Nutrition Science Review: Self-Study

Section 1. Introduction
Introduction

a) Program Description

Nutritional Science is a sub-plan under the Foods and Nutrition Major within the Human Nutrition and Food Science Department that integrates the core nutrition science courses with additional courses in the laboratory and health sciences. The mission of the Nutrition Science sub-plan is to provide several emphases that: 1) prepares students for a program of study necessary to enter medical, dental, veterinary, Pharm D Schools and Graduate programs for the Master of Science, and doctorates (Pre-professional and Animal Nutrition Emphases), and 2) prepares students for careers in various nutrition or health fields (Nutrition and Health Emphasis). The Nutrition Science Program will promote an appreciation for the multidiscipline nature of modern nutrition research. The program prepares students with a sound scientific understanding of complex nutrition issues related to research, medicine and health

b) Mission and Goals and relationship to College and University

University Mission:
Cal Poly Pomona's mission is to advance learning and knowledge by linking theory and practice in all disciplines, and to prepare students for lifelong learning, leadership and careers in a changing multicultural world.

University Goals and Learning Outcomes
Through participating in curricular and co-curricular learning opportunities, the graduates of California State Polytechnic University, Pomona, will develop competencies to become:

Practitioners: Equipped with a foundation for growth and professional success
communication skills - using verbal, written, visual and listening skills to communicate persuasively and coherently
interpersonal skills - demonstrating teamwork and leadership skills to achieve common goals
disciplinary learning - applying, integrating, and adapting fundamental information, concepts, theories and methods in their principal disciplines

Integrative Thinkers: Able to apply their knowledge and skills to future challenges and opportunities
critical thinking - thinking clearly and logically to evaluate ideas, analyze and interpret information, and draw inferences through reasoning
problem solving - identifying, formulating, investigating, and solving quantitative and qualitative problems effectively and creatively
information literacy - locating, assessing, using and communicating qualitative, quantitative and scientific information, among a wide variety of sources, methods, and tools

integrating and transferring learning - making connections across disciplines and between current and new knowledge, and applying that knowledge in professional and community life

Model Leaders: Taking an active role as a citizen in a diverse multicultural environment
ethical understanding - applying ethical considerations in professional, personal and social life
liberal learning - demonstrating knowledge and appreciation of the physical and natural world, and of the development and legacies of diverse world cultures
global citizenship - understanding the responsibilities of being a global citizen and the role of civic engagement in fostering a democratic society
intentional learning - employing self-knowledge of the social and cognitive factors influencing their learning to engage in ongoing reflection and exploration for the purpose of personal development
lifelong learning - pursuing educational interests from previous learning outside classroom requirements indicating intellectual curiosity, energy, and passion in the expansion of knowledge, understanding, and abilities.

Don B. Huntley College of Agriculture Mission
The Cal Poly Pomona College of Agriculture will be a prestigious center of knowledge known for premier graduates and innovative agricultural, food and apparel solutions.

Don B. Huntley College of Agriculture Goals
1. Prepare graduates to become innovators and leaders in their fields
   a. Integrate all disciplines necessary to move agriculture education forward
   b. Set our graduates on a pathway to success and value to society
2. Engage with our external community
   Maintain current relationships with stakeholders
   Connect culture to science—reconnect people to their food and fiber systems
3. Enhance existing and build new agriculture, food and apparel knowledge systems
   Evaluate and enhance urban agriculture systems
   Create new knowledge which is geographic and culturally specific to our SoCal region
4. Ensure human and physical resources to support our mission and goals
   Nurture our resources through innovative and entrepreneurial approaches
   Develop and maintain outstanding and diverse faculty and staff
   Protect our physical resources –particularly our agricultural land – so we can offer a comprehensive education for future generations of CoA students

Don B. Huntley College of Agriculture (College) Objectives:
1.a. Integrate all disciplines necessary to move agriculture education forward
1.b. Set our graduates on a pathway to success and value to society
1. Maintain current relationships with stakeholders
2. Connect culture to science—reconnect people to their food and fiber systems
3. Evaluate and enhance urban agriculture systems.
4. Creating new knowledge which is geographic and culturally specific to our SoCal region
5. Nurture our resources through innovative and entrepreneurial approaches with an eye to protecting our agricultural land from further development

6. Develop and maintain outstanding and diverse faculty and staff

The Human Nutrition and Food Science Department (Department) Mission Statement
We are dedicated to supporting a creative and innovative environment to prepare baccalaureate and post-baccalaureate students through a learn-by-doing approach for careers in the health and food science professions to benefit society.

Department Goals
1. Outstanding and diverse faculty and staff committed to the department core values
2. Students are prepared for entry levels careers and post-graduate programs
3. Develop partnerships with other disciplines
4. Engagement with external community
5. Human and physical resources to support our mission and goals

Food and Nutrition Mission Statements (Major)
The Food and Nutrition Major (FN) is based on the Food and Nutrition Board (FNB) of the Institute of Medicine of the National Academy of Sciences. The FNB is a multidisciplinary group of biomedical scientists with expertise in various aspects of nutrition, food science, biochemistry, medicine, public health, epidemiology, food toxicology and food safety. The FN major trains students for careers pertaining to the diverse issues of food, nutrition and health. With the quickening pace of technological changes in our food supply and increasing understanding of how food affects our health, it is imperative that FN majors examine and evaluate the complex interrelationships of food, food safety and nutrition issues of central importance to health and policy. FN envisions its students to be in an excellent position to examine and provide guidance on issues of food and health today and into the future.

Food and Nutrition Program Goals
1. The program prepares graduates for entry-level nutrition careers and/or admittance to nutrition related postgraduate training programs.
2. The program will prepare students (dietetic option only) who meet the Didactic components defined by the Accreditation Council for Education in Nutrition and Dietetics.
3. The program will produce graduates with the knowledge and skill base to be successful professionals in the food and nutrition field.

Goal Outcome Measures
Section 1: Scientific and Evidence Base of Practice: integration of scientific information and research into practice
- 1.1 Students demonstrate how to locate, interpret, evaluate and use professional literature.
- 1.2 Students use current information technologies.

Section 2: Professional Practice Expectations: beliefs, values, attitudes and behaviors for the professional dietitian level of practice
- 2.1 Students demonstrate effective professional oral and written communication.
- 2.2 Students are able to demonstrate assertiveness, advocacy and negotiation skills.
- 2.3 Students are able to demonstrate counseling techniques.

2.4 Students are able to locate, understand and apply established guidelines.
2.5 Students are able to identify and describe the roles of others.

Section 3: Clinical and Customer Services: development and delivery of information, products and services to individuals, groups and populations

3.1 Students use the nutrition care process to make decisions.
3.2 Students apply knowledge of the role of environment, food and lifestyle choices.
3.3 Students develop an educational session or program/educational strategy for target populations.

Section 4: Practice Management and Use of Resources: strategic application of principles of management and systems in the provision of services to individuals and organizations

4.1 Students apply management and business theories and principles.
4.2 Students determine costs of services or operations.
4.3 Students apply the principles of human resource management to different situations.
4.4 Students apply safety principles.
4.5 Students develop outcome measures, use informatics principles and technology to collect and analyze data. Students explain the impact of a public policy on dietetics practice. Students explain the impact of health care policy, administration, different health care delivery systems and current reimbursement policies.

Section 5: The food and food systems foundation of the dietetics profession must be evident in the curriculum.

5.1 Students are able to identify the types of foodservice operations in existence.
5.2 Students are able to identify the interrelated parts that make up a foodservice system.
5.3 Students will understand the techniques of food preparation and application to the development, modification and evaluation of recipes and menus.
5.4 Students will demonstrate knowledge of techniques of food preparation and application to the development, modification and evaluation of recipes and menus.
5.5 Students will demonstrate knowledge of standards of purchasing of food.

Section 6: The physical and biological science foundation of the dietetics profession must be evident in the curriculum.

6.1 Describe the mechanism of action of essential nutrients in health promotion and disease prevention.
6.2 Describe the mechanism of action of bioactive non-nutrients in health promotion and disease prevention.
6.3 Determine nutrient needs across the lifespan.
6.4 Integrate knowledge of the use of nutrients at the molecular, cellular and organ level.
6.5 Integrate genetic, physiologic and biochemical mechanisms by which food and nutrients promote optimal health.
6.6 Understand and demonstrate the scientific method and the application of research methodologies.
6.7 Interpret basic statistics used in nutrition and medical research.

For the new semester conversion plan, designed in 2015-2016, the Nutrition Science faculty composed a mission statement directly related to and separate from the Dietetics Option Mission Statement (which is the same for the Major). Previously, the Mission Statement for NS and Dietetics (see above) were the same. After the Accreditation Council for Education in Nutrition and Dietetics (ACEND) site visit for the Dietetics Didactic Program and Dietetic Internships, the ACEND reviewers determined that Dietetics should have a standalone Mission and Program Goals.

Mission Statement Semester Conversion for Nutrition Science Option: To provide a high-quality education that educates and prepares our diverse students so that they can promote healthy nutrition and food practices that enhance human and animal health through teaching, research, classes and opportunities that support the Human Nutrition and Food Science, College of Agriculture and Cal Poly Pomona missions.

Semester Conversion for Nutrition Science Option Program Goals:
Goal 1: Prepare competent graduates capable of successful entry into graduate programs (Pre-professional and Animal Nutrition emphases)
Goal 2: Prepare graduates for entry into food and nutrition-related careers
Goal 3: Recruit, retain and graduate a diverse population of undergraduate nutrition science students with the social and cultural understanding required to help promote healthy nutrition and food practices.

Semester Conversion for Nutrition Science Option Program Objectives:
In order to secure and maintain accreditation for the Didactic Programs in Dietetics program, these Nutrition Science Option Student Learning Objectives will not include the food service and medically-related competencies (Foodservice/Medical Nutrition Therapy) per the requirements for Accreditation Council for Education in Nutrition and Dietetics (ACEND) requirements, and as a result of the reviewer's suggestion during the 2012 accreditation site visit.

Section 1: Scientific and Evidence Base of Practice: integration of scientific information and research into practice

1.1 Students demonstrate how to locate, interpret, evaluate and use professional literature.
1.2 Students use current information technologies.

Section 2: Professional Practice Expectations: beliefs, values, attitudes and behaviors for the nutrition professional

2.1 Students demonstrate effective professional oral and written communication.
2.2 Students are able to demonstrate assertiveness, advocacy and negotiation skills.
2.3 Students are able to demonstrate counseling techniques.
2.4 Students are able to locate, understand and apply established guidelines.
2.5 Students are able to identify and describe the roles of others.

Section 3: The physical and biological science foundation of the nutrition profession must be evident in the curriculum.

6.1 Describe the mechanism of action of essential nutrients in health promotion and disease prevention.
6.2 Describe the mechanism of action of bioactive non-nutrients in health promotion and disease prevention.
6.3 Determine nutrient needs across the lifespan.
6.4 Integrate knowledge of the use of nutrients at the molecular, cellular and organ level.
6.5 Integrate genetic, physiologic and biochemical mechanisms by which food and nutrients promote optimal health.
6.6 Understand and demonstrate the scientific method and the application of research methodologies.
6.7 Interpret basic statistics used in nutrition and medical research.

Comparison of the Missions, Goals and Objectives of the University, College, Major, and Option

The Food and Nutrition Major and therefore both the Dietetics and Nutrition Science (NS) option Mission Statements and Goals align with both the University and College statements. As mentioned previously, the Goals and Objectives are based on accreditation standards for the Dietetics program that are set and changed every 5 years. The Didactic Program in Dietetics came up with the student learning objectives associated with these program objectives that are unique to each class taught in the department. We have supplied the curriculum map for the nutrition classes taught in our department in section 2 of this report.

The University Mission "advance learning and knowledge by linking theory and practice in all disciplines, and to prepare students for lifelong learning, leadership and careers in a changing multicultural world", is very similar to the NS program semester conversion Program Mission Statement, "To provide a high quality education that educates and prepares our diverse students so that they can promote healthy nutrition and food practices that enhance human and animal health through teaching, research, classes and opportunities that support the Human Nutrition and Food Science, College of Agriculture and Cal Poly Pomona missions". The NS option will prepare students for lifelong learning, leadership and careers, by stating that our students will already have those skills and are prepared to teach or share with others. NS values our multicultural student body, and encourages our students to go back into their diverse communities and provide healthcare and healthy food practices in those communities. The College of Agriculture's Mission and Objectives, the College of Agriculture Mission Statement focuses more on the branding of the college and aligns with the University mission of "careers" and utilizes the words "known for premier graduates and innovative agricultural, food and apparel solutions". The NS option Mission, "promote healthy nutrition and food practices that enhance human and animal health through teaching, research, classes and opportunities that support the Human Nutrition and Food Science, College of Agriculture and Cal Poly Pomona missions", also supports the careers of students in formulation of unique, personalized as well as public health solutions. Please see **Table 1.1** for comparisons.

Table 1.1. Wording Comparison of the Mission Statement of the University to the College of Agriculture, and the NS Option

	Mission Statements	Similar Word Use in the College and NS Program[1]						
		Advance learning	Advance knowledge	Linking theory and practice	Prepare for lifelong learning	Prepare students for leadership	Prepare students for Careers	Multi-cultural world
University	Cal Poly Pomona's mission is to advance learning and knowledge by linking theory and practice in all disciplines, and to prepare students for lifelong learning, leadership and careers in a changing multicultural world.	N/A[1]	N/A	N/A	N/A	N/A	N/A	N/A
College	The Cal Poly Pomona College of Agriculture will be a prestigious center of knowledge known for premier graduates and innovative agricultural, food and apparel solutions.		X[2] "center of knowledge"	X Innovative" and "solutions"		X "premier graduates"	X "innovative agri-cultural, food and apparel solutions"	
NS Option	To provide a high-quality education that educates and prepares our diverse students so that they can promote healthy nutrition and food practices that enhance human and animal health through teaching, research, classes and opportunities that support the Human Nutrition and Food Science, College of Agriculture and Cal Poly Pomona missions	X "through classes" & "...support the Human Nutrition and Food Science, College of Agriculture and Cal Poly Pomona missions" Truncated to: "support college and CPP missions"	X "educates and prepares" & "support college and CPP missions"	X "so, they can promote healthy nutrition and food practices that enhances human ...health" & "support college and CPP missions"	X Enhances human... health through teaching, research, and opportunities" & "support college and CPP missions"	X "teaching" and "opportunities" & "support college and CPP missions"	X "promote healthy nutrition and food practices that enhance human and animal health through teaching, research" & "support college and CPP missions"	X "our diverse students" & : "support college and CPP missions"

[1]"N/A" is not applicable since we are comparing the College of Agriculture and NS Option statements to the University
[2]"X" indicates use of the word in the mission statement

In general, the University goals are: "Through participating in curricular and co-curricular learning opportunities, the graduates of California State Polytechnic University, Pomona, will develop competencies to become: Practitioners, Integrative Thinkers and Model Leaders. The objectives are more specific to the goals, but broad enough that it can encompass all disciplines. As shown in **Table 1.2 (please see next page)**, both the Don B. Huntley College of Agriculture and the Nutrition Science Option meets the Goals of the University.

Table 1.2: Comparison of the University Goals to the Goals of the Don B. Huntley College of Agriculture and the NS Option

Program	Goal Statements	Similar Word Use in the College and NS Program[1]		
		Practitioners	Integrative Thinkers	Model Leaders
University	Through participating in curricular and co-curricular learning opportunities, the graduates of California State Polytechnic University, Pomona, will develop competencies to become: Practitioners, Integrative Thinkers and Model Leaders.	N/A	N/A	N/A
College of Agriculture	1. Prepare graduates to become innovators and leaders in their fields 2. Engage with our external community 3. Enhance existing and build new agriculture, food and apparel knowledge systems 4. Ensure human and physical resources to support our mission and goals	"Create new knowledge which is geographic and culturally specific to our SoCal region"	"Enhance existing and build new agriculture, food and apparel knowledge systems" & "Create new knowledge which is geographic and culturally specific to our SoCal region"	"Prepare graduates to become innovators and leaders in their fields"
NS Option	1. Prepare competent graduates capable of successful entry into graduate programs (Pre-professional and Animal Nutrition emphases) 2. Prepare graduates for entry into food and nutrition-related careers 3. Recruit, retain and graduate a diverse population of undergraduate nutrition science students with the social and cultural understanding required to help promote healthy nutrition and food practices.	"Prepare competent graduates capable of successful entry into graduate programs (Pre-professional and Animal Nutrition emphases)" & "Prepare graduates for entry into food and nutrition-related careers" & "Recruit, retain and graduate a diverse population of undergraduate nutrition science students with the social and cultural understanding required to help promote healthy nutrition and food practices".	"Prepare competent graduates capable of successful entry into graduate programs (Pre-professional and Animal Nutrition emphases)"	"Prepare competent graduates capable of successful entry into graduate programs (Pre-professional and Animal Nutrition emphases)" & Recruit, retain and graduate a diverse population of undergraduate nutrition science students with the social and cultural understanding required to help promote healthy nutrition and food practices.

The comparison of the University, College and Program (Option) objectives was challenging, since objectives should directly relate to the goal subject matter and be measurable using student learning objectives at the program level. We have arranged the data to conform to the previous tables in a similar format.

Please see **Table 1.3** (on the next page) for comparisons.

The Don B. Huntley College of Agriculture (College) lacked information for "Literacy," "Global citizenship", "Intentional learning", and "Lifelong learning."

Summary:
There was only one area that was lacking in the NS Option comparison to the University Objectives and that was "Global citizenship". This can easily be incorporated into the new semester curriculum as an objective under **Section 2-: Professional Practice Expectations: beliefs, values, attitudes and behaviors for the nutrition professional.**
All other objectives were comparable.

Table 1.3. Comparison of the Objectives of the University with the College and NS Program

Program	Objectives (as written)	Communication skills; Interpersonal skills; Disciplinary learning;	Critical Thinking; Problem Solving; Information literacy; Integrating and transferring learning	Ethical understanding; Liberal learning; Global citizenship; Intentional learning; Lifelong learning
University	*Communication skills* - using verbal, written, visual and listening skills to communicate persuasively and coherently *Interpersonal skills* - demonstrating teamwork and leadership skills to achieve common goals *Disciplinary learning* - applying, integrating, and adapting fundamental information, concepts, theories and methods in their principal disciplines & *Critical thinking* - thinking clearly and logically to evaluate ideas, analyze and interpret information, and draw inferences through reasoning *Problem solving* - identifying, formulating, investigating, and solving quantitative and qualitative problems effectively and creatively *Information literacy* - locating, assessing, using and communicating qualitative, quantitative and scientific information, among a wide variety of sources, methods, and tools *Integrating and Transferring learning* - making connections across disciplines and between current and new knowledge, and applying that knowledge in professional and community life *& Ethical understanding* - applying ethical considerations in professional, personal and social life *Liberal learning* - demonstrating knowledge and appreciation of the physical and natural world, and of the development and legacies of diverse world cultures *Global citizenship* - understanding the responsibilities of being a global citizen and the role of civic engagement in fostering a democratic society *Intentional learning* - employing self-knowledge of the social and cognitive factors influencing their learning to engage in ongoing reflection and exploration for the purpose of personal development *Lifelong learning* - pursuing educational interests from previous learning outside classroom requirements indicating intellectual curiosity, energy, and passion in the expansion of knowledge, understanding, and abilities.	Communication-N/A Interpersonal-N/A Disciplinary-N/A	Critical Thinking-N/A Problem solving-N/A Information Literacy-N/A Integrating and transferring learning-N/A	Ethical understanding-N/A Liberal learning-N/A Global citizenship-N/A Intentional learning- N/A Lifelong learning-N/A

Program	Objectives (as written)	Communication skills; Interpersonal skills; Disciplinary learning;	Critical Thinking; Problem Solving; Information literacy; Integrating and transferring learning	Ethical understanding; Liberal learning; Global citizenship; Intentional learning; Lifelong learning
College	1.a. Integrate all disciplines necessary to move agriculture education forward 1.b. Set our graduates on a pathway to success and value to society 2. Maintain current relationships with stakeholders 3. Connect culture to science—reconnect people to their food and fiber systems 4. Evaluate and enhance urban agriculture systems. 5. Creating new knowledge which is geographic and culturally specific to our SoCal region 6. Nurture our resources through innovative and entrepreneurial approaches with an eye to protecting our agricultural land from further development 7. Develop and maintain outstanding and diverse faculty and staff	Communication-Not listed Interpersonal-Maintain current relationships with stakeholders Disciplinary-Connect culture to science—reconnect people to their food and fiber systems Evaluate and enhance urban agriculture systems. Creating new knowledge which is geographic and culturally specific to our SoCal region Develop and maintain outstanding and diverse faculty and staff	Critical Thinking-Creating new knowledge which is geographic and culturally specific to our SoCal region Problem solving-Evaluate and enhance urban agriculture systems. Information Literacy-Not listed Integrating and transferring learning-Creating new knowledge which is geographic and culturally specific to our SoCal region	Ethical understanding-Creating new knowledge which is geographic and culturally specific to our SoCal region Liberal learning- Integrate all disciplines necessary to move agriculture education forward Global citizenship-Not listed Intentional learning- Not listed Lifelong learning-Not listed

Program	Objectives (as written)	Communication skills; Interpersonal skills; Disciplinary learning;	Critical Thinking; Problem Solving; Information literacy; Integrating and transferring learning	Ethical understanding; Liberal learning; Global citizenship; Intentional learning; Lifelong learning
NS Program	**Section 1: Scientific and Evidence Base of Practice: integration of scientific information and research into practice** 1.1 Students demonstrate how to locate, interpret, evaluate and use professional literature. 1.2 Students use current information technologies. **Section 2: Professional Practice Expectations: beliefs, values, attitudes and behaviors for the nutrition professional** 2.1 Students demonstrate effective professional oral and written communication. 2.2 Students are able to demonstrate assertiveness, advocacy and negotiation skills. 2.3 Students are able to demonstrate counseling techniques. 2.4 Students are able to locate, understand and apply established guidelines. 2.5 Students are able to identify and describe the roles of others. **Section 3: The physical and biological science foundation of the nutrition profession must be evident in the curriculum.** 6.1 Describe the mechanism of action of essential nutrients in health promotion and disease prevention. 6.2 Describe the mechanism of action of bioactive non-nutrients in health promotion and disease prevention. 6.3 Determine nutrient needs across the lifespan. 6.4 Integrate knowledge of the use of nutrients at the molecular, cellular and organ level. 6.5 Integrate genetic, physiologic and biochemical mechanisms by which food and nutrients promote optimal health. 6.6 Understand and demonstrate the scientific method and the application of research methodologies. 6.7 Interpret basic statistics used in nutrition and medical research.	Communication- Students demonstrate how to locate, interpret, evaluate and use professional literature. Students demonstrate effective professional oral and written communication. Students are able to demonstrate assertiveness, advocacy and negotiation skills. Students are able to identify and describe the roles of others. Interpersonal- Students are able to demonstrate counseling techniques. Students are able to identify and describe the roles of others. Determine nutrient needs across the lifespan. Disciplinary- Describe the mechanism of action of essential nutrients in health promotion and disease prevention. Describe the mechanism of action of bioactive non-nutrients in health promotion and disease prevention. Determine	Critical Thinking- Students demonstrate how to locate, interpret, evaluate and use professional literature. Students are able to demonstrate assertiveness, advocacy and negotiation skills. Students are able to locate, understand and apply established guide-lines. Integrate knowledge of the use of nutrients at the molecular, cellular and organ level. Understand and demonstrate the scientific method and the application of research methodologies. Interpret basic statistics used in nutrition and medical research. Problem solving- Interpret basic statistics used in nutrition and medical research Information Literacy- Students demonstrate how to locate, interpret, evaluate and use professional literature. Students demonstrate	Ethical understanding- Students are able to demonstrate counseling techniques. (which requires training in cultural competencies, which 2 classes cover in our curriculum. Liberal learning- **Section 3 addresses this: The physical and biological science foundation of the nutrition profession must be evident in the curriculum.** Describe the mechanism of action of essential nutrients in health promotion and disease prevention. Describe the mechanism of action of bioactive non-nutrients in health promotion and disease prevention. Determine nutrient needs across the lifespan. Integrate knowledge of the use of nutrients at the molecular, cellular and organ level. Integrate genetic, physiologic and biochemical mechanisms by which food and nutrients promote optimal health. Understand and demonstrate the scientific method and the application of research methodologies.

Program	Objectives (as written)	Communication skills; Interpersonal skills; Disciplinary learning;	Critical Thinking; Problem Solving; Information literacy; Integrating and transferring learning	Ethical understanding; Liberal learning; Global citizenship; Intentional learning; Lifelong learning
NS Program (continued)		nutrient needs across the lifespan. Integrate genetic, physiologic and biochemical mechanisms by which food and nutrients promote optimal health. Understand and demonstrate the scientific method and the application of research methodologies.	effective professional oral and written communication. Students are able to demonstrate assertiveness, advocacy and negotiation skills. Students are able to identify and describe the roles of others. Integrating and transferring learning- **Section 1 addresses this: Scientific and Evidence Base of Practice: integration of scientific information and research into practice** Integrate knowledge of the use of nutrients at the molecular, cellular and organ level. Integrate genetic, physiologic and biochemical mechanisms by which food and nutrients promote optimal health.	Interpret basic statistics used in nutrition and medical research. Global citizenship-**Not addressed** Intentional learning- Students demonstrate how to locate, interpret, evaluate and use professional literature. Students demonstrate effective professional oral and written communication. Students are able to demonstrate assertiveness, advocacy and negotiation skills. Students are able to identify and describe the roles of others. Lifelong learning- **Section 1 and 2 addresses this: Scientific and Evidence Base of Practice: integration of scientific information and research into practice** **Section 2: Professional Practice Expectations: beliefs, values, attitudes and behaviors for the nutrition professional**

c) Review of previous self-study, recommendations, and changes

Previous Self-Study (2008)

There has been no previous study of the Nutrition Science (NS) option as its own entity. The NS option assessment was included with the Dietetic Program reviews. In 2008, Dietetics and Nutrition Science shared major core courses in nutrition science: Nutrition, Introduction to Research Methods, Nutrition of the Life Cycle, Advanced Nutrient Metabolism I, II and III and Medical Nutrition Therapy. For the first time in 2008, the department posted the assessment materials on the website: http://www.csupomona.edu/~hnfs/ProgramAssessment.shtml (now a dead link) listing Program and Student Learning Objectives as well as the Course Matrix for all courses. It was at this time that the assessment for the major was implemented.

In **2012**, a program review and site visit was conducted by Accreditation Council for Education in Nutrition and Dietetics (ACEND) for the Dietetic Program, of which all but three classes taught as part of the Nutrition Science option: FN/FST classes, FN 203, FN 305 and FN 228 were evaluated for compliance to accreditation standards. Dr. Lisa Kessler as Didactic Programs in Dietetics (DPD) Director, led the 3-day program evaluation with members from ACEND. Dr. Lisa Kessler implemented the suggestions from ACEND, and then shortly thereafter, became interim Associate Dean in the College of Agriculture. Dr. Bonny Burns-Whitmore, the DPD Director at the time, received the verification that the HNFS Department and the DPD Program were approved for continued accreditation by ACEND and the documentation is on file with the present DPD Director, Dr. Golandam Khayef, RD.

A program review for the Nutrition Science option was supposed to be conducted in **2014-2015**, however, due to a very high advising load and workload for the Retention, Tenure and Promotion requirements, as well as the limited number of faculty from the loss of full-time tenure track faculty, and some personal issues on the part of the Program Lead, a request was made to the Dean's office to postpone the program review until **2016-2017**. This was granted November 24, 2015, by Dr. Lisa Kessler, Associate Dean. Another request was made to postpone the program evaluation to 2019, which would be after the semester conversion, and after the reorganization of the Food and Nutrition classes for the upcoming change to the new deadline of June 2017 ACEND standards, and semester conversion revisions, but this request was denied. Therefore, it is possible that some of the areas of this report as it pertains to the Food and Nutrition major (Nutrition major in semesters) goals, student learning objectives, and course maps will likely be revised concurrently during this Nutrition Science option review in Spring Quarter 2017.

Section 2. Program Description

a) Review the units to degree.

The units to degree in the quarter system is 180, and 120 in the semester system.

b) The curriculum (core, directed electives, minors, emphasis area). Updated expanded course outlines (no more than five years old) for all courses must be on file in the department office.

The present curriculum consists of the following: A Core, Required Subplan/option courses, Required Support classes, Electives (both unrestrictive and required 42 units of electives) and a choice of one of three Emphases, Nutrition and Health, Animal Nutrition, or Pre-Professional. These are stated as follows:

Core:
Orientation to College of Agriculture AG 100, Intro to the Profession FN 100, Nutrition & Lab FN 235/235L, Intro of Research Methods FN 263. There will be a requirement for graduation - as assessment activity ("R" Assessment)

Required Subplan/Option Courses:
Intro to Foods & Lab FN 121/L, Nutrition of the Life Cycle FN 335, Nutrition Education & Lab FN 345/L, Intro to Food Science & Technology FST 125, Experimental Food Science & Lab FST 321/L, Food Safety and Current Issues FST 325

Required Support:
Human Physiology & Lab BIO 235/L, General Chemistry & Lab CHM 122/L, General Chemistry & Lab CHM 123/L, Elements of Organic Chemistry & Lab CHM 201/250 or Elements of Organic Chemistry & Lab CHM 314/317L, Trigonometry MAT 106, Calculus for the Life Sciences MAT 120, Basic Microbiology & Lab MIC 201/L, College Physics & Lab PHY 121/L. Agriculture and the Modern World AG 101 (D2), Ethical Issues in Food, Agricultural, and Apparel Industries AG 401(C4 or D4), Basic Biology BIO 115/L/A (B2, B3) or Foundations of Biology: Energy and Matter Cycles and Flows & Lab BIO 121/L(B2, B3) General Chemistry & Lab CHM 121/L (B1, B3), Freshman English II ENG 105 (A3), Stretch Composition III ENG 107(A2) or Advanced Stretch Composition II ENG 109 (A2), or First-Year Composition ENG 110 (A2), General

Unrestrictive Elective: 0-1

Electives Subplan/Option:
Select 42 units from only one emphasis areas in consultation with advisor: 1) Nutrition and Health 2) Pre-Professional 3) Animal Nutrition

Nutrition and Health Emphasis:
Drugs and Society AVS 211, Biology of Cancer BIO 302, Biology of the Brain BIO 309, Sexually Transmitted Diseases: Current Issues BIO 311, Biology of Human Aging BIO 328, Intercultural Communication Health COM 327, Nutrition & the Integrated Being FN 203, Food and Culture FN 228, Nutrition Activity FN 235A, Special Study for Upper Division Students FN 400, Internship in Foods and Nutrition FN 441, Internship in Foods and Nutrition Agriculture FN 442, Nutrition and International Dvlpmt FN 445, Food Systems in Developing Nations I FST 424, Food Systems in Developing Nations II FST 425, Healthy American Cuisine Agriculture HRT 255, Nutrition & Intl Development IA 445, Foundations of Exercise Science KIN 301, Physiology of Exercise KIN 303/303L, Science of Physical Aging KIN 365, Stress Management for Healthy Living KIN 370, Consumer Health KIN 380, Physiology of Exercise II KIN 403/403L, Drug Education

KIN 408, Sports Medicine KIN 455, Exercise Metabolism and Weight Control KIN 456, Multicultural Psychology PSY 325, Health Psychology PSY 326

Pre-Professional Emphasis:
Foundations of Biology: Reproduction & Dvlpmt BIO 122/122L, Foundations of Biology: Biodiversity BIO 123/123L, Biology of Cancer BIO 302, Genetics BIO 303, Cell and Molecular Biology BIO 310, Advanced Genetics BIO 424, Neuroscience BIO 421, Cellular Physiology BIO 428/428L, Quantitative Analysis CHM 221/221L, Organic Chemistry & Lab CHM 315/318L, Organic Chemistry & Lab CHM 316/319L, Elements of Biochemistry & Lab CHM 321/L or Biochemistry & Lab CHM 327/327L, Biochemistry & Lab CHM 328/328L, Biochemistry & Lab CHM 329/329L, Clinical Chemistry CHM 331/L, Spectroscopic Methods CHM 342/L, or Separation Methods CHM 343/L, or Electroanalytical Methods CHM 344/L, Bioanalytical Chemistry CHM 450, Recombinant DNA Biochemistry CHM 453, Advanced Nutrient Metabolism I FN 433, Advanced Nutrient Metabolism II FN 434, Advanced Nutrient Metabolism III FN 435, Physiology of Exercise KIN 303/L, Sports Medicine KIN 455, College Physics & Lab PHY 122/122L, College Physics & Lab PHY 123/123L

Animal Nutrition Emphasis:
Fundamentals of Animal Nutrition AVS 101, Equine Management Science AVS 125/125L, Applied Animal Feeding AVS 303/303L, Meat Science and Industry AVS 327/327L, Seafood and Poultry Processing Technology AVS 328/328A, Equine Nutrition AVS 355, Animal Nutrition AVS 402, Ruminant Nutrition AVS 403, Nutritive Analysis AVS 424L, Meat Processing and Technology AVS 427/427L, Foundations of Biology: Reproduction & Dvlpmt BIO 122/122L, Foundations of Biology: Biodiversity Organic Chemistry & Lab CHM 315/318L, Organic Chemistry & Lab CHM 316/319L, Elements of Biochemistry & Lab CHM 321/L or Biochemistry & Lab CHM 327/327L, Biochemistry & Lab CHM 328/328L, Biochemistry & Lab CHM 329/329L, Clinical Chemistry CHM 331/331L, Spectroscopic Methods CHM 342/342L or Separation Methods CHM 343/343L or Electroanalytical Methods CHM 344/344L , Bioanalytical Chemistry CHM 450, Recombinant DNA Biochemistry CHM 453, Advanced Nutrient Metabolism I FN 433, Advanced Nutrient Metabolism II FN 434, Advanced Nutrient Metabolism III FN 435

Semester Conversion

The curriculum is different in semester conversion. We required classes for Animal Nutrition and the Nutrition and Health emphasis that were important to the understanding of the emphasis. For Animal Nutrition, we required students to take 12 units of animal-related classes (see list) and for Nutrition and Health, we will require them to take the NTR 4250 Introduction to Nutrient Metabolism (3 units). We were just notified that some of the Biology classes our NS students used to take will no longer be offered, and are crossed off. We also listed NTR 4850 Sports Nutrition (3 units) as an elective for both the Pre-Professional and Nutrition and Health emphases. The NTR 4250 class was also designed to address the 20% "D's, W's (withdraws) and F's (fails) rate that both the FN 433 and FN 434 classes experience (will become NTR 4330 and NTR 4340). We hope

that by offering this introductory course, which introduces the nutrient pathways, ultimately improve student success. Please see Table 1.4 Nutrition Science-Semester Conversion for reference.

Table 1.4 Nutrition Science-Semester Conversion

Nutrition Major- Nutrition Science Option Curriculum Sheet-11/01/15-rev 11/13/15-rev 05/04/16

SEMESTER CONVERSION

	Required Major Core	74
	Required Option Core	10
	Double-counted	(33)
	GE	48
	Emphasis Electives	21
	TOTAL DEGREE	**120**
	Required Major Core (MC)	SEM
AG 1010	Agriculture and Modern World (D2)(MC)	3
AG 4010	Ethical Issues (D4)(MC)	3
BIO 1150	Basic Biology (B2) or BIO 1210(MC)	3
BIO 1150L	Basic Biology Lab (B3) or BIO 1210L(MC)	1
BIO 2350	Human Physiology(MC)	3
BIO 2350L	Human Physiology Lab(MC)	1
BIO 2060	Basic Microbiology(MC)	3
BIO 2060L	Basic Microbiology Lab(MC)	1
BIO 3000	Genetics (B5) (MC)	3
CHM 1210	General Chemistry (B1) (MC)	3
CHM 1210L	General Chemistry Lab (B3) (MC)	1
CHM 1220	General Chemistry (MC)	3
CHM 1220L	General Chemistry Lab(MC)	1
CHM 2010	Elements of Organic Chemistry or CHM 3170(MC)	3
COM 2204	Advocacy and Argument (A1) (MC)	3
ENG 1103	Freshman English 1 (A2) (MC)	3
ENG 2105	Written Reasoning (A3) (MC)	3
FST 3210	Experimental Food Science(MC)	2
FST 3210L	Experimental Food Science Lab(MC)	1
FST 3250	Food Safety and Current Issues(MC)	3
NTR 1000	Intro to Professions(MC)	1
NTR 1210	Intro to Foods(MC)	2
NTR 1210L	Intro to Foods Lab(MC)	1
NTR 2280	Food and Culture (D3) (MC)	3
NTR 2350	Nutrition(MC)	3
NTR 2350L	Nutrition Lab(MC)	1

NTR 3130	Intro to Research(MC)	3
NTR 3350	Nutrition of the Life Cycle(MC)	3
NTR 3450	Nutrition Education and Counseling(MC)	3
NTR 3450A	Nutrition Education and Counseling Act(MC)	1
PSY 2201	Introduction to Psychology (E) (MC)	3
STA 1200	Statistics with Apps (B4) (MC)	3
	Required Option Core (OC)	
MAT 1060	Trigonometry(OC)	3
MAT 1200	Calculus for the Life Sciences(OC)	3
PHY 1210	College Physics(OC)	3
PHY 1210L	College Physics Lab(OC)	1

***Emphasis Electives**
Students should select one of the three emphases:
Requires 18 units from selected emphasis

***Pre-Professional**

~~BIO 3020~~	~~Biology of Cancer~~	~~3~~
BIO 3030	Genetics	3
BIO 3100	Cell, Molecular & Developmental Biology	3
BIO 4210	Advanced Genetics BIO 421	3
BIO 4240	Neuroscience BIO 424	3
BIO 4280/L	Cellular Physiology BIO 4280/4280L	3/1
CHM 2210/L	Quantitative Analysis	3/1
CHM 3150/L	Organic Chemistry	3/1
CHM 3160/L	Organic Chemistry	3/1
CHM 3210/L	Elements of Biochemistry	3/1
CHM 3270/L	or Biochemistry/Laboratory	3/1
CHM 3280/L	Biochemistry and Lab	3/1
CHM 3310/L	Clinical Chemistry	3/1
CHM 3420/L	Spectroscopic Methods	3/1
CHM 3430/L	or Separation Methods	3/1
CHM 4500	Bio-analytical Chemistry	3
CHM 4530	Recombinant DNA Biochemistry	3
KIN 3030/L	Exercise Science	3/1
KIN 4550	Sports Medicine	3
NTR 4250	Introduction to Nutrient Metabolism	3
NTR 4330	Advanced Nutrient Metabolism I (3)	3
NTR 4340	Advanced Nutrient Metabolism II (3)	3
NTR 4370	Nutritional Genomics (requires NUTR 3930 & 3940)	3
NTR 4380	Evaluation of Complementary Medicine (req NUTR 3930 & 3940)	3
NTR 4450	Agriculture, Nutrition and International Development	3

NTR 4850	Sports Nutrition	3
PHY 1220/L	College Physics	3/1

***Nutrition and Health**
Required classes:

NTR 4250	Introduction to Nutrient Metabolism	3
----------	**Choose 18 units from the following**	--
AVS 2110	Drugs and Society	3
~~BIO 3020~~	~~Biology of Cancer~~	~~3~~
BIO 3090	Biology of the Brain	3
BIO 3110	Sexually Transmitted Diseases: Current Issues	3
BIO 3280	The Biology of Human Aging	3
COM 3270	Intercultural Communication	3
FST 4240	Food Systems in Developing Nations I	3
FST 4250	Food Systems in Developing Nations II	3
HRT 2550	Healthy American Cuisine	3
KIN 3010	Foundations of Exercise Science	3
KIN 3030/3030L	Physiology of Exercise	3/1
KIN 3650	Science of Physical Aging	3
KIN 3700	Stress Management for Healthy Living	3
KIN 3800	Consumer Health	3
KIN 4030/4030L	Physiology of Exercise	3/1
KIN 4080	Drug Education	3
KIN 4550	Sports Medicine	3
KIN 4650	Exercise Metabolism and Weight Control	3
NTR 2030	Health, Nutrition & the Integrated Being (3) if GE-cannot be used here	3
NTR 4850	Sports Nutrition	3
NTR 4410/4420	Internship in Foods and Nutrition (1-3)	1-3
NTR/IA 4450	Agriculture, Nutrition and International Health	3
PSY 3250	Multicultural Psychology	3
PSY 3260	Health Psychology	3

***Animal Nutrition**
Required classes

AVS 1010	Fundamentals of Animal Nutrition (3)	3
AVS 2010	Animal Diseases (3)	3
AVS 4730	Clinical Nutrition (3)	3
AVS 3500	Anatomy and Physiology of Domestic Animals	3
		Total 12

Require minimum 9 units from these electives

CHM 3150/L	Organic Chemistry L (3/1)	3/1
CHM 3160/L	Organic Chemistry (3/1)	3/1
CHM 3210	Elements of Biochemistry (3)	3
CHM 3270/L	or Biochemistry/Laboratory (3/1)	3/1
CHM 3280/L	Biochemistry (3/1)	3/1
NTR 4250	Introduction to Nutrient Metabolism	3
NTR 4330	Advanced Nutrient Metabolism I (3)	3
NTR 4340	Advanced Nutrient Metabolism II (3)	3
NTR 4370	Nutritional Genomics (requires NUTR 3930&40)	3
NTR 4380	Evaluation of Complementary Medicine (req NUTR 3930&40)	3
NTR 4850	Sport Nutrition	3

Option Core = OC
Major Core = MC
GEs are named according to A, B, C, D, E designations
Emphasis Elective areas = *

Location of ECOS:
All Expanded Course Outlines (ECOs) for both Nutrition Science and Dietetics are posted on the HNFS Blackboard site, since we do not have the room in the office to accommodate them. The ECOs for semester conversion are posted on Curriculog.

c) Service Learning and Honor Courses that have been incorporated into the curriculum.
We presently offer the following Service Learning classes: FN 345S/LS Nutrition Education Service Learning and if the students are in the Estudiante de Dietética program, they can also take FN 355AS-Nutrition Counseling for the Hispanic/Latino Population Service Learning.

We offer a number of honor classes for students in the Kellogg Honor College. The following have been utilized as honor's classes: FN 433H Advanced Nutrient Metabolism I -Honors (4), FN 434H Advanced Nutrient Metabolism II-Honors (4), FN 435 Advanced Nutrient Metabolism III-Honors (4), FN 400H Special Study for Upper Division Students (4) used for research of capstone project, FN 200H Special Study for Lower Division Students (projects related to other research projects or faculty projects), FN 328H Culture and Meal Patterns (2).

For semester conversion, we will be offering service learning classes in the following areas: NTR 3450S/AS (which will combine counseling and Nutrition Education). We will continue to offer the honors classes (NTR 2000H, NTR 4000H, NTR 4330H and NTR 4430H), except for FN 328H. This course was replaced by NTR 2280, which is a major core class as well as a GE.

d) List GE or other service classes that are not part of the Major program. Discuss role in the program.
We currently offer 5 classes that are part of the Estudiante de Dietética Program (ED), which was formed to provide Nutrition students classes that are taught in Spanish. These

classes also teach cultural competency of all cultures in addition to the Latino population, but focuses more on providing services to our Latino population here in southern California. Students wishing to take these classes must have completed SPN 251 or take an equivalence test in the Spanish Language Department. According to our curriculum sheet, students are able to take our GE courses and apply them to the emphasis if, and only if they will not be used as GE courses. Therefore, all courses offered as GE by our department are part of the option emphasis, but not the major, since Dietetic requirements are based on DPD requirements and cannot be substituted without approval. Additionally, the majority of Dietetic majors do not need additional electives in order to graduate with both the DPD requirements and the Food and Nutrition Bachelor of Science degree.

For semester conversion, we will be offering 3 of the ED classes instead of 5.

e) A comparison of the curriculum in terms of content and distribution of units with comparable programs at other CSU and non-CSU institutions.
We have designed a table to compare NS programs to other CSUs and non-CSU Institutions. Please see Table 2.1. We chose those institutions because they are in southern California (similar geographical area), and/or because their program was housed in the College of Agriculture. It should be noted that UC Davis is the only University of California offering an NS Program.

Table 2.1. Comparisons of courses at Cal Poly Pomona, Cal Poly SLO, Cal State LA, Cal State Long Beach, and UC Davis

Cal Poly Pomona Course Offered	Cal Poly SLO	Cal State LA	Cal State Long Beach	UC Davis
FN 100 - Introduction to the Profession	FSN 101	Not required-(N/R)	Not required-(N/R)	Not required-(N/R)
FN 121/121L - Introduction to Foods (2/2)	FSN 121	NTRS 210	Not required-(N/R)	Not required-(N/R)
FN 235-Nutrition (4)	FSN 210	NTRS 317	NUTR 132	Nutrition 10
FN 263 - Intro Research Methods (4)	FSN 420	N/R	N/R	N/R
FN 335 - Nutrition of the Life Cycle (4)	FSN 310-Maternal/Child and FSN 315 Nutr. in Aging	NTRS 413 Maternal/Child	NUTR 331	N/R
FN 345/345L - Nutrition Education (3/1)	FSN 415	N/R	NUTR 334	N/R
FST 125 – Intro. to Food Science and Technology (4)	N/A	N/R	N/R	Food Science and Technology 100A and 100B
FST 321/321L - Experimental Food Science (3/1)	N/R	NTRS 410	N/R	N/R
FST 325 - Food Safety and Current Issues (4)	N/R	N/R	SCI 332	Food Science and Technology 100A and 100B
For Nutrition and Health Emphasis Only-elective subplan				
Semester only Required-NTR 4250- N/R Intro. To Nutrient Metabolism**	N/R	N/R	N/R	N/R
FN 228 - Food and Culture (4) GE Sub-area D3	FSN 250	NTRS 312	NUTR 336	N/R
FN 203 - Health, Nutr and the Integrated Being (4) GE Area E	N/R	N/R	N/R	N/R
FN 400 - Special Study for Upper Division Students (1-2)	N/R	N/R	N/R	N/R

Cal Poly Pomona Course Offered	Cal Poly SLO	Cal State LA	Cal State Long Beach	UC Davis
FN 441 - Internship in Foods and Nutrition (1-4)	N/R	N/R	N/R	N/R
FN 445 - Agriculture, Nutrition and Internat. Development (4)	N/R	N/R	N/R	N/R
**NTR 485 Sport Nutrition (3)	N/R	N/R	N/R	N/R
FST 424 - Food Systems in Developing Nations I (4)	N/R	N/R	N/R	N/R
FST 425 - Food Systems in Developing Nations II (4)	N/R	N/R	N/R	N/R
IA 445 - Agriculture, Nutrition and International Development (4)	N/R	N/R	N/R	N/R
For Pre-professional and Animal Nutrition, only	N/R	N/R	N/R	N/R
FN 433 - Advanced Nutrient Metabolism I (4)	FSN 328/329	NTRS 417A	FN 436	Nutrition 111AY, 111B, 112, 116A
FN 434 - Advanced Nutrient Metabolism II (4)	FSN 328/329	NTRS 417B	N/R	Nutrition 111AY, 111B, 112, 116A
FN 435 - Advanced Nutrient Metabolism III (4)	FSN 328/329	N/R	N/R	Nutrition 111AY, 111B, 112, 116A
FN 437 - Nutritional Genomics (4)	BIO 302 or BIO 303 or BIO 351 Genetics/similar	N/R	N/R	N/R
FN 446/446L - Evaluating Complementary and Alternative Medicine (3/1)	N/R	N/R	N/R	N/R
FN 463 - Undergraduate Investigations and Seminar (4)	N/R	N/R	N/R	N/R
NTR 4850 Sport Nutrition Animal Nutrition emphasis-	N/R	N/R	N/R	N/R
**AVS 1010 Animal Nutr. (3)	N/R	N/R	N/R	N/R
**AVS 2010 Animal Diseases (3)	N/R	N/R	N/R	N/R
**AVS 4730 Clinical Nutr.	N/R	N/R	N/R	N/R
**AVS 3500 Ant/Phys of Dom. Animals	N/R	N/R	N/R	N/R

Support Courses

Cal Poly Pomona Course Offered	Cal Poly SLO	Cal State LA	Cal State Long Beach	UC Davis
BIO 115/115A/115L - Basic Biology (3/1/1) (B2, B3) or BIO 121/121L - Foundations of Biology: Energy and Matter - Cycles and Flows (3/2) (B2, B3)	Not listed but required as a prerequisite	Not listed but required as a prerequisite	Not listed but required as a prerequisite	Biological Sciences 2A, 2B & 2C 15
BIO 235/235L - Human Physiology (4/1)	Bio 232 and BIO 232	BIOL 200A and BIO 200B	BIOL 207	Similar to Neurobiology, Physiology, and Behavior 101, 101L
CHM 121 - General Chemistry (3) and	CHM 127	CHM 151	CHEM 111A	
CHM 112L - General Chemistry Laboratory (1)	Included	Included	Included	Chemistry 2A-2B-2C and 8A-8B, or 118A-118B, or 128A-128B and 129A
CHM 122 - General Chemistry (3) and	CHM 128	CHM 152	Included	Chemistry 2A-2B-2C and 8A-8B, or 118A-118B, or 128A-128B and 129A
CHM 122L - General Chemistry Laboratory (1)	Included	Included	Included	Chemistry 2A-2B-2C and 8A-8B, or 118A-118B, or 128A-128B and 129A
CHM 123 - General Chemistry (3) and	N/R	N/R	N/R	Chemistry 2A-2B-2C and 8A-8B, or 118A-118B, or 128A-128B and 129A
CHM 123L - General Chemistry Laboratory (1)	N/R	N/R	N/R	Chemistry 2A-2B-2C and 8A-8B, or 118A-118B, or 128A-128B and 129A
CHM 201 - Elements of Organic Chem (3) or CHM 314 - Organic Chem (3) and	CHM 312	CHEM 448	CHME 227	
CHM 250L - Elements of Organic Chem Lab (1) or CHM 317L - Organic Chemistry Lab (1)	N/R	N/R	N/R	N/R
MAT 106 - Trigonometry (4)	N/R	N/R	N/R	
MAT 120 - Calculus for the Life Sciences (4)	N/R	N/R	N/R	Mathematics 16A-16B
MIC 201/201L - Basic Microbiology (3/1)	MCRO 221	MICR 151	MICR 200	MIC 102 and 103L
PHY 121 - College Physics (3) and	PHY 121	N/R	N/R	Physics 1A-1B
PHY 121L - College Physics Laboratory (1)	Included	N/R	N/R	Included

Cal Poly Pomona Course Offered	Cal Poly SLO	Cal State LA	Cal State Long Beach	UC Davis
AG 101 - Agriculture & the Modern World (4) (D2)	N/R	N/R	N/R	N/R
AG 401 - Ethical Issues in Food, Agricultural, (4) (C4 or D4)	N/R	N/R	N/R	N/R
CHM 121 - General Chemistry (3) (B1) and	Not listed; required as a prerequisite	Not listed; required as a prerequisite	Not listed; required as a prerequisite	Chemistry 2A-2B-2C and 8A-8B, or 118A-118B, or 128A-128B & 129A
CHM 121L - General Chemistry Laboratory (1) (B3) ENG 130 - Freshman English II (4) (A3)	Not listed; required as a prerequisite	Not listed; required as a prerequisite	Not listed; required as a prerequisite	Chem 2A-2B-2C and 8A-8B, or 118A-118B, or 128A-128B& 129A
ENG 107 - Stretch Composition III (4) (A2) or ENG 109 - Advanced Stretch Composition II (4) (A2) or ENG 110 - First-Year Comp (4) (A2)	In GE or equiv.	In GE or equiv.	In GE or equiv.	In GE or equiv.
PSY 201 - General Psychology (4) (E)	N/R	PSY 150	N/R	Anthropology 2 or Psychology 1 or Sociology 1 or 3
STA 120 – Statistics (STAT)	STAT 218	N/R	BIOL 260: Biostats (3) or EDP 419: Educ Statistics (3) Or PSY 110: Intro Stats (4) GE AREA: B2 Or STAT 108: Stats for Everyday Life (3) GE AREA: B2	N/R
Number of electives 42	20	24	0	15-20 and selection of courses made in consultation with faculty advisor, prior to or upon reaching 120-unit level. Exercise Biology 110; Nutrition 99, 105, 113, 114, 115, 116B, 118, 120AN, 120BN, 122, 123, 124, 127, 130, 190, 192, 199

* All data presented in this table was obtained through respective program websites and online university catalogs accessed on Nov 10, 2012, June 3, 2016, and again September 10, 2016
N/R= not required
**Offered Semester only. For semester conversion, all other classes are changed to NTR designation with a "0" added to make a 4-digit number.

Table 2.2, shows courses not offered at Cal Poly Pomona, but offered at the other local universities.