

FOODS AND NUTRITION

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The Foods and Nutrition major offered in the Department of Human Nutrition and Food Science has two subplans. These are: Dietetics and Nutrition Science.

Douglas Lewis, Chair and Graduate Coordinator
 Mark S. Meskin, Didactic Program Director
 Kara Caldwell-Freeman, Dietetic Internship Director
 Martin F. Sancho-Madriz, FST Program Director

Wayne R. Bidlack
 Maria Botero Omary
 Bonny Burns-Whitmore

A Bachelor of Science degree with a major in foods and nutrition prepares students for challenging and rewarding careers and provides a strong academic background for graduate study and research.

High school students planning to major in foods and nutrition are advised to build a background in chemistry, mathematics, and biology. Community college students should concentrate courses which articulate to CHM 121, 122, and 201 with laboratories, on biology 115/115L, physiology (ZOO 235/235L), foods, nutrition, statistics, communication, and general education course requirements.

The curriculum, facilities, and faculty reflect the Human Nutrition and Food Science Department's commitment to a strong, up-to-date, science-based undergraduate program that provides the types of skills and knowledge needed by graduates to meet professional goals. Career options offered within the major are the following:

Dietetics Subplan

The Didactic Program in Dietetics is accredited by the Commission on Accreditation for Dietetic Education. Students pursuing career goals in the dietetic field qualify for post-graduate dietetic internships, and/or graduate programs. The department offers a post-baccalaureate Dietetic Internship Program which is accredited by the Commission on Accreditation for Dietetic Education. A minimum GPA of 2.8 overall and 3.0 in major courses is required for application to the Cal Poly Pomona Dietetic internship. Upon completion of a dietetic internship, graduates are eligible to take the registration examination to become registered dietitians. Students requesting transcript evaluation in order to determine needed coursework for dietetic internship eligibility will be required to pay an extra fee of \$25. A physiology minor may be included in this career option with a few additional courses. Dietitians are members of the professional health care team and serve as facilitators who translate scientific knowledge into practical applications so that consumers can make informed decisions about their diet.

Dietitians are employed in hospitals, out-patient and long-term care facilities, community and government agencies, schools, the private sector, or are self-employed. Administrative dietitians supervise food service in hospitals, extended care facilities, restaurants, colleges, schools, and businesses.

Nutrition Science Subplan

The subplan in Nutrition Science provides students a science based education emphasizing nutrition as preparation for post-graduate study in medical, veterinary, dental, pharmacy, physical therapy and physician assistant programs. Many students graduating with the Nutrition Science subplan will choose to pursue Master of Science and PhD

degrees in nutrition and nutrition related fields including food science, toxicology, pharmacology, epidemiology and public health. Nutrition Science is a biological science that requires a strong background in chemistry and biology, along with calculus and physics. The subplan focuses on nutrient biochemistry, nutrient requirements, the roles of nutrients in prevention and treatment of diseases and nutrition-related policy and public health issues. Students also acquire a strong background in scientific methodology when they choose 15 units from any of the following emphasis areas: Molecular and Cellular, Analytical, Biochemical and Clinical, Food Science and Technology, Community Nutrition, Animal Nutrition, or Kinesiology.

CORE COURSES FOR MAJOR

Required of all students. A 2.0 cumulative GPA is required in core courses including subplan (option) courses for the major in order to receive a degree in the major.

Orientation to the College of Agriculture	AG	100	(1)
Introduction to the Professions	FN	100	(1)
Nutrition	FN	235	(4)
Introduction to Research Methods	FN	263	(2)

Professional Subplans (all students must complete the required courses in one of the following options)

Dietetics Subplan Core

Introduction to Foods	FN	121/121L	(2/2)
Experimental Food Science	FST	321/321L	(3/1)
Food Safety and Current Issues	FST	325	(4)
Culture and Meal Patterns	FN	328/328L	(2/2)
Nutrition Through the Life Cycle	FN	335	(4)
Nutrient-Drug Interactions	FN	343	(2)
Nutrition Education	FN	345/345L	(2/1)
Community Nutrition	FN	346/346L	(2/1)
Food Service Systems I	FN	357/357L	(2/2)
Food Service Systems II	FN	358/358L	(2/2)
Food Service Systems III	FN	359/359L	(2/2)
Advanced Nutrient Metabolism I	FN	433	(4)
Advanced Nutrient Metabolism II	FN	434	(4)
Advanced Nutrient Metabolism III	FN	435	(4)
Medical Nutrition Therapy I	FN	443/443L	(3/1)
Medical Nutrition Therapy II	FN	444/444L	(3/1)

Nutrition Science Subplan Core

Introduction to Food Science	FST	125	(4)
Nutrition Through the Life Cycle	FN	335	(4)
Nutrient Drug Interactions	FN	343	(2)
Advanced Nutrient Metabolism I	FN	433	(4)
Advanced Nutrient Metabolism II	FN	434	(4)
Advanced Nutrient Metabolism III	FN	435	(4)
Medical Nutrition Therapy I	FN	443/443L	(3/1)
Medical Nutrition Therapy II	FN	444/444L	(3/1)

Emphasis Areas in Nutrition Science Subplan

Select 16 units from one or more of the following emphasis areas:

Molecular and Cellular

Biology of Cancer	BIO	302	(4)
Genetics	BIO	303	(4)
Advanced Genetics	BIO	421	(3)
Cell, Molecular and Developmental Biology	BIO	310	(4)
Cellular Physiology	BIO	428/428L	3/2
Neuroscience	BIO	424	(3)

Analytical, Biochemical and Clinical

Quantitative Analysis	CHM 221/221L	(4)
Biochemistry	CHM 328/328L	(4)
Biochemistry	CHM 329/329L	(4)
Clinical Chemistry	CHM 331/331L	(2/2)
Spectroscopic Methods	CHM 342/342L	(2/2)
or Separation Methods	CHM 343/343L	(2/2)
or Electroanalytical Methods	CHM 344/344L	(2/2)
Bioanalytical Chemistry	CHM 450	(4)
Recombinant DNA Biochem	CHM 453	(3)

Food Science and Technology

Meat Science and Industry	AVS 327/327L	(3/1)
Seafood and Poultry Processing	AVS 328/328L	(3/1)
Meat Processing	AVS 427/427L	(3/1)
Food Laws and Regulation	FST 322	(4)
Food Safety and Current Issues	FST 325	(4)
Sensory Analysis	FST 418/418L	(2/2)
Food Chemistry	FST 420/420L	(2/2)
Food Analysis	FST 422/422L	(2/2)
Food Microbiology	MIC 320/320L	(3/1)

Community Nutrition and Dietetics

Introduction to Foods	FN 121/121L	(2/2)
Experimental Food Science	FST 321/321L	(2/2)
Culture and Meal Patterns	FN 328/328L	(2/2)
Nutrition Education	FN 345/345L	(2/1)
Community Nutrition	FN 346/346L	(2/1)
Food Service Systems Management I	FN 357/357L	(3/1)
Food Service Systems Management II	FN 358/358L	(3/1)
Food Service Systems Management III	FN 359/359L	(3/1)
Nutrition/Int'l Development	FN/IA 445	(4)

Animal Nutrition

Intro to Animal Nutrition	AVS 100	(3)
Feeds and Feeding	AVS 101/101L	(1/1)
Equine Mgmt Science	AVS 125/125L	(3/1)
Equine Nutrition	AVS 355	(3)
Applied Animal Feeding	AVS 303/303L	(3/1)
Animal Nutrition	AVS 402	(3)
Ruminant Nutrition	AVS 403	(3)
Nutritive Analysis	AVS 424L	(2)

Kinesiology

Foundations of Exercise Science	KIN 301/301L	(3/1)
Physiology of Exercise	KIN 303/303L	(3/1)
Physiology of Exercise II	KIN 403/403L	(3/1)
Science of Physical Aging	KIN 365	(4)
Sports Medicine	KIN 455	(4)
Exercise and Weight Control	KIN 456	(3)

SUPPORT AND ELECTIVE COURSES

Dietetics Subplan

College Chemistry	CHM 122/122L	(3/1)
Elements of Organic Chemistry	CHM 201/250L	(3/1)
Basic Microbiology	MIC 201/201L	(3/2)
Human Physiology	ZOO 235/235L	(3/1)
Accounting for Agribusiness	FMA 324	(4)
Elements of Biochemistry	CHM 321/321L	(3/1)

The following major support courses should be used to satisfy the indicated GE requirements. If these courses are not used to satisfy GE, the total units to degree may be more than 180 units.

Freshman English I (A1)	ENG 104	(4)
Freshman English II (A3)	ENG 105	(4)
Statistics with Applications (B1)	STA 120	(4)
College Chemistry (B2)	CHM 121/121L	(3/1)
Basic Biology (B3)	BIO 121/121L	(3/2)
Genetics and Human Issues (B4)	BIO 300	(4)
Introduction to American Government (D1a)	PLS 201	(4)
United States History (D1b)	HST 202	(4)
Agriculture and the Modern World (D2)	AG 101	(4)
Ethical Issues in Food, Agricultural, and Apparel Industries (C4 or D4)	AG 401	(4)
General Psychology (E)	PSY 201	(4)
Directed Electives for Dietetics (See advisor)		(19)

Note for Dietetics Students:

Select a sufficient number of courses so that the total from Restricted Electives and GE is at least 87 units.

Nutrition Science Subplan

Foundations of Biology	BIO 122/122L	(3/2)
General Chemistry	CHM 122/122L	(3/1)
General Chemistry	CHM 123/123L	(3/1)
Organic Chemistry	CHM 314	(3)
Organic Chemistry	CHM 315	(3)
Organic Chemistry	CHM 316	(3)
Organic Chemistry Laboratory	CHM 317L	(1)
Organic Chemistry Laboratory	CHM 318L	(1)
Organic Chemistry Laboratory	CHM 319L	(1)
Elements of Biochemistry	CHM 321/321L	(3/1)
or Biochemistry	CHM 327/327L	(3/1)
College Physics	PHY 121	(3)
College Physics	PHY 122	(3)
College Physics	PHY 123	(3)
College Physics Laboratory	PHY 121L	(1)
College Physics Laboratory	PHY 122L	(1)
College Physics Laboratory	PHY 123L	(1)
Microbiology	MIC 201/201L	(3/2)
Microcomputing	CIS 101	(4)
Calculus for Life Sciences	MAT 120	(4)

The following major support courses should be used to satisfy the indicated GE requirements. If these courses are not used to satisfy GE, the total units to degree may be more than 180 units.

Human Physiology	ZOO 235/235L	(3/1)
Freshman English I (A1)	ENG 104	(4)
Freshman English II (A3)	ENG 105	(4)
Statistics with Applications (B1)	STA 120	(4)
College Chemistry (B2)	CHM 121/121L	(3/1)
Foundations of Biology (B3)	BIO 121/121L	(3/2)
Project Design Principles and Applications (B4)	AG 481/482	(2/2)
Ethical Issues in Food, Agricultural, and Apparel Industries (C4 or D4)	AG 401	(4)
Introduction to American Government (D1a)	PLS 201	(4)
United States History (D1b)	HST 202	(4)
Agriculture and the Modern World (D2)	AG 101	(4)
General Psychology (E)	PSY 201	(4)

Note for Nutrition Science Students:

Select a sufficient number of courses so that the total from Elective Subplan/Option and GE is at least 84 units.

GENERAL EDUCATION REQUIREMENTS

Students should consult the catalog website www.csupomona.edu/~academic/catalog/ for current information regarding this requirement. Unless specific courses are stated under Support Courses, see the list of approved courses under General Education Requirements, Areas A through E.

Area A. Communication and Critical Thinking (12 units)

1. Written Communication
2. Oral Communication
3. Critical Thinking

Area B. Mathematics and Natural Sciences (16 units)

1. Mathematics/Quantitative Reasoning
2. Physical Science
3. Biological Science
4. Science and Technology Synthesis

Area C. Humanities (16 units)

1. Fine and Performing Arts
2. Philosophy and Civilization
3. Literature and Foreign Languages
4. Humanities Synthesis

Area D. Social Sciences (20 units)

1. U.S. History, Constitution, and American Ideals
2. History, Economics, and Political Science
3. Sociology, Anthropology, Ethnic and Gender Studies
4. Social Science Synthesis

Area E. Lifelong Understanding and Self-development (4 units)

FOODS AND NUTRITION MINOR

The purpose of the minor in Foods and Nutrition is to help students understand the role that nutrients play in maintaining good health.

Introduction to Foods	FN	121/121L	(4)
or Introduction to Food Science and Technology	FST	125	(4)
or Food Safety and Current Issues	FST	325	(4)
Nutrition Science and Health	FN	305	(4)
or Introduction to Nutrition	FN	235	(4)
Nutrition of the Life Cycle	FN	335	(4)
College Chemistry	CHM	121/121L	(4)
College Chemistry	CHM	122/122L	(4)
Elements of Organic Chemistry	CHM	201/250L	(4)
Three upper division FN courses		(9-12)	
Total units required		{33-36}	

COURSE DESCRIPTIONS

All courses offered by the department may be taken on a CR/NC basis only by non-majors.

FN 100 Introduction to the Profession (1) F

Orientation to careers in dietetics, nutrition, and food science. Introduction to professional associations, publications and legislation pertinent to the professions discussed. Required of all HNFS students. 1 lecture discussion.

FN 121/121L Introduction to Foods (2/2) F, S

Application of food science concepts such as food composition, functional properties, and structure of foods. Study of food categories and basic culinary techniques. 2 lectures, 2 three-hour laboratories. Concurrent enrollment required.

FN 200 Special Study for Lower Division Students (1-2) F, W, S

Individual or group investigation, research studies or surveys of selected problems for lower division students. Total credit limited to 4 units, with a maximum of 2 units per quarter.

FN/KIN 203 Health, Nutrition and the Integrated Being (4) F, W, S

Investigation of specific areas of the integrated being dealing with nutrition, stress, drugs, sexuality, major health problems and death and dying. Understanding their effect on the integrated being and the development of behaviors and actions that will promote optimum physical and mental health. Meets General Education Area E requirement. 4 lecture discussions.

FN 228 Food and Culture (4) F, W, S

Interrelationship of food availability, historical developments, socio-economic institutions, political, religious, and other influences on food patterns. In-depth study of a selected culture group. 4 lectures. Meets General Education Area D3 requirement.

FN 235 Nutrition (4) F, W

Study of individual nutrient requirements. Utilization of dietary guidelines. Diet self-evaluation. Digestion, absorption, metabolism and excretion of carbohydrates, lipids, proteins, vitamins and minerals. Role of Nutrition in health promotion, disease prevention and treatment of disease. 4 lecture/discussions. Prerequisite: a college chemistry or biology course or equivalent.

FN 263 Introduction of Research Methods (2) S

Introduction to research in nutrition as the foundation for evidence-based practice. The scientific method, hypothesis testing, clinical trials, epidemiological research, nutrition surveys, and sensory analysis. Reading research papers. 2 lecture/discussions. Library work. Prerequisite: FN 235 or FST 125.

FN 299/299A/299L Special Topics (1-4) F, W, S

Group study of a selected topic, the title to be specified in advance for lower division students. Total credit limited to 4 units. Instruction is by lecture, laboratory, activity, or a combination.

FN 305 Nutrition, Science and Health (4) F, W, S, Su

Integrative approach to nutrition, health and fitness based on physiological and biochemical principles. Role of diet and other influences in promoting wellness and preventing degenerative diseases. Nutritional self-assessment. Written critiques of current controversies and other assigned topics. 4 one-hour lecture/discussions. Prerequisites: One course from each of the following Sub-areas: A1, A2, A3 and B1, B2, B3. GE Synthesis course for Sub-area B4.

FN 328/328L Culture and Meal Patterns (2/2) F

Relation of environment, technology, religion, social institutions and other factors influencing culture and patterns. Selected cultures, countries and regions. Management of meals. Individual oral reports and group projects. 2 lectures/problem-solving, 2 three-hour laboratories. Concurrent enrollment required. Prerequisite: FN 121/121L or equivalent; junior standing.

FN 335 Nutrition of the Life Cycle (4) W

Nutritional needs of pregnancy, lactation, childhood, adolescence, adulthood and the aged. Planning and computation of normal diets for all phases of the life cycle. Reading and reporting of current developments in nutrition. 4 lectures/problem-solving. Prerequisite: Minimum grade of C in FN 305 or FN 235; ZOO 235/235L.

FN 343 Nutrient-Drug Interactions (2) S

Basic principles of absorption, distribution, biotransformation and excretion of drugs. Introduction to the biochemical and physiological effects of drugs and their mechanisms of action. Effect of drugs on nutritional status. Nutritional effects on drug absorption, metabolism, action and potency. 2 lecture discussions. Prerequisite: Minimum grade of C in FN 235 or FN 305.

FN 345/345L Nutrition Education (2/1) W

Principles of learning and evaluation applied to nutrition. Development of instructional systems, including objectives, learning activities and strategies in various settings. Identifications and analysis of current problems inherent in such applications. Discussion and critique of student reports. 2 lectures/problem-solving, 1 three-hour lab. Concurrent enrollment required. Prerequisites: FN 305 or FN 235, FN 328/328L.

FN 346/346L Community Nutrition (2/1) S

Goals and trends in community nutrition. Dietary methodology. National nutrition status surveys. Role of public and private agencies in community nutrition programs. Analytical tools. Grantsmanship, public policy and legislation, 2 lectures, 1 three-hour laboratory. Concurrent enrollment required. Prerequisites: FN 121/121L, FN 235 or FN 305, FN 328/328L, FN 335, FN 345/345L.

FN 357/357L Foodservice Systems Management I (2/2) F

Introduction to foodservice management through a systems approach perspective. Production planning, quantity food production. Principles and practices in planning, preparing and serving food. Beginning of facility planning project, including marketing, business plans, goals and objectives. 2 lectures, 2 three-hour laboratories. Concurrent enrollment required. Prerequisite: FN 121/121L.

FN 358/358L Foodservice Systems Management II (2/2) W

Management of foodservice facilities using menu as a basis for determining recipes, specifications, receiving and storage standards. Purchasing for the foodservice industry. Continuation of facility planning project. 2 lectures, 2 three-hour laboratories. Concurrent enrollment required. Prerequisite: FN 357/357L.

FN 359/359L Foodservice Systems Management III (2/2) S

Management principles in foodservice systems, including human resource, financial, and facility management. Distribution and service. Equipment and layout in foodservice facilities. Completion of facility planning project. 2 lectures, 2 three-hour laboratories. Concurrent enrollment required. Prerequisites: FN 358/358L.

FN 400 Special Study for Upper Division Students (1-2) F, W, S

Individual or group investigation, research studies, or surveys of selected problems for upper division students. Total credits limited to 4 units, with a maximum of 2 units per quarter.

FN 433 Advanced Nutrient Metabolism I (4) W

Macronutrients and their metabolism with an emphasis on regulation, structure, digestion, absorption, transport, distribution, and disease states. Written analysis of current research. 4 lectures/ problem-solving. Prerequisites: Minimum grade of C in FN 235 or 305 and FN 335; ZOO 235/235L; BIO 300 or 303.

FN 434 Advanced Nutrient Metabolism II (4) S

Integration and regulation of metabolism. Hormonal effects. Water soluble vitamins as regulatory nutrients. Dietary reference intakes and recommended dietary allowances. Written analysis and critique of current research. 4 lectures/ problem solving. Prerequisite: FN 433.

FN 435 Advanced Nutrient Metabolism III (4) F

Fat soluble vitamins and minerals as regulatory nutrients. Sources, absorption, transport and storage. Functions and mechanisms of action. Interactions with other nutrients. Metabolism and excretion. Dietary reference intakes and recommended dietary allowances. Written analysis and critique of current research. 4 lectures/problem solving. Prerequisite: FN 433.

FN 441, 442 Internship in Foods and Nutrition (1-4) (1-4) F, W, S

On-the-job training in foods and nutrition, providing professional level experiences in food service, community nutrition, research, and quality control. Experiences may be useful for preparation of senior projects. Total credit for each course is limited to four units. Prerequisite: permission of coordinator required in advance.

FN 443/443L Medical Nutrition Therapy I (3/1) W

Pathophysiology of selected medical problems with specific attention to nutritional needs and treatment as part of evidenced based medical care. Clinical nutrition applications in acute and chronic disease. Nutritional care process, nutritional support, gastrointestinal tract disease, liver disease and metabolic stress. Nutrition assessment, medical terminology, charting and documentation, standard hospital diets, exchange system for meal planning, calculations for parenteral nutrition and, case-study discussions. 3 lectures, 1 three-hour laboratory. Prerequisites: Minimum grade of C in FN 433, 434, and 435. Concurrent enrollment required.

FN 444/444L Medical Nutrition Therapy II (3/1) S

Continuation of Medical Nutrition Therapy I. Cardiovascular disease, diabetes, renal disease, cancer, metabolic disorders, obesity, anemias, food allergy and intolerance, and alternative medicine. Development of critical problem-solving skills, calculations, case study discussion and presentations. 3 lectures, 1 three-hour laboratory. Prerequisite: Minimum grade of C in FN 443.

FN/IA 445 Agriculture, Nutrition, and International Development (4) F

Issues in technology, food policy, nutrition, political economy, and social welfare in developing societies. Integrates concerns about food and nutrient distribution and availability, malnutrition, scientific principles of nutrient utilization and metabolism, and human productivity and reproduction. Implications for a just and sustainable economic development. 4 lectures. Prerequisites: Completion of GE Area A, B3, and D2 or D3. Course fulfills GE Area B4 or D4.

FN 463 Undergraduate Investigations and Seminar (4) F, W, S

Individual investigations of foods and nutrition issues. Oral presentations and written reports. 4 seminar-discussions. Prerequisites: COM 204, ENG 105, FN 263 and senior standing.

FN 499/499A/499L Special Topics (1-4) F, W, S

Group study of a selected topic, the title to be specified in advance for upper division students. Total credit limited to 8 units, with a maximum of 4 units per quarter. Instruction is by lecture, laboratory, activity, or a combination of both.