.
Define problem, identify potential causes and possible solutions, and make thoughtful recommendations.	Be able to design alternative packaging system and evaluate each in the perspective of the food product and its concept.	V, VI	Written examination and project report.	Lectures and reading assignments.
Work and/or interact with individuals from diverse cultures.	Use library resources to design a packaging system for a new food product.	VI	Evaluation of the final project report	Group project.
Competently use library resources.				

*Blooms Taxonomy Key: I – Remember; II – Understand; III – Apply; IV – Analyze; V – Evaluate; VI – Create

IX. Program outcomes and assessments

For the program as a whole:

Background

The Food Science and Technology program at San Jose State University relates to the study of food processing, food product development, food quality, food preservation and storage, and food safety. The program is offered in the Department of Nutrition, Food Science and Packaging. The Packaging program transferred to our department in 2006 from the College of Engineering. Packaging students enroll in Food Processing and Packaging I and Food Processing and Packaging II as well as Food Process Engineering. Food Science students will benefit from taking Principles of Packaging as a required course in the curriculum. A goal that evolved was to develop an elective course in Food Packaging that would benefit both food science students as well as packaging students. (A new graduate course was also developed.)

Specific outcomes

- Students graduating with a Concentration in Food Science and Technology will have the knowledge and skills needed to be employed for entry level positions in the food industry.
- Students graduating with a Concentration in Food Science and Technology will be active in a professional association.
- Students graduating with a Concentration in Food Science and Technology will have strong communication skills, both oral and written.
- Students graduating with a Concentration in Food Science and Technology will benefit from a new elective course in Food Packaging.
- Tools used to assess program outcomes (exit interviews or examinations, alumni surveys, employer surveys, food industry advisory boards, etc.)

Assessment tools included three surveys that indicated respondents' satisfaction with performance related to the IFT core competencies in Food Science. The student survey was administered to food science students enrolled in food science courses. Fourteen students (3 juniors and 11 seniors) responded. The alumni survey used a web based interactive questionnaire (Survey Monkey) administered to recent alumni of the food science and technology program. Nine alumni responded. Work experience ranged from 3 months to 5 years. The employer survey was also a web based interactive questionnaire and was sent to recent employers of graduates of our Food Science and Technology program. Six employers responded. Work experience of graduates ranged from 3 months to 5 years. There were 21 Food Science and Technology graduates within the last 5 years.

Brief summary of assessment results to date

- **Student Survey**
Results of the Student Survey indicated that 58% of the respondents rated their preparation in Food Chemistry and Analysis as satisfied to very satisfied; 75% for the Food Safety and Microbiology Competencies; 67% for Food Processing and Engineering; and Success Skills Competencies was rated by students as 73% satisfied/very satisfied. However, students rated the Applied Food Science Competencies much lower at 46% satisfied/very satisfied. The subcategories with the lowest ratings were: "Be able to apply and incorporate the principles of Food Science in practical real world situations and problems" (28%); "Know how to use computers to solve Food Science problems" (36%); "Be able to apply statistical principles to Food Science applications" (29%), and "Be able to apply principles of Food Science to control and assure the quality of food (28%). The students lack confidence about their knowledge in Food Science. Some of the students who responded to the survey have several courses left to complete. In addition to increasing the content in these lower rated areas, we will need to share information about the results of the employer survey and the alumni survey, which were

positive (89%, 87%) in order to provide more assurances for students as they proceed to finish their coursework for the Food Science and Technology degree. The low student satisfaction with the competency related to knowing how to use computers to solve Food Science problems is surprising since all Food Science students are required to complete a computer course. Perhaps there is an expectation to learn more software related to Food Science, but that may be appropriate for the field experience course taken their senior year, last semester. However, we will make an effort to increase computer applications in all Food Science courses.

- **Alumni Survey**

Regarding the alumni survey, 65% of the students responded that they were satisfied to very satisfied with their knowledge of the Food Chemistry and Analysis Competencies, 68% for the Food Safety and Microbiology Competencies, and 54% for the Applied Food Science Competencies. However, for the Food Processing and Engineering competencies the students' satisfaction rate was lower and only 50% responded that they were satisfied or very satisfied. The lowest satisfaction rate (22% satisfied or very satisfied) was for the competency: "Understand the requirements for water utilization and waste management and food processing." For the Success Skill category in general, the alumni felt satisfied with the preparation received in this area (79%) except a few alumni were not satisfied with sub-competency "Deal with individuals and/or group conflict." However, the rating for satisfied/very satisfied was still above 50% (at 55%). Overall, 50% of food science alumni rated their education at SJSU as satisfied or very satisfied regarding The IFT core competencies in Food Science.

- **Employer/Field Experience Supervisor Survey**

Ratings on the Satisfaction of Employers/Field Experience Supervisors with the preparation of our students for jobs and internships were positive. For the Food Chemistry and Analysis Competencies 64% of the Employers/Field Experience Supervisors were satisfied/very satisfied with the academic preparation of our students; for Food Safety and Microbiology, 67% satisfied/very satisfied; 65% for Food Processing and Engineering; 89% for Applied Food Science and 81% for Success Skills. Overall, 100 % of employers indicated that they were satisfied/very satisfied with the preparation of our students as employees/interns regarding the IFT core competencies in Food Science.

Analysis of Outcomes

Based on outcomes assessment surveys we feel that the first program outcome is being met. All of the respondents are employed in the food industry; 33.3% employed in manufacturing/production, 33.3% in management, 16.7% in sales marketing and 16.7% in quality control. Fifty percent were hired within three months of graduation; 37.5% received a promotion within the past year.

The second program outcome is related to students being active in a professional association; 83.3% are members of NCIFT and 71.4% are members of IFT; based on alumni survey responses.

The third program outcome involves students having strong communication skills; oral and written. Survey responses indicated that 55.6% of alumni have given professional presentations since graduation. Based on the employer survey 100% were satisfied/very satisfied with the use of oral and written communication skills of our graduates.

The fourth program outcome involved students benefitting from the opportunity of taking a course elective in Food Packaging. Our Packaging Professor Dr. Yambrach developed the course in conjunction with food science faculty. Evaluation of the course by students and alumni has been positive. The course is offered every other semester and the course evaluation score has consistently been rated 4.8/5.0 or higher each of the three times it has been offered. Employers have also been pleased with our graduates' increased knowledge of packaging in recent years.

X. Use of Results to Improve Learning

Plan for using assessment results to improve student learning through curricular modifications

The Department of Nutrition, Food Science and Packaging holds a goal planning and outcomes assessments meeting each Spring semester to make plans for changes in the future. Based on results of outcome assessments from courses as well as surveys, decisions are made as to whether course content and curriculum revisions need to be made. The revisions need to be presented and justified to the College Curriculum Committee and then the University Curriculum Committee and Office of Undergraduate Studies for approval.

Regarding curriculum changes in the last 5 years in the Food Science and Technology curriculum, Food Microbiology was changed from Micr 123 (inclusive of both lecture and lab in 3 units) to Micr 123 (1 unit of lecture) and Micr 123L (2 units of lab) where the student enrolls in 2 separate courses to cover the same content as before. Food Microbiology is offered by the Biology Department and they worked with us on their need to change the structure to 2 courses to better meet the needs of students in their department who needed the option to take the lecture without the lab in some cases. This also required the University Office of Undergraduate Studies approval.

Another curriculum change involved transforming the Professionalism in Nutrition, Food Science and Packaging NuFS 31 course from upper division to lower division. In the previous application to IFT for re-approval 5 years ago, the course was identified as NuFS 121 instead of NuFS 31. The change was due to a statewide initiative to reduce difficulties in course articulation with community colleges. The Professionalism course was identified as a course that needed to be designated as lower division statewide so that community colleges could offer it and students could transfer the course to the 4-year university. We haven't found this to be the case in transfer students from community colleges who enroll at SJSU, but the opportunity is provided. This revision also required the approval of the University Office of Undergraduate Studies.

An additional curriculum revision requiring the approval of the University Office of Undergraduate Studies was the change from ISE 107 Introduction to Packaging Engineering to Pkg 107 Principles of Packaging. This change was required since the Packaging Program was transferred from Engineering to our department in 2006.

Brief summary of improvements and modifications to date

- **Course Content**

Based on student survey responses, more efforts will be made to provide students with application of principles of Food Science in practical, real world situations and problems. The evidence was obtained from the student survey results. Only 28% of the students indicated satisfied/very satisfied with the following IFT Core Competency on the questionnaire: "Be able to apply and incorporate the principles of Food Science in practical real world situations and problems". We were surprised at the students' response. We plan to make efforts to increase students' confidence in their knowledge of food science and their ability to apply their knowledge to practical situations via reference to more practical examples in classes. Students need more assurances of the skills they are learning. Also reference to more computer software programs used in food science will help students understand application of computers to their careers (36% satisfied/very satisfied). More references to statistical and quality control principles will also be made in Food Science courses (29% satisfied/very satisfied).

Based on Alumni Responses, (22% satisfied or very satisfied) the course content on water utilization and waste management in food processing will be increased.

Regarding alumni responses, the lowest IFT Core Competency in the "Success Skill" category was "Deal with individual and/or group conflict" (55%). Also comments from alumni provided

feedback on the importance of teamwork in the work setting versus so much emphasis on individual work. This feedback provided motivation to the instructor of Food Processing and Packaging II NuFS 133 to incorporate a team approach to an assignment of applying for a food product competition. This also increased enthusiasm and engagement of students in the course.

In addition to feedback from alumni, it was noted that some students were performing poorly in the Food Process Engineering course NuFS 155 and the Food Processing and Packaging II NuFS 133. Students were having difficulty applying the math and physics knowledge that they had learned in prerequisite courses in the Food Process Engineering course and were earning poor scores on some assignments and exams. The food industry experience of our part-time faculty teaching these 2 courses provided encouragement to try more of a team approach in their teaching of the labs. A more practical application and team approach made more sense to students and motivated them to prepare more completely for each class meeting. The same was true for the Food Processing and Packaging II course NuFS 133. Students were having difficulty applying the prerequisite course content of statistics and food microbiology to the course assignments for NuFS 133 and were performing poorly. The team approach assignment of applying for a food product competition provides students with a new motivation to review their statistics and food microbiology textbooks and be better prepared for each class meeting.

- **Other**

We have observed that not very many of our students are attending NCIFT regional meetings lately. One issue is that meetings are scheduled at a fair distance from San Jose, and even though there is a lower "Student meeting fee" charged for the dinner meetings, the students feel it is too high for them to afford. However, perhaps if the students carpool and incentives are provided, more students will be motivated to attend. There is a Suppliers' Night held each year in May in Pleasanton, which is only 45 minutes away from San Jose, so we hope to especially encourage a high attendance at that event since we have a department display table staffed by our students and faculty each year.

Feedback from students in the Field Experience Course NuFS 192 include comments on the need for more help in obtaining their field placement for a minimum of 90 hours during their senior year. Based on these student responses we now have the field experience NuFS 192 students share their experiences orally with the freshman/sophomore students enrolled in the Professionalism course NuFS 31.

This sharing of field experiences helps the freshman/sophomore food science students to gain a concept early-on of the options that exist for field experience placements in the food industry and their locations in the San Francisco Bay Area. Some of the local field experience sites include: Conagra Foods – Gilroy Foods, Kagome Foods, Mattson, Monterey Mushrooms, Otis Spunkmeyer, Safeway Inc., Sconza Candy, Shasta Beverages and T. Marzetti Company. We are working on developing a more complete list of possible food science companies willing to accept students for field experiences. We need to include specific names of individuals whom the students can contact, as well as current email addresses, telephone numbers and street addresses. This will make the process smoother for students in finding a suitable field experience for their NuFS 192 course. (NuFS 192 students are evaluated by their field supervisors; we are proud that they usually receive a letter of recommendation or are hired by the company after completion of the field experience.)

Written comments on surveys from students and alumni provided feedback on the need for better student advising. We incorporated a career/course plan/advisement assignment in the Professionalism in Nutrition, Food Science and Packaging NuFS 31 course. This course is taken by students in the beginning of their curriculum and this assignment forces students to do some

reflection on their 10 year career plan and write a sequence of projected courses plan toward graduation and show it to an advisor for feedback and a signature of approval.

The activity of beginning to develop their Portfolio has been added to the Professionalism class and helps students to do career planning as well as course planning after listening to guest speakers share about various career options. Incorporation of these assignments in the NuFS 31 course have reduced students' stress levels and decreased negative comments.

- **Future Program Outcomes**

Regarding future program outcomes, we plan to revive our Industry Advisory Board. With the death of a key member as well as several retirements, we have had a lapse in enthusiasm of board members and frequency of meetings. A goal will be to invite new industry members and increase their involvement related to the program and frequency of meetings.

Another future program outcome would be to increase student recruiting efforts. Having Packaging students join our Department has been positive, but we wish to keep the food science student enrollment strong so that there is justification to offer courses more often instead of alternate years and semesters. We plan to work with the Career Center and student outreach activities.

We will retain the all important culminating program outcome of "Students graduating with a Concentration in Food Science and Technology will have the knowledge and skills needed to be employed for entry level positions in the food industry" for the next 5 years. We will also continue to retain the other 2 outcomes as they are still relevant as goals of our program: "Students graduating with a Concentration in Food Science and Technology will be active in a professional association" and "Students graduating with a Concentration in Food Science and Technology will have strong communication skills, both oral and written."

We have numerous students who have English as a second language so communication skills are essential and need to continue to be stressed. All in all the outcomes assessment surveys have been very helpful in providing feedback to our Food Science and Technology Concentration program. The employer surveys are especially useful and comments like "The students we have worked with are knowledgeable and hard working," say it all!

IFT Accreditation Letter



Institute of Food Technologists
525 W. Van Buren Street, Suite 1000
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+1.312.782.8348 Fax
ift.org

March 16, 2011

Lucy M. McProud
San Jose State Univ.
Dept of Nutrition & Food Sci.
San Jose, CA 95192-0058

Dear Dr. McProud:

As you know from our conference call on Friday, March 4, the IFT Higher Education Review Board (HERB) voted to approve your program, BS in Nutritional Sciences with a concentration in Food Science and Technology, in regards to meeting the IFT Undergraduate Education Standards for Degrees in Food Science. Please ensure that students, faculty and administrators understand that only students enrolled in this particular emphasis/option are eligible for IFT undergraduate scholarships.

Thank you for providing updated sections IX and X of your application as requested in November and for sending the syllabi for each of your courses. After reviewing your re-submission, HERB felt that you adequately addressed our concerns regarding how the assessment and outcomes directly corresponded to the core competencies. For your next review, HERB would like your program to incorporate the learning outcomes for each course you listed in Section VIII into each course syllabus used by faculty and handed out to students. These learning outcomes should match for the next program approval process. Noting the improvements and changes implemented based on the assessment and outcomes process will also be important.

We look forward to reviewing your program again in Fall 2015. Please note that the 2011 version of the IFT Guidelines will be in place for your next review. You will receive additional communication within the next six months when the new Guidelines are ready for distribution.

Thank you for your time and effort in submitting your application materials and your continued efforts in training the next generation of food scientists.

Sincerely,

Robert McGorin
Chair, Higher Education Review Board

Enclosure

C: George Miller, IFT Staff Coordinator
C: Wayne Iwaoka, Lead Reviewer



ASSESSMENT PROGRESS REPORT

2012 –13

<p>Food Science Program: Department of Nutrition, Food Science and Packaging San Jose State University San Jose, CA 95192</p> <p>Name of Coordinator: Dr. Lucy McProud, PhD, RD,CFS Title: Department Chairperson E-mail: Lucy.mcproud@sjsu.edu</p>	<p style="text-align: center;">Faculty who participated in the development or approval of this Assessment Progress Report</p> <p style="text-align: center;">Panfilo S. Belo, PhD., CFS Professor</p>
<p style="text-align: center;">OUTCOME MEASURED</p> <p style="text-align: center;">For</p> <p style="text-align: center;">NuFS 117 FOOD EVALUATION TECHNIQUES</p>	<p>With active participation in all aspects of this course, students at the end of the semester will have:</p> <p>(1) developed mastery of the:</p> <ul style="list-style-type: none"> • basic anatomy and physiology of human sensory systems (olfaction, taste/substation, vision, and hearing) used in sensory analysis of food. • basic principles of objective and subjective (sensory analysis) methods of food analysis. • laboratory and consumer measurements of sensory attributes of food. <p>(2) demonstrated an understanding of:</p> <ul style="list-style-type: none"> • the mechanisms of taste, smell kinesthetic/texture and hearing sensations. • the scope of importance of sensory analysis in the evaluation of food selection patterns and preferences, and the overall acceptance of food from the consumer standpoint. • how the basic principles of objective and subjective methods of food analysis are applied in quality control, quality assurance, new product development, quality improvement and basic research in food science and technology. • the application of statistical principles used in the analysis of sensory analysis data. <p>(3) developed:</p> <ul style="list-style-type: none"> • skills in basic laboratory techniques and in the selection of appropriate sensory analysis method. • critical thinking skills in the planning, collection and analysis/interpretation and communication of sensory data/results. • team building and organizational skills through laboratory activities.

Methods of Assessment

for

NuFS 117
FOOD EVALUATION
TECHNIQUES

- As a foundation course for undergraduate and graduate students in food science, nutrition and food packaging majors in the department, midterm and final examinations are used to test their knowledge and application of the basic principles and concepts; problem sets, assignments and laboratory activities assess application and analysis.

	Undergraduate	Graduate
Examination #1	100 points	100 points
Examination #2	100 "	100 "
Final Examination	100 "	100 "
Lab. Reports	100 "	100 "
Problem sets	75	75 "
Class participation	25 "	25 "
Mini Project	----	100 "
Total Points	500	600

- Instructor evaluation of laboratory reports using the lab report grading rubric.

Points	What are Expected
9.0 – 10.0	Report illustrates an accurate and thorough understanding of scientific concepts underlying the lab, procedures appear to be replicable, all variables are clearly described with all relevant details, data/results are properly and accurately presented in tables or graphs and are properly labeled and titled, relationship between the variables is discussed and trends/patterns logically analyzed, predictions are made about what might happen if part of the lab were changed or how or how the experimental design could be changed, conclusion includes whether results/data support the hypothesis, possible sources of errors and what was learned from the experiment, and lab report is typed and uses headings and subheadings to visually organize the material.
8.0 – 9.0	Report illustrates an accurate understanding of most scientific concepts underlying the lab, procedures appear to be replicable, variables are clearly defined with most relevant details, data/results are accurately presented in tables or graphs and are properly labeled and titled, relationship between variables is discussed and trends/patterns logically analyzed, conclusion results/data support the hypothesis, possible sources of errors and what was learned from the experiment and report is neatly handwritten and uses headings and subheadings to visually organize the material.
7.0 -8.0	Report illustrate a limited understanding of scientific concepts underlying the lab, procedures are outlined but there is not enough detail to replicate procedures, most variables are clearly described with more relevant details, accurate presentation of data/results but no tables or graphs are presented, relationships between the variables is discussed but but no patterns, trends or predictions are made based on the data, conclusion includes what was learned from the experiment, and lab report is neatly typed or written but formatting does not help visually organize the material.
6.0 -7.0	Report illustrates inaccurate understanding of the scientific concepts underlying the lab, several steps in the procedure are not outlined and there is not enough detail to replicate procedure, variables are not described or the majority lack sufficient detail, data/results are not shown or are inaccurate, relationship between the variables is not discussed, no conclusion included in the report or shows little effort and reflection, and lab report is handwritten and looks sloppy with cross-outs multiple erasures and or tears and creases.

	<p><6.0</p>	<p>Report is incomplete; missing several major parts, graphs and/or data is missing or incorrect and no references to data are made in the text; shows little or minimal effort and represents little or no understanding of the material.</p>
<p>Summary of Key Findings for NuFS 117 FOOD EVALUATION TECHNIQUES</p>	<ul style="list-style-type: none"> • May 2012 student survey results related to this course learning outcomes. • Observation of students during laboratory sessions. • At the end of each semester, students are asked to complete student opinion on teaching effectiveness in both lecture and laboratory. <ul style="list-style-type: none"> • • The adoption of the Guidelines for Laboratory Exercises for a Course in Sensory Evaluation of Foods compiled the sensory Evaluation Division of the Institute of Food Technologist, was a major factor in the development of student's skills in basic laboratory techniques, in the selection of appropriate sensory analysis method, critical thinking skills, in the planning, collection and analysis/interpretation and communication of sensory data/results. • Problem sets given a week before the scheduled midterm and final exams to test their ability solve statistical problems related to sensory analysis and their ability to integrate the various sensory principles and concepts improve student performance in the scheduled examinations. • Student opinion on teaching effectiveness in both lecture and laboratory ranged from average to above average (3.5 – 4.5). About 40 -60% of the students indicated very minimal background in statistics and experimental design which are applied in the planning and analysis of sensory data. • Rubrics for evaluation of laboratory reports were developed and students with writing problems were identified and referred to the university writing laboratory. • Involvement of the undergraduate students in the mini research projects of the graduate students helped in developing experimental planning, data collection and analysis skills. 	

Appendix C. Assessment Documents

Supervisor Evaluation of Capstone (NUFS 192) Experience

Student's Name: _____ Major: _____
 Evaluator's Name (Print): _____ Title: _____
 Signature: _____ Date: _____
 Organization: _____
 Address: _____
 Telephone: _____ Email: _____

Please rate the student for all learning outcomes that apply, and make comments where appropriate. Mark column A if the student demonstrated the learning outcome in the field with you. For each learning outcome that was used, rate the student's performance by placing a check mark in column 3, 2 or 1.

*Section I. applies to **all field experience students**. Student will indicate which section II-VIII applies to their particular specialty and needs to be completed by you as their supervisor. All evaluators will complete the last page (overall evaluation). Thank you!*

<u> </u> Learning Outcomes that apply to all Concentrations/Emphases	A	3	2	1	Comments
	Learning Outcome Demonstrated	Outstanding	Satisfactory	Improvement Needed	
<i>Demonstrates professional responsibility by being punctual, motivated, and enthusiastic; attending at scheduled times; and appearing in appropriate apparel;</i>					
<i>Completes tasks by following instructions, meeting deadlines, and using good judgment</i>					
<i>Applies current knowledge of nutrition, foodservice, food science, and/or packaging as appropriate for entry level professionals</i>					
<i>Communicates effectively through written and oral presentations</i>					
<i>Demonstrates cultural sensitivity in relations with others</i>					
<i>Applies critical thinking and problem solving skills when making decisions</i>					

PLEASE RETURN THIS FORM BY DECEMBER 10 (FALL) or MAY 15 (Spring) to:
 Department of Nutrition, Food Science & Packaging; San Jose State University; One Washington Square
 San Jose, CA 95192-0058; Phone: (408) 924-3100; Fax: (408) 924-3114

Learning Outcomes for Specific Concentrations

I. BS: Dietetics Concentration	A	3	2	1	Comments
	Learning Outcome	Outstanding	Satisfactory	Improvement Needed	
<i>Demonstrate how to locate, interpret, evaluate and use professional literature to make ethical evidence-based practice decisions.</i>					
<i>Use current information technologies to locate and apply evidence-based guidelines and protocols, such as the AND Evidence Analysis Library.</i>					
<i>Demonstrate effective and professional oral and written communication and documentation and use of current information technologies when communicating with individuals, groups and the public.</i>					
<i>Demonstrate assertiveness, advocacy and negotiation skills appropriate to the situation.</i>					
<i>Demonstrate counseling techniques to facilitate behavior change.</i>					
<i>Locate, understand and apply established guidelines to a professional practice scenario.</i>					
<i>Identify and describe the roles of others with whom the Registered Dietitian collaborates in the delivery of food and nutrition services.</i>					
<i>Use the nutrition care process to make decisions, to identify nutrition-disease prevention and health promotion</i>					
<i>Apply knowledge of the role of environment, food and lifestyle choices to develop interventions to affect change and enhance wellness in diverse individuals and groups.</i>					
<i>Develop an educational session or program/educational strategy for a target population.</i>					
<i>Apply management and business theories and principles to the development, marketing and delivery of programs or services.</i>					
<i>Determine costs of services or operations, prepare a budget and interpret financial data.</i>					
<i>Apply the principles of human resource management of different situations.</i>					
<i>Apply safety principles related to food, personnel and consumers.</i>					
<i>Develop outcome measures, use informatics principles and technology to collect and analyze data for assessment and evaluate data to use in decision making.</i>					
<i>Explain the impact of a public policy position on dietetics practice.</i>					
<i>Explain the impact of health care policy and administration, different health care delivery systems and current reimbursement issues, policies and regulations on food and nutrition services.</i>					

II. BS: Food Science And Technology Concentration	A	3	2	1	Comments
	Learning Outcome Demonstrated	Outstanding	Satisfactory	Improvement Needed	
<i>Demonstrate appropriate laboratory skills and an understanding of scientific/research methodology</i>					
<i>Communicate and educate effectively, to groups and/or individuals, through writing, consulting and oral presentations.</i>					
<i>Demonstrate the ability to use various quality assurance/control tools and models to monitor food product/process quality through problem solving and critical thinking skills through the design of a comprehensive written food processing project.</i>					
<i>Demonstrate knowledge of food engineering principles and the ability to apply them to solving food processing system problems through numerous problem solving exercises and an independent comprehensive written and oral culminating food process engineering project.</i>					
<i>Demonstrate skills in applying basic laboratory techniques and critical thinking skills in the planning, collection, analysis /interpretation and communication of chemical analysis data through laboratory group activities.</i>					
<i>Demonstrate critical thinking skills in the planning, collection and analysis/interpretation and communication of sensory data/results.</i>					
III. BS: Nutrition Science (Emphasis)					
<i>Demonstrate knowledge of the scientific basis of nutrition.</i>					
IV. BS: Nutrition Education (Emphasis)	A	3	2	1	
<i>Communicate and educate effectively on food and nutrition, to different ethnic groups and/or individuals, through writing, counseling, consulting, and oral presentations.</i>					
V. BS: Sports Nutrition (Emphasis)	A	3	2	1	
<i>Write guidelines for athletes describing optimum intake of nutrients prior to, during, and after performance.</i>					
VI. BS: Food Management (Emphasis)	A	3	2	1	
<i>Apply principles of food production, delivery and service, procurement, finance, and human resource management.</i>					
VII. BS: Environmental Food & Health Specialist (Emphasis)	A	3	2	1	
<i>Demonstrate knowledge of proper food sanitation practices.</i>					

VIII. BS: Packaging Concentration	A	3	2	1	
	Learning Outcome	Outstanding	Satisfactory	Improvement Needed	Comments
<i>Incorporate analytical skills and computer technology in activities.</i>					
<i>Use basic organizational and management skills (time, resources, supplies, and equipment).</i>					
<i>Demonstrate appropriate laboratory skills.</i>					
<i>Use packaging development guidelines to design, test and evaluate packages and packaging systems.</i>					
<i>Employ knowledge of quality assurance, sanitation and waste disposal.</i>					
<i>Apply principles of packaging (design, documentation, procurement, finance, and human resource management) appropriate for entry level.</i>					
<i>Write packaging specifications (materials, process, or finished goods).</i>					
<i>Educate effectively, groups and/or individuals, through writing, counseling, and oral presentations.</i>					
<i>Use the principles of science and knowledge in sales and customer service.</i>					
<i>Apply basic engineering concepts to packaging design, testing or operations.</i>					
<i>Assess product/package material compatibility</i>					
<i>Apply knowledge of government and business regulations.</i>					
<i>Use knowledge of materials, functionality, marketing and economy, as well as recycling and source reduction in package design.</i>					
<i>Apply principles of packaging production systems in packing lines, distribution and materials handling.</i>					

Please evaluate the student's overall performance. Was the student well prepared academically for this experience?

Please check one of the following:

_____ I have discussed the evaluation with the student:

_____ I would like for the instructor to discuss the evaluation with the student.

Thank you for providing a valuable experience for our students.

Appendix D. Outcome Assessment Reports

SJSU Annual Assessment Report Academic Year 2012-2013

BS Nutritional Science (Concentration in Didactics)

Electronic Copy of Report Due July 1, 2013

Send to Undergraduate Studies (Kim.Huynh@sjsu.edu), with cc to your College Associate Dean & College Assessment Facilitator

Department/Program: NuFS & PKG **Date of Report:** July 7 2013

Contact Person: K Sucher; kathryn.sucher@sjsu.edu; 408-691-3839

Program Accreditation: Accreditation Counsel for Education in Nutrition and Dietetics (ACEND)

- 1. Overview and Context:** Medical Nutrition Therapy (110A/110B), taught once a year over 22 semesters, and provides instruction in nutrition therapy for medical conditions for acute and chronic conditions. Nutrition assessment, diagnosis, intervention and monitoring/evaluation are taught, as well as its documentation in the medical chart and is a Learning Outcome required by ACEND. Students are assigned several mini case studies and 2 major case studies each semester and are required to write a medical chart note as part of the assignment. A rubric, developed by the instructor, is used to score the medical note. In Spring 2010, the scores for chart note on the assessment were satisfactory but the diagnosis and monitoring/evaluation needed improvement (n=54; average score 2.6/4 (65%) for the 2 major case studies in Spring semester. In Spring 2012 on the last major case study, the score increased to 2.7/4 pts.
- 2. Use of Prior Assessment/Closing the Loop:** In Spring 2010, the scores for chart note on the assessment were satisfactory but the diagnosis and monitoring/evaluation needed improvement (average score = 2.6/4 (65%) for the 2 major case studies in Spring semester. In Spring 2013 on the last major case study, the score increased to 2.7/4 pts. It was observed that student were better aligning the nutrition diagnosis and the intervention. For academic year 2012/13 more multiple choice/essay questions [quizzes (5) and exams (3)] on diagnosis and intervention were used with discussion after each quiz and exam. In addition the use of the nutrition diagnosis was started earlier in Fall semester. Previously, Subjective and Objective Nutrition Assessment was primary taught in the first semester of this year-long course.
- 3. Assessment Data:** Although test scores indicated that students understood the format and appropriateness of Nutrition Diagnosis/Intervention, the nutrition care plan for the last major case study, in which each student writes their own medical chart note, for the year improve to 2.8/4 (n = 43). In addition feedback from the NuFS 220A instructors (Advanced Medical Nutrition Therapy) indicated that the Nutrition Interventions are improving as show by being better aligned with the nutrition diagnosis. (NuFS 110A/B is a pre-req. for NuFS 220A and is a requirement for the SJSU Dietetic Internship.) In addition DPD students who have been placed in the internal Dietetic Internship have had a pass rate of 92% (over 5 years) on the Dietetic Registration Exam.
- 4. Alignment of Course and Program Learning Outcomes:** ACEND Didactic Program in Dietetic Learning Outcome KRD 3.1 *The curriculum must reflect the principles of Medical Nutrition Therapy and the practice nutrition care process, including the principles and methods of assessment, diagnosis, identification and implementation of interventions and strategies for monitoring and evaluation.*
- 5. Recommendations for Student Learning:** A newly hired tenure-tract faculty member will be teaching these courses next academic year. The retiring instructor will discuss assessment of this learning outcome and together we will develop additional strategies to improve student ability to practice the nutrition care process.
- 6. Plans 2013-14 Academic Year:** NuFS is now able to use Nursing Simulation Laboratory and our goal is to incorporate its use in NuFS 110A/B. Having an interaction with a simulated patient and medical

record with debriefing should improve a student's ability to provide an appropriate nutrition diagnosis and intervention.

SJSU Annual Assessment Report for Academic Year 2012-2013
BS Nutritional Science (Concentration in Food Science and Technology)

Electronic Copy of Report Due July 1, 2013

Send to Undergraduate Studies (Kim.Huynh@sjsu.edu), with cc to your College Associate Dean & College Assessment Facilitator

Department/Program: NuFS/Pkg Date of Report: July 7 2013

Contact Person: K Sucher; kathryn.sucher@sjsu.edu; 408-691-3839

Program Accreditation: Institute of Food Technology

1. **Overview and Context:** Food Science and Technology Concentration is an approved program of the Institute of Food Technology (IFT). IFT provides the competencies that programs must meet. Our SJSU program recently reapproved. Every 2 years the NuFS/Pkg program surveys former alumni, preceptors in supervised practice & internships, and employers of recent alumni. In addition, all students in the department are required to complete a capstone course (NuFS 192 Supervised Practice/Performance) is evaluated by the site preceptor.
2. **Use of Prior Assessment/Closing the Loop:** Previous survey results have indicated that our program is meeting the goals of the certification agency.
3. **Assessment Data:** The latest survey (n=4) was conducted in Summer 2013. Results showed that 100 percent of employers and preceptors rated our students at average or better.

NuFS 192 learning outcomes were all rated at 3.0/3.0: "Demonstrate appropriate laboratory skills and an understanding of scientific/research methodology," "Communicate and educate effectively, to groups and/or individuals, through writing, consulting and oral presentations," "Demonstrate the ability to use various quality assurance/control tools and models to monitor food product/process quality through problem solving and critical thinking skills through the design of a comprehensive written food processing project," "Demonstrate knowledge of food engineering principles and the ability to apply them to solving food processing system problems through numerous problem solving exercises and an independent comprehensive written and oral culminating food process engineering project," "Demonstrate skills in applying basic laboratory techniques and critical thinking skills in the planning and collection & analysis/interpretation and communication of chemical analysis data through laboratory group activities," and "Demonstrate critical thinking skills in the planning, collection and analysis/interpretation and communication of sensory data/results."

Comments were all very positive.

4. **Alignment of Course and Program Learning Outcomes:** All program PLOs were included in the survey and NuFS 192 site evaluations.
5. **Recommendations for Student Learning:** Results will be discussed at a faculty meeting in Fall 2013
6. **Plans 2013-14 Academic Year:** To be determined in Fall 2013.

SJSU Annual Assessment Report for Academic Year 2012-2013
BS Nutritional Science (Concentration in Packaging)

Electronic Copy of Report Due July 1, 2013

Send to Undergraduate Studies (Kim.Huynh@sjsu.edu), with cc to your College Associate Dean & College Assessment Facilitator

Department/Program: NuFS/Pkg **Date of Report:** July 7 2013

Contact Person: K Sucher; kathryn.sucher@sjsu.edu; 408-691-3839

Program Accreditation: None

1. **Overview and Context:** All students in the Nutrition, Food Science and Packaging Department complete a field experience for a minimum of 90 hours, while enrolled in the NuFS 192 Field Experience course. As required for successful completion of this capstone course, field supervisors evaluated students. Scores range from one to three with a score of 1 indicating "Improvement Needed," a score of 2 indicating "Satisfactory" and a score of 3 indicating "Outstanding." In addition, a survey was sent to preceptors and employers in the summer 2013.
2. **Use of Prior Assessment/Closing the Loop:** n/a
3. **Assessment Data:** Students were evaluated by their field supervisors (n=13)
 - Scores for the general learning outcome ranged from 2.38/3.0 to 2.85/3.0. The mean score was 2.67/3.0. The lowest score was for "Apply current knowledge of packaging as appropriate for entry level professionals." The highest score (2.85/3.0) was for "Demonstrate professional responsibility by being punctual, motivated, and enthusiastic, attending at scheduled times and appearing in appropriate apparel."
 - Packaging Concentration specific learning outcomes scores ranged from 2.5/3.0 to 2.88/3.0 with a mean score of 2.69/3.0. The lowest score was for "Apply knowledge of government and business regulations" as well as "Apply principles of packaging production systems in packing lines, distribution and materials handling" (2.5/3.0). The highest score was for "Use packaging development guidelines to design, test and evaluate packages and packaging systems." All comments were positive.
4. **Recommendations for Student Learning:** This PLO is aligned with a required capstone course (NuFS/Pkg 192) for all undergraduate students including Packaging.
5. **Recommendations for Student Learning:**
 - The lowest score for Packaging students related to applying knowledge as appropriate for entry-level professionals (2.38/3.0). Perhaps some supervisors did not feel comfortable considering the student related to an "entry level professional". The wording of the outcome will be reviewed and revised.
 - Application of government and business regulations as well as packaging production systems, distribution, and materials handling will be stressed with packaging students since these 2 items received the lowest score (2.5/3.0) for packaging specific learning outcomes.
- **Plans 2013-14 Academic Year:** More detailed interventions will be determined after results are discussed in Fall 13.

SJSU Annual Assessment Report for Academic Year 2012-2013

MS Nutritional Science

Electronic Copy of Report Due July 1, 2013

Send to Undergraduate Studies (Kim.Huynh@sjsu.edu), with cc: to your College Associate Dean and College Assessment Facilitator

NuFS/Pkg MS Program Outcome	Course	Measurable
Generate a research proposal including comprehensive literature review	HPRF 295	Research Proposal
Successfully defend project/thesis	NuFS 298 or 299	Project/ Thesis
Present research findings in a professional format		Presentation and/or published journal article

Department/Program: NuFS & PKG **Date of Report:** July 7 2013

Contact Person: K Sucher; kathryn.sucher@sjsu.edu; 408-691-3839

Accreditation: None

- Overview and Context:** The Master's degree in Nutrition Science at SJSU is the oldest graduate degree in the CSU system. The graduate program allow students to pursue a MS degree in Nutritional Science with one of 7 Graduate Objectives: Nutritional Science, Food Science, Nutrition Education, Gerontological Nutrition, Foodservice Management, Packaging, and General Graduate. All graduate students must take HPRF 295, NuFS 298 or 299. All must present their project or thesis in a publication format and prepare a presentation poster and abstract.
- Use of Prior Assessment/Closing the Loop:** Previous survey results have indicated that our graduate program was meeting the PLOs.
- Assessment Data:** The last assessment of research presentations was in Spring 2012. That year 23 students completed a thesis or project and 13 posters were accepted and shown at state and/or national conferences. This academic year, 12 out of 32 projects and thesis were accepted and shown.
- Alignment of Course and Program Learning Outcomes:** The course and PLO was aligned with NuFS 298/299.
- Recommendations for Student Learning:** In Fall of 2012 the continuous enrollment for graduate students was instituted. These changes led to an increase number of graduate student finishing their project or thesis as the number of graduate advisors decreased. To maintain a reasonable ratio of graduate students to advisors the department was, in Spring 2012, more selective with admitting graduate students for Fall 2013.
- Plans 2013-14 Academic Year:** Ratio of graduate students to faculty will be monitored and admittance numbers will be adjusted.

Appendix E. BS and MS Student Placements

3f.1. Undergraduate Placements According to Concentration/Emphasis¹⁸

Concentration/Emphasis of the 261 NUFBS BS graduates (2008/9 through 2012/13) (Listed from highest to lowest percentage)	Dietetics		Nutrition Education		Packaging		Sports Nutrition		Food Management		Nutrition Science		Environmental Food & Health		Food Science	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
BS graduates	143	55	28	11	25	10	19	7	15	6	12	5	11	4	8	3
Working as an RD	27	19														
RD looking for work	3	2														
Studying for RD exam	4	3														
Dietetic Internship Spring '14	9	6														
Current Dietetic Intern or [other type of intern]	8 ¹⁹ [1]	7	1	4									1	9		
Working, related to degree	25¹⁹	17	3	11	25	100	2	11	6	40	1	8	2	18	4	50
Enrolled in graduate program	4	3	3	11			1	5	1 ²⁰	7	3 ²⁰	24			1 ²⁰	12
Working, not degree related	20	14	6	21			7	37	2	13			4	36		
Home with kids, not working	4	3	2	7					1	7	1	8				
Looking for job; other	3	2														
Unknown status	38	26	13	46			9	47	5	33	7	58	4	36	3	38

3f.2. Graduate Placements According to Graduate Program Objective¹⁸

Concentration/Emphasis of the 85 NUFBS MS graduates (2008/9 through 2012/13) (Listed from highest to lowest percentage)	General ²¹		Nutrition Science		Food Science		Nutrition Education		Gerontological		Packaging		Food Management	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
MS graduates	58	68	9	11	8	9	4	5	3	3	2	2	1	1
Working/worked as an RD	41	71	1	11			2	50						
RD looking for work	3	5												
Dietetic Internship Spring 2014	1	2	1	11										
Intern: Dietetic or (other)	1	2												
Working, related to degree	2	3	2	22	5	63	1	25	1	33	2	100		
Enrolled in graduate program	1	2	1	11										
Working, not degree related													1	100
Home with kids, not working	4	7	3	33			1	25						
Other	2	3												
Unknown status	3	5			3	37			2	67				

¹⁸Data collected from students and provided as numbers and % of graduates in the same Emphasis (2009-13).

¹⁹Two students working at WIC are also enrolled in the WIC sponsored Dietetic Internship.

²⁰Four of these 5 students are currently enrolled in the MS Program at SJSU, pursuing the Packaging Objective.

²¹MS students choosing the General Objective are those pursuing the MS/RD route.

Appendix F. Summary of Supervisors' Ratings of the General SLOs for NUFS 192

Scores represent the mean of the lowest and highest scores for each SLO for students in each of the Concentrations/ Emphases.

Learning Outcomes that apply to all concentrations/emphases	Dietetics (n=44)	Food Science (n=4)	Packaging (n=13)	Nutrition Education (n=24)	Environmental Food & Health (n=4)	Food Management (n=12)	Sports Nutrition (n=6)	Nutrition Science (n=6)
Demonstrates professional responsibility by being punctual, motivated, and enthusiastic; attending at scheduled times; and appearing in appropriate apparel.		3.0	2.85		3.0	3.0	2.83	3.0
Completes tasks by following instructions, meeting deadlines, and using good judgment.		3.0			3.0		2.83	
Applies current knowledge of nutrition, foodservice, food science, and/or packaging as appropriate for entry level professionals.		3.0	2.38	2.5			3.0	
Communicates effectively through written and oral presentations.		3.0		2.0			2.83	
Demonstrates cultural sensitivity in relations with others	2.67	3.0		2.5		3.0	3.0	2.67
Applies critical thinking and problem solving skills when making decisions.	2.94	3.0			2.5	2.67	3.0	2.67
Mean score	2.83	3.0	2.67	2.24	2.78	2.79	2.86	2.76

For the Dietetics Concentration (n=44): Scores for the learning outcomes specific to dietetics ranged from 2 to 3 (mean 2.56).

- The lowest score (2.0) was for “Use current information technologies to locate and apply evidence-based guidelines and protocols, such as the AND Evidence Analysis Library.” Several outcomes had scores of 3.0: “Locate, understand and apply established guidelines to a professional practice scenario;” “Apply safety principles related to food, personnel and consumers;” “Explain the impact of a public policy position on dietetics practice;” “Explain the impact of health care policy and administration, different health care delivery systems, and current reimbursement issues, policies and regulation on food and nutrition services.”
- Some comments indicated improvement needed in time and date management and that Spanish is a plus for communicating with patients.
- For the general learning outcomes, it was verified that it was a good idea to require the General Education SJSU Studies course NuFS 144 Food and Culture as part of the curriculum rather than the previous GE requirement of NuFS 139 Hunger and Environmental Nutrition since the lowest rating was for “Demonstrates cultural sensitivity in relation to others.” The change went into effect in fall 2012 so we will be able to track changes in this outcome measure in future years. We will keep stressing evidence-based protocols such as the AND Evidence Analysis Library with the dietetics students in the NuFS 110A,B Medical Nutrition Therapy courses. Some of the dietetics students may have completed their field experience hours before completing these 2 courses. Time and date management will also be stressed.

For the Food Science and Technology Concentration (n=4)

- Specific learning outcomes were all rated at 3.0/3.0. Comments were all very positive.
- Since the program is being phased out, no changes in program structure are anticipated.

For the Packaging Concentration (n=13)

- Specific learning outcomes scores ranged from 2.38 to 2.88 (mean of 2.69). The lowest score (2.38) was for “Apply knowledge of government and business regulations” and “Apply principles of packaging production systems in packing lines, distribution and materials handling.” The highest score (2.88) was for “Use packaging development guidelines to design, test and evaluate packages and packaging systems.” All comments were positive.
- The lowest score related to applying knowledge as appropriate for entry-level professionals (2.38). Perhaps some supervisors did not feel comfortable considering the student related to an “entry level professional.” The wording of the outcome will be reviewed and revised as needed. Application of government and business regulations as well as packaging production systems, distribution, and materials handling will be stressed with packaging students since these outcomes received the lowest scores.

For the Nutrition Education Emphasis (n=24)

- The specific learning outcome “Communicate and educate effectively on food and nutrition, to different ethnic groups and/or individuals, through writing, counseling, consulting or oral expression” had a mean score of 2.67. Comments indicated improvement was needed in communications with the field supervisors, in meeting deadlines, and in follow through.
- We will stress the importance of effective communication to all students, but especially to Nutrition Education Emphasis majors who had a lower value for this learning outcome, as well as some negative comments

For the Environmental Food and Health Specialist Emphasis (n=4)

- The specific learning outcome “Demonstrate knowledge of proper food sanitation practices” had a mean score of 3.0. Comments were all positive.
- Critical thinking and problem solving will be stressed.

For the Food Management Emphasis (n=12)

- The specific learning outcome “Apply principle of food production, delivery and service, procurement, finance, and human resource management” had a mean score of 2.5. Comments were all positive. A few students were noted to be quiet; supervisors hoped that these students would become more social so that others could get to know them better.
- Critical thinking and problem solving will be stressed. Students will be encouraged to be more social and outgoing and participate in the Nutrition and Food Science Club and other activities based on comments provided.

For the Sports Nutrition Emphasis (n=6)

- The specific learning outcome “Write guidelines for athletes describing optimum intake of nutrients prior to, and after performance” was rated as 2.83. All comments were positive.
- We will stress the importance of effective communication to all students, but especially to Sports Nutrition Emphasis majors who had a lower value for this learning outcome, as well as some negative comments. Following instructions and meeting deadlines will also be stressed (although the mean score was high at 2.83/3.0).

For the Nutrition Science Emphasis (n=6)

- The specific learning outcome of “Demonstrate knowledge of the scientific basis of nutrition” had a mean score of 2.76. Comments were positive.
- Regarding results for the general learning outcomes may mean that it is better to require the GE SJSU Studies course NuFS 144 Food and Culture as part of the curriculum rather than the

previous GE SJSU Studies course NuFS 139 Hunger and Environmental Nutrition since the lowest rating was for “Demonstrates cultural sensitivity in relation to others.”

Feedback received from 113 field supervisors was helpful, constructive and mostly positive. None of the mean ratings for any learning outcome item was < 2.0 (below satisfactory). Based on this rubric, NuFS/Pkg students are well prepared and perform well outside the classroom in their career-oriented field experiences. However, the response rate was low (43%). Efforts to have supervisors complete rubrics should be increased. In addition, we need to ensure that students do not register for NUFS 192 prior to the last semester of their senior year so that they able to maximize this experience.

Self-Assessment Using the WASC Rubric for Using Capstone Experiences to Assess PLOs

Criterion	Initial	Emerging	Developed	Highly developed
Relevant outcomes and lines of evidence identified			X	
Valid results	X			
Reliable results	X			
Results are used		X		
The Student Experience			X	

Sample of student reflections provided after completing NUFS 192:

Dietetics student interning with Stanford GOALS: “One great satisfaction was to see how much the participants learned about the topic and their amazement [*sic*] of their understanding. This field experience also helped me realize the importance of being culturally competent. Being a bilingual health educator gave me the advantage of being able to connect with the participants in [*sic*] a deeper level, not just sharing the same language but they also felt culturally connected which allowed them to feel comfortable enough to open up and ask questions.”

Dietetics student interning with Silicon Valley Catering: “This experience has been invaluable. I’ve cooked for many years and have raised a large family. I thought working for a catering company would be similar but on a larger level. I was wrong. There is so much more to know than how to cook. I didn’t realize the responsibility one takes on when working with the public. You literally become responsible for their health. If I, as a food service worker do not practice proper sanitary care I can get people sick. And finally, if I did not have knowledge in the field of dietetics I would not be able to offer useful information on nutrition or food sensitivities.”

Food Science student interning with Intrinsic Group, Inc. a boutique consulting firm: “Not only that, but I [*sic*] also increase the knowledge in event organizing, the skills in conducting sensory research that I learned from the class that I took with Dr. Belo, and hone [*sic*] the people skills through the networking and interacting with every person that I have encountered. Hence, this field experience is second to none that will be forever embedded within me as a student who dreams big for her future career.”

Packaging student interning with xpedx: “My time at xpedx has been wonderfully filled with exciting and challenging tasks that have taught me more in six months than a book could ever hope to try and explain. The internship opened my perspective to the abilities of packaging [*sic*] and the business world.”

Nutrition education student interning with Palo Alto Medical Foundation's Youth and Nutrition Program: "This program has provided me with the most amazing opportunity to get an insight of how it is [sic] to truly work within the community in the nutrition education field. I am proud to say I accomplished a lot over the semester with the help of everyone around me and it has been a challenging yet extremely rewarding experience. This course has proven to be extremely helpful for my nutrition experience [sic] and degree."

Nutrition Education student interning with Christopher Ranch: "Honestly, I really enjoyed this experience that I had at Christopher Ranch. I learned so much about how much work goes into products that are packaged and sent out to various consumers. I'm glad that I was able to work here during the summer and learn as much as I did. I met a lot of really nice helpful people in the factory that made the experience so much better but a really sad goodbye [sic] when the summer was over."

Nutrition Education student interning with Black Infant Health, Santa Clara County Public Health "Overall the experience and exposure I have gained in this internship has been invaluable and I am incredibly fortunate to have been given the opportunity to work with such amazing people. It [sic] has been truly excited to see how receptive and eager the moms are to receive this information. The feeling I got from seeing these woken and infants grow and mature is one unparalleled by anything, and has served motivate [sic] me towards a new career goal (a Masters in Public Health Nutrition)."

Food Management student interning with Santa Clara Valley Medical Center: "Personally I enjoyed my field experience because of the valuable experiences I encountered at Valley Medical. Often times, it is hard when thinking about applying concepts taught in class, [sic] but during my time working with foodservice, it was easy to remember these concepts and see them being applied in a real life setting. For me, this was one of the best parts of the experience because it confirmed my knowledge and skill level, which I've been working on my last four years [sic] at San Jose State. The new skills that I have taken away from this experience include improved communication skills, improved problem solving skills and increased non-profit foodservice knowledge."

Food Management student interning at AT&T Park (with Bon Appetit Catering Company): "One of the best parts about this experience was that I got the opportunity to learn different jobs within the company. It taught me a lot about what it takes to pull off such large scale catering from all different aspects and allowed me to explore different options. I have also never been in any type of management position in my previous jobs, so it was definitely exciting to do that. . . From this experience, I learned what it takes to be in that type of position, which I know will benefit me in future careers. Working at Bon Appetit at AT&T Park was a really great experience and I am excited to continue working there for the next baseball season."

Sports Nutrition student interning at the Student Health Center, SJSU: "Overall my field experience was a blast! I got to really dig into the spots nutrition world and work next to athletes. Knowing that there are different needs from an average individual to an athlete is very important. While making the slides and speaking to the athletes, it tested my knowledge that I have gained from San Jose State and realized that I am ready to move on to the world of educating other [sic] on nutrition."

Appendix G. Summary of Alumni Survey (Spring 2013)

NUFS alumni assessment survey 2013

What was your concentration at SJSU?

	Response Percent	Response Count
General (for MS students pursuing DPD/RD track)	2.4%	1
Nutrition Education	11.9%	5
Sports Nutrition	7.1%	3
Nutritional Science	19.0%	8
Foodservice Management	4.8%	2
Environmental Food and Health	11.9%	5
Dietetics	38.1%	16
Packaging	4.8%	2
<i>answered question</i>		42

PACKAGING (n=2)						
Please indicate your level of satisfaction with the preparation you received at SJSU with respect to your ability to:						
	Very unsatisfied	unsatisfied	satisfied	very satisfied	Rating	Response Count
Assess a package's functional properties	0	0	0	2	2.00	2
Demonstrate knowledge of package material properties to meet particular physical needs	0	0	0	2	2.00	2
Describe a package production system in order to present design and develop cost comparisons between various package configurations	0	0	1	1	1.50	2
Assess a distribution channel to identify particular stresses incurred	0	0	0	2	2.00	2
Design a package system (primary, secondary, and tertiary) to contain, protect, and transport products from manufacturer to consumer	0	0	0	2	2.00	2
Develop reproducible test methodologies for evaluating particular properties/material	0	0	0	2	2.00	2
Organize and assemble presentations describing package systems, operations, designs, and cost comparisons	0	0	1	1	1.50	2

	Very unsatisfied	unsatisfied	satisfied	Very satisfied	Rating Average	Response Count
NUTRITION SCIENCE (n=6)						
Indicate your level of satisfaction with the preparation you received at SJSU with respect to your:						
ability to demonstrate knowledge of the scientific basis of nutrition	0	0	5	1	1.17	6
NUTRITION EDUCATION (n=5)						
Please Indicate your level of satisfaction with the preparation you received at SJSU with respect to communicating and educating effectively to different ethnic groups and/or individuals, through:						
writing	0	0	2	3	1.60	5
counseling	0	1	3	0	0.50	4
consulting	0	1	1	2	1.00	4
oral presentations	0	0	1	3	1.75	4
SPORTS NUTRITION (n=3)						
Indicate your level of satisfaction with the preparation you received at SJSU with respect to your:						
Ability to write guidelines for athletes describing optimum intake of nutrients prior to, during, and after performance	0	0	2	1	1.33	3
FOOD MANAGEMENT (n=2)						
Indicate your level of satisfaction with the preparation you received at SJSU with respect to your ability to:						
Apply principles of food production, delivery and service	0	0	2	0	1.00	2
Apply principles of procurement, finance, and human resource management	0	1	1	0	0.00	2
ENVIRONMENTAL FOOD AND HEALTH (n=5)						
Please Indicate your level of satisfaction with the preparation you received at SJSU with respect to:						
Ability to demonstrate knowledge of proper food sanitation practices.	0	0	5	0	1.00	5

Dietetics Concentration

Indicate your level of satisfaction with the preparation you received at SJSU with respect to:						
	Very unsatisfied	Unsatisfied	Satisfied	Very satisfied	Rating Average	n
	1	0	12	4	1.06	17
Knowledge of the scientific basis of nutrition, food science, and foodservice for entry-level professionals	1	1	7	8	1.18	17
Application of ethics to profession	1	2	5	9	1.12	17
Educating effectively to different cultural/ethnic groups and/or individuals through written materials, counseling and presentations	3	2	11	1	0.29	17
Applying knowledge of government and business to explain public policy regarding nutrition issues	2	1	11	2	0.63	16
Applying knowledge of government and business to promote good nutrition and to advocate for consumers on nutrition issues	1	5	7	4	0.47	17
Applying basic organization and management skills	1.5	1.8	8.8	4.7	0.8	
AVERAGE	1	0	12	4	1.06	17

Dietetics Concentration continued on next pages.

The following KNOWLEDGE/SKILL REQUIREMENTS address the concepts considered essential for entry-level competence in dietetics. Based on your educational experience at SJSU, please indicate your level of satisfaction with the preparation you received at SJSU with respect to your ability to:

	Very unsatisfied	Unsatisfied	Satisfied	Very satisfied	Rating Average	n
Apply the principles of finance.	1	5	10	1	0.29	17
Apply the principles of food procurement.	0	0	10	7	1.41	17
Apply the principles of food production, delivery and service.	0	0	10	7	1.41	17
Apply the principles of human resource management.	1	4	9	3	0.53	17
Assess health status and planning diets for groups and individuals in health and disease.	0	2	10	5	1.06	17
Communicate effectively to different cultural groups and/or individuals through consulting, counseling, written materials and oral presentations.	1	0	8	8	1.29	17
Demonstrate an understanding of scientific and research methodology.	0	1	8	8	1.35	17
Demonstrate appropriate laboratory skills.	0	0	11	6	1.35	17
Demonstrate basic food preparation techniques.	0	0	7	10	1.59	17
Describe nutritional needs in health and disease throughout the life cycle.	0	0	10	7	1.41	17
Exhibit qualities of leadership.	2	2	7	6	0.76	17
Exhibit qualities of negotiation.	1	2	12	2	0.71	17
Exhibit qualities of skills in collaboration.	0	1	13	3	1.06	17
Explain a public policy position regarding dietetics.	1	5	9	2	0.35	17
Incorporate computer literacy in professional activities.	0	1	13	2	1.00	16
Practice with a regard for environmental issues related to food.	1	3	6	6	0.81	16
Apply food science knowledge to functions of ingredients in food.	1	2	11	3	0.76	17
Apply marketing principles	2	7	6	2	-0.06	17
Apply microbiological and chemical considerations to process controls (food sanitation, and food production).	1	1	9	6	1.06	17
Apply research results to practical situations.	1	1	12	3	0.88	17

Assess health status and planning diets for groups and individuals in health and disease.	1	1	11	4	0.94	17
Calculate and interpret the nutrient composition of foods.	1	2	6	8	1.06	17
Calculate and/or define diets for common health conditions and physical performance.	1	0	8	7	1.25	16
Collect pertinent information for comprehensive nutrition assessments.	1	1	9	5	1.00	16
Counseling individuals on nutrition.	1	4	8	4	0.59	17
Cultural issues.	1	1	11	4	0.94	17
Demonstrate basic food presentation and presentation skills.	1	0	8	7	1.25	16
Determine nutrient requirements across the lifespan.	1	1	11	4	0.94	17
Determine recipe/formula proportions and modifications for volume food production.	1	1	10	5	1.00	17
Understand economics and nutrition.	1	1	11	3	0.88	16
Understand health behaviors and educational needs.	2	1	9	3	0.67	15
Interpret basic statistics.	2	2	10	3	0.59	17
Interpret financial data.	2	3	11	1	0.35	17
Interpret current research.	1	1	13	2	0.82	17
Interpret laboratory parameters relating to nutrition and foods.	1	2	8	4	0.80	15
Measure, calculate, and interpret body composition data.	1	2	9	3	0.73	15
Understand nutrition in relation to people with diverse needs.	1	2	9	4	0.81	16
Prepare a budget.	2	5	10	0	0.06	17
Present an educational session for a group.	1	1	9	4	0.93	15
Screen individuals for nutrition risk.	1	2	8	5	0.88	16
Translate nutritional needs into menus for individuals and groups.	1	1	8	4	0.93	14
Use current information technologies (computers, internet)	1	0	11	4	1.06	16
Work efficiently as a team member.	1	0	8	7	1.25	16
Write specifications for food and foodservice equipment.	1	1	11	4	0.94	17
AVERAGE	0.9	1.6	9.5	4.5	0.90	