Continuation of focus on history taking and physical examination skills with advanced/specialized content related to specified systems. —W (W).

410C. Advanced Clinical Skills (1-4)
Lecture/laboratory—1-4 hours. Prerequisite: consent of instructor. Open to Graduate Students in the Nursing Science and Health-Care Leadership Graduate Degree programs, or by consent of instructor. Continuation of focus on history taking and physical examination skills with advanced/specialized content related to specified systems. —S (S).

410D. Advanced Clinical Skills (1-4)
Lecture/laboratory—1-4 hours. Prerequisite: consent of instructor. Open to Graduate Students in the Nursing Science and Health-Care Leadership Graduate Degree programs, or by consent of instructor. Continuation of focus on history taking and physical examination skills with advanced/specialized content related to specified systems. —F (F).

410F. Advanced Clinical Skills (1-4)
Lecture/laboratory—1-4 hours. Prerequisite: consent of instructor. Open to Graduate Students in the Nursing Science and Health-Care Leadership Graduate Degree programs, or by consent of instructor. Continuation of focus on history taking and physical examination skills with advanced/specialized content related to specified systems. —F, W, S, Su.

410G. Advanced Clinical Skills (1-4)
Lecture/laboratory—1-4 hours. Prerequisite: consent of instructor. Open to Graduate Students in the Nursing Science and Health-Care Leadership Graduate Degree programs, or by consent of instructor. Students are placed in clinical settings and/or clinical simulation laboratories to observe and practice the integration of clinical skills with direct supervision by faculty. —S (S).

Nutrition
See Clinical Nutrition, on page 216; Food Service Management, on page 342; Nutrition; Nutritional Biology (A Graduate Program), on page 493; Nutrition Science, on page 494.

Nutrition
[College of Agricultural and Environmental Sciences]
Francene M. Steinberg, Ph.D., R.D., Chair of the Department
Sheri Zidenberg-Cherr, Ph.D., Vice Chairperson of the Department
Department Office. 3135 Meyer Hall
530-752-6630; http://nutrition.ucdavis.edu

Faculty
Elizabeth Applegate, Ph.D., Senior Lecturer (SOE)
Aggeler, Sarah; Distinguished Teaching Award
Gary Cherr, Ph.D., Professor
(Nutrition, Environmental Toxicology)
Kathryn G. Dewey, Ph.D., Distinguished Professor
Nilesh W. Gaikwad, Ph.D., Associate Professor
(Nutrition, Environmental Toxicology)
Fawaz G. Hiai, Ph.D., Professor
(Nutrition, Internal Medicine)
Carl L. Keen, Ph.D., Distinguished Professor
(Nutrition, Internal Medicine)
Bo L. Lannenrod, Ph.D., Distinguished Professor
(Nutrition, Internal Medicine)
Patricia Otieza, Ph.D., Professor
(Nutrition, Environmental Toxicology)
Carolyn M. Slupsky, Ph.D., Professor
(Nutrition, Food Science & Technology)
Francene M. Steinberg, Ph.D., R.D., Professor and Chair
Christine Stewart, Ph.D., Assistant Professor
Angela Zivkovic, Ph.D., Assistant Professor
Emeriti Faculty
Lindsay H. Allen, Ph.D., Professor Emerita
Kenneth H. Brown, M.D., Professor Emeritus
Andrew J. Clifford, Ph.D., Professor Emeritus
Louis E. Grivetti, Ph.D., Professor Emeritus
Lucia Kaiser, Ph.D., Specialist in Cooperative Extension Emerita
Janet King, Ph.D., Professor Emerita
Roger B. MacDonald, Ph.D., Professor Emeritus
Robert B. Rucker, Ph.D., Professor Emeritus
Barbara O. Schneeman, Ph.D., Professor Emerita
Judith S. Stern, Sc.D., R.D., Professor Emerita
Affiliated Faculty
Sean Adams, Ph.D., Associate Adjunct Professor
Ellen Bonnel, Ph.D., Academic Administrator
Betty Burri, Ph.D., Adjunct Professor
Britt Burton-Freeman, Ph.D., Associate Research Nutritionist
Joan Frank, M.S., R.D., Academic Coordinator, Lecturer
Ellen Fung, Ph.D., R.D., Associate Adjunct Professor
Robert M. Hackman, Ph.D., Research Nutritionist
Marjorie Haskell, Ph.D., Associate Researcher
Peter Havel, Ph.D., D.V.M., Professor
Wayne Hawkes, Ph.D., Professor
David Heineg, Ph.D., Academic Administrator
Sonja Hess, Ph.D., Associate Research Nutritionist
Liping Huang, Ph.D., Adjunct Professor
Daniel Hwang, Ph.D., Adjunct Professor
Nancy Keim, Ph.D., Adjunct Professor
Darshan Kelley, Ph.D., Adjunct Professor
Kevin Laugero, Ph.D., Associate Adjunct Professor
Charles Stephens, Ph.D., Adjunct Professor
Marilyn S. Townsend, Ph.D., R.D., Specialist in Cooperative Extension
Janet Uri-Adams, Ph.D., Associate Research Nutritionist
Marta Van Loan, Ph.D., Adjunct Professor
Sheri Zidenberg-Cherr, Ph.D., Specialist in Cooperative Extension
Susan Zimba, Ph.D., Associate Adjunct Professor
Major Programs. See the majors in Clinical Nutrition, on page 216 and Nutrition Science, on page 494.

Minor Program Requirements: The Department of Nutrition offers four minor programs open to students majoring in other disciplines who wish to complement their study programs with a concentration in the area of food and nutrition. Note: If the student’s major program requires the same course in biochemistry and physiology, only one of the courses may duplicate credit toward the minor. Each program below lists replacement courses to fulfill the minimum unit requirement.

Nutrition
Community Nutrition .......................................20
Preparation. Plan in advance to include the required course prerequisites.
Nutrition 111AY and 111B ......................... 5
Nutrition 118, 192 (2 units) ...................... 6
Nutrition 120AN or 120BN .................... 4

Nutrology, Physiology, and Behavior 101 ................................................ 5
Replacement courses; see note above:

Food Service Management ..........................25
Preparation. Plan in advance to include the required course prerequisites.
Food Science and Technology 100A-100B, 101A-101B ........................................ 12
Food Service Management 120, 120L, 122 ..................................................... 9
Agricultural and Rural Economics 112 ..................................................... 4
Replacement courses; see note above:
Nutrition 10, 111AY, 111B, 114, 116A-116B, 120AN, or 120BN, Economics 1A-1B.

Nutrition and Food ........................................22
Preparation. Plan in advance to include the required course prerequisites.
Nutrition 111AY and 111B ......................... 5
Nutrition 120AN or 120BN .................... 4
Food Science and Technology 100A, 100B ..................................................... 8
Nutrology, Physiology, and Behavior 101 ..................................................... 5
Replacement courses; see note above:

Nutrition Science ........................................20
Preparation. Plan in advance to include the required course prerequisites.
Animal Biology 102 and 103, Biological Sciences 102 and 103 and Nutrition 111AY and 111B ..................................................... 11.15
Nutrology, Physiology, and Behavior 101 ..................................................... 5
Replacement courses; see note above:
Nutrition 114, 115, 116A-116B, 117, 120AN or 120BN, 122, 123, 124, 201, 204.

Minor Advisers. 3202 Meyer Hall 530-752-2512
Graduate Study. Programs of study leading to the M.S. and Ph.D. degrees are available in Nutrition. For information on graduate study contact the Nutrition Graduate Group.

Courses in Nutrition (NUT)
Lower Division
10. Discoveries and Concepts in Nutrition (3)
Lecture—3 hours. Nutrition as a science; historical development of nutrition concepts of nutrients and foods. Not open for credit to students who have taken an upper division course in nutrition. GE credit: SciEng | SE, SL—F, W, S, Su; [F, W, S, Su] Applegate

11. Current Topics and Controversies in Nutrition (2)
Discussion—1.5 hours; term paper. Exploration of current applications and controversies in nutrition. Students read scientific journal articles and write summaries, as well as give brief oral presentations. Topics change to reflect current interests and issues. GE credit: SciEng, Wrt | OL, VL, WE—F, W, S, Su; [F, W, S, Su] Applegate

99. Individual Study for Undergraduates (1-5)
Prerequisite: consent of instructor. (P/NP grading only.) GE credit: SE—F, W, S; [F, W, S, Su] Applegate

Upper Division
104. Environmental & Nutritional Factors in Cellular Regulation and Nutritional Toxicants (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: Biological Sciences 101; Biological Sciences 103 or Animal Biology 103. Cellular regulation from nutritional/toxicological perspective. Emphasis: role of biofactors on modulation of signal transduction pathways, role of specific organelles in organization/ regulation of metabolic transformations, major cofactor functions, principles of pharmacology/toxicology
important to understanding nutrient/toxicant metaboli
tism. (Same course as Environmental Toxicology 493)
GE credit: SciEng | QL, SE, SL — S. (S.) Haji, Oteiza

105. Nutrition and Aging (3)
Lecture—3 hours. Prerequisite: course 111AV or 111AY and Animal Biology 103 or the equivalent. Nutrition and its impact on the aging process from both an organismic/cell perspective, including demographic, theories of aging, nutrition and evolution, nutrient
tional manipulation and life-span extension, and nutrition’s impact on the diseases of aging. GE credit: SciEng | SE — S. (S.)

110B. Recommendations and Standards for Human Nutrition (2)
Lecture—2 hours. Prerequisite: Chemistry BB; Neu	rology, Physiology, and Behavior 101 or the equiva
tent. GE credit: SciEng | SE, SL — S. (S.) Zidenberg-Cherr

111AY. Introduction to Nutrition and Metabolism (3)
Web virtual lecture—3 hours; lecture/discussion—1 hour. Prerequisite: Chemistry BB; Neurology, Physiolo
ogy, and Behavior 101 or the equivalent. Restricted to upper division or graduate level students only.
Introduction to metabolism of fat, protein and carbohydr
tate: the biological role of vitamins and minerals; nutrient needs during the life cycle, diet and nutrition of
lactating women; the role of hormones and endocrine
system; methodological aspects of metabolic studies;
Introduction to nutrition. GE credit: SciEng | SE — W. (W.)

112. Nutritional Assessment (4)
Lecture—3 hours; laboratory—3 hours. Prerequisite:
Animal Biology 102 and 103 or course 101, Nutri
tion 111AV or 111AY, Statistics 13. Restricted to upper division or graduate level Nutrition students only. Methods of human nutritional assessment, including dietary, anthropometric, biochemical metho

113. Principles of Epidemiology in Nutrition (4)
Lecture/discussion—4 hours. Prerequisite: Plant Sci
culture 493. Introduction to epidemiology of nutrition
as it relates to the field of nutrition, including study design, principles of epidemiologic inference, criteria for causality, and interpreting measures of disease risk. GE credit: SciEng | QL, SE — F. (F.) Stewart

114. Developmental Nutrition (4)
Lecture—4 hours. Prerequisite: Animal Biology 102 and 103; course 111AV or 111AY, 111B. Role of nutritional factors in embryonic and postnatal develop
tment. GE credit: SciEng, Wrt | SE — W. (W.) Keen

115. Animal Nutrition (4)
Lecture—3 hours; laboratory—3 hours. Prerequisite:
Chemistry BB 118 or consent of instructor. Comparative nutrition in animals in relation to the nutritional composition of feeds; feed systems, digestion, absorption, feeding strategies. GE credit: SciEng; Wrt | OL, QL, QL, SE, SL, WE — F. (F.) Fadel

116A. Clinical Nutrition (3)
Lecture—3 hours. Prerequisite: course 111AV or 111AY, 111B, 112; Neurobiology, Physiology, and Behavior 101 or the equivalent. Biochemical and physiological principles of therapeutic diets. Problems in therapeutic diets for normal and pathological condi
tions. GE credit: SciEng | SE — F. (F.) Steinberg

116AL. Clinical Nutrition Practicum (3)
Lecture—1 hour; laboratory—3 hours; discussion—1 hour. Prerequisite: course 116A (may be taken con

116B. Clinical Nutrition Practicum (3)
Lecture—3 hours; discussion—1 hour. Prerequisite:
course 111AV or 111AY, 111B, 112; Neurobiol
ogy, Physiology, and Behavior 101 or the equiva
lent. Biochemical and physiological bases for therapeutic diets and planning diets for nor
mal and pathological conditions. GE credit: SciEng | SE — W. (W.) Zikovic

117. Experimental Nutrition (6)
Lecture—3 hours; laboratory—6 hours; extensive writing. Prerequisite: course 111AV or 111AY, 111B, 112; Biochemistry 101, 102, 103; Molecular and Cellular Biology 110L or other laboratory course in biochemistry is recommended. Methods of assessing nutritional status. Application of chemical, microbiological, biochemical and enzymatic techniques to current problems in nutrition. GE credit: SciEng, Wrt | SE, WE, W. (W.) Gaikwad

118. Community Nutrition (4)
Lecture—4 hours. Prerequisite: course 111AV or 111AY, 111B, 112; Biochemistry 101, 102, 103. Nutritional problems in con
temporary communities and of selected target groups in the United States and in developing coun

119A. International Community-Based Nutritional Assessment (1)
Lecture/discussion—1 hour. Prerequisite: course 112 (may be taken concurrently) and consent of instructor. Issues and problems related to community-based nutritional assessment in a low-income coun	
try, major nutritional problems in low-income coun
tries; ethical issues in human investigation; survey design, data collection techniques, and data analy
sis; preparation for international travel; cross-cultural communication, health, and safety while abroad.

119B. International Community-Based Nutritional Assessment (6)
Lecture—2 hours; fieldwork—12 hours. Prerequi
tive: course 119A and consent of instructor. Restricted to students in Clinical Nutrition, Community Nutrition, Dietetics, and Nutrition Science. A six-week summer course in Peru. Implemen
tation of a community-based nutritional assess
ment survey, including development of survey instru
tment, selection of the study sample, collection and verification of data, and analysis and interpre	ation of the results, the project will be carried out by paired participants and faculty members of UC Davis and the collaborating foreign institution.

120AN. Nutritional Anthropology (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 10 and Anthropology 2 recommended. Nutri
tional anthropology explores cultural and contempo
rary perspectives; the anthropological approach to food and diet; field work methods; case histories that explore food patterns and their nutritional implica
tions. GE credit: SciEng or SocSci, Div | SE, SS — Su. (Su.) Kurtz

120BN. Nutritional Geography (4)
Lecture—3 hours; discussion—1 hour. Nutritional geography from historical and contemporary per
spectives; the geographical approach to food and diet; cultural and environmental factors that influence diet; food-related landscapes and pat
tterns. GE credit: SciEng or SocSci, Div | SE, SS.

122. Ruminant Nutrition and Digestive Physiology (4)
Lecture—3 hours; laboratory—3 hours. Prerequisite: Biolog
cal Sciences 2A, 2B, 2C; Animal Biology 103 or Biological Sciences 103; Animal Science 100 or Neurobiology, Physiology, and Behavior 101 or consent of instructor. Animal husbandry recom
mended. Study of nutrient utilization as influ
enced by the unique aspects of digestion and fer
tmentation in ruminants, both domestic and wild. Laboratory exercises include complex nutrient feeding, evaluation, digestion kinetics using fistulated cows, computer modeling, and microbial exercises. GE credit: SciEng | GL, SE — S. (S.) Fadel

123. Comparative Animal Nutrition (3)
Lecture—3 hours. Prerequisite: Animal Biology 103 or Biological Sciences 103. Restricted to upper divi
gion and graduate level students. Comparative nutri
tion of animals; including laboratory, companion, zoo, and wild animals. Digestion and metabolic adaptations recommended for animal species to consume diverse diets. Relation of nutrition to metabolic adap	ations and physiological states, including growth, reproduction, and disease. GE credit: SciEng | SE — S. (S.) Klasing

124. Nutrition and Feeding of Finishes (3)
Lecture—3 hours. Prerequisite: Animal Biology 103 or Biological Sciences 103. Principles of nutrition and feeding of fishes under commercial situations; implications of fish nutrition to the environment and conservation of endangered species. GE credit: SciEng | QL, SE, SL

127. Environmental Stress and Development in Marine Organisms (10)
Lecture—4 hours; laboratory—12 hours; discus
tion—2 hours. Prerequisite: Environmental Toxicology 101 or Biological Sciences 102 or the equivalent; Environmental Toxicology 114 A or course 114 recommended. Course taught at Bermuda Marine Laboratory. Effects of environmental and nutritional stress, including pollutants, on develop
ment and function in embryos and larvae of marine organisms. Emphasis on advanced experimental methods. (Same course as Biological Toxicology 127.) GE credit: SciEng | OL, QL, SE, SL, WE, WE — Su. (Su.) Chen

129. Journalistic Practicum in Nutrition (3)
Lecture—2 hours; discussion—1 hour. Prerequisite: course 111AV or 111AY, 111B; a course in written or oral expression or consent of instructor. Critical analysis and discussion of current, controversial issues in nutrition; the use of journalistic techniques to present scientific material for the lay public. Stud
te will be required to write several articles for campus media. Course may be repeated one time for GE credit. GE credit: SciEng | OL, SE, SL, WE

130. Experiments in Nutrition: Design and Execution (2)
Laboratory—6 hours. Prerequisite: consent of instruc
tor; course 111AV, 111AY, 111B or 114 recom
mended. Experiments in current nutritional problems. Experimental design: study the scientific problem independently or in groups of two-three, design a protocol, complete the project, and report findings. May be repeated for credit up to six times (three times per instructor) with consent of instructor. GE credit: SciEng | SE — F, W, Su, F. (F., W, S.)

190. Proseminar in Nutrition (1)
Seminar—1 hour. Prerequisite: course 111AV or 111AY, 111B. Restricted to senior standing. Discus
sion of human nutrition problems. This seminar will involve a different emphasis among experimental, clinical, and dietetic problems of community, national and international scope. May be repeated
190C. Nutrition Research Conference (1) Discussion—1 hour. Prerequisite: upper division standing in Nutrition or related biological science; consent of instructor. Introduction to research findings and methods in nutrition. Presentation and discussion of research by faculty and students. May be repeated for credit. (P/NP grading only.) GE credit: SE—F, W, S, F [W, S, J] Zidenberg-Cherr

200. Nutrition and Immunity (2) Lecture/discussion—2 hours. Prerequisite: Pathology, Microbiology, and Immunology 107 or the equivalent, Animal Biology 102. Cellular and molecular mechanisms underlying interactions of nutrition and immune function, including modulation of immunocompetence by diet and effects of immune responses on nutritional needs. Lectures and discussion explore implications for resistance to infection, autoimmune disease, and allergy. Offered in alternate years. —W. [W] Kling, Erickson, Stephensen

250. Metabolic Homeostasis (3) Lecture—2 hours; discussion—1.5 hours. Prerequisite: passing the Nutrition Graduate Group Preliminary Examination or consent of instructor. Preference given to students with advanced standing in the Nutrition Graduate Group. Regulatory mechanisms of carbohydrate, lipid, and amino homeostasis, mechanisms of metabolic enzyme regulation and of the metabolic hormones; homeostatic mechanisms and interactions; fuel-fuel interactions; nutrition energy balance.

251. Nutrition and Energy Balance (3) Lecture—2 hours; discussion—1 hour. Prerequisite: course 210A or 210B or consent of instructor. Comprehensive study of the biochemical, nutritional and physiological mechanisms controlling food intake and body composition in health and disease. Subject matter will be approached through lectures and discussions where students and staff will critically evaluate the literature.

254. Applications of Systems Analysis in Nutrition (3) Lecture—2 hours; discussion—1 hour. Prerequisite: course 202, Physiological Sciences 205A-205B or the equivalent. Quantitative aspects of digestion and metabolism, principles of systems analysis. Evolution of models of energy metabolism as applied in current feeding systems. Critical evaluation of mechanisms of homeostatic processes utilized in support of nutritional research.


261. Lactation and Infant Nutrition (6) Lecture—5 hours; discussion—1 hour. Prerequisite: course 260. Restricted to students enrolled in the MAS program; Nutrition graduate students by consent of instructor. Overview of the physiological and biochemical processes underlying human lactation and nutritional needs of both mother and infant. Development of skills in assessment, nutrition counseling, education and support of new mothers and their families. —W. [W] Heining

262. Child and Adolescent Nutrition (6) Lecture—5 hours; discussion—1 hour. Prerequisite: course 261. Restricted to students enrolled in the MAS program; Nutrition graduate students by consent of instructor. Application of epidemiological principles to the study of maternal and child nutrition. Topics include quantitative and qualitative study procedures, including study design, data collection, and related analytical techniques. —F. [F] Heining

263. Applied Research Methods in Maternal and Child Nutrition (4) Lecture—3 hours; term paper. Prerequisite: graduate standing. Restricted to students enrolled in the MAS program; Nutrition graduate students by consent of instructor. Current scientific literature related to Maternal and Child Nutrition in adult education settings. Topics include methods and theories of adult education and critical thinking skills related to research evaluation. Offered in alternate years.

264. Current Topics in Maternal and Child Nutrition: Epidemiology and Evidence-Based Practice (2) Seminar—2 hours. Prerequisite: graduate standing. Restricted to students enrolled in the MAS program; Nutrition graduate students by consent of instructor. Current scientific literature related to Maternal and Child Nutrition. Topics include epidemiology, evidence-based practice and research dissemination, and nutritional assessment of populations. Offered in alternate years. —W. [W] Heining

265. Current Topics in Maternal and Child Nutrition: Public Policy Development and Implementation (2) Seminar—2 hours. Prerequisite: graduate standing. Restricted to students enrolled in the MAS program; Nutrition graduate students by consent of instructor. Current scientific literature related to Maternal and Child Nutrition. Topics include nutrition surveillance and monitoring, as well as public policy development and implementation. Offered in alternate years. —S. [S] Heining

270. Scientific Ethics in Biomedical Studies: Emphasis on Nutrition (3) Lecture—1 hour; discussion—1 hour; term paper. Restricted to graduate standing or consent of instructor. Scientific ethics in biomedical studies, especially nutrition. Discussion and case study presentations on scientific integrity, fraud, misconduct, conflict of inter-
est, human and animal research protections. Not open for credit to students who have completed course 292B—Steinberg.

290. Beginning Nutrition Seminar (2)
Lecture/discussion—1 hour; seminar—1 hour. Prerequisite: first year graduate standing. Discussion and critical evaluation of topics in nutrition with emphasis on literature review and evaluation in this field. Students give oral presentations on relevant topics.—F (F).

290C. Research Conference (1)
Discussion—1 hour. Prerequisite: graduate standing and consent of instructor. Major professors lead research discussions with their graduate students. Research papers are reviewed and project proposals presented and evaluated. Format will combine seminar and discussion style. (S/U grading only)—F (F).

291. Advanced Nutrition Seminar (1)
Seminar—1 hour. Prerequisite: second-year graduate standing. Advanced topics in nutrition research. Multiple sections may be taken concurrently for credit. May be repeated for credit. (S/U grading only)—F, W, S. (F, W, S.)

293A. Current Topics in Obesity, Food Intake and Energy Balance (3)
Lecture—1 hour; seminar—1 hour; discussion—1 hour. Prerequisite: graduate standing or course 129. Undergraduates with upper division standing with at least one writing course may enroll with consent of instructor. Current research and its evaluation. Principles of experimental design and scientific background for given article. Articles summarized for posting on Internet for use by healthcare professionals. May be repeated for credit with consent of instructor. (Nutrition)

293B. Current Topics in Obesity, Food Intake, and Energy Balance with Special Topics (3)
Lecture—1 hour; seminar—1 hour; discussion—1 hour. Prerequisite: graduate standing or course 129. Undergraduates with upper division standing with at least one writing course may enroll with consent of instructor. A continuation of course 293A, with additional special topics. May be repeated for credit up to 3 times with consent of instructor. (Nutrition)

294A. Current Topics in Developmental Nutrition (2)
Seminar—2 hours. Prerequisite: course 114 or 252 or consent of instructor. Restricted to graduate standing or consent of instructor. Effects of nutrition on embryology, morphogenesis, and developmental mechanisms. May be repeated for credit when topics differ.—F (F).

297T. Supervised Teaching in Nutrition (1-3)
Teaching under faculty supervision—3-9 hours. Prerequisite: graduate standing in nutrition or consent of instructor. Practical experience in teaching nutrition, including planning, grading, and concept of instructor. Offered in alternate years. May be repeated for credit when topic differs. (Nutrition)

299. Research (1-12)
(S/U grading only)—F, W, S. (F, W, S.)

Professional

492A. Professionalism: An Academic Perspective (2)
Lecture/discussion—2 hours. Prerequisite: graduate standing. For graduate students in their initial quarter of residence. Professionalism topics are presented and examples drawn from both the biological and social sciences.

492C. Grant Writing (3)
Lecture—1 hour; discussion—1.5 hours. Prerequisite: graduate standing in Nutrition or consent of instructor. Preparation of grants for governmental agencies (particularly NIH and USDA) and private foundations. Students will write a research grant or fellowship application. May be repeated one time for credit with consent of instructor. Offered in alternate years.

Nutritional Biology (A Graduate Group)

Carolyn Slupsy, Ph.D., Chairperson of the Group
Graduate Office, 1249 Meyer Hall 530-754-7684; http://ggbn.ucdavis.edu

Faculty

Lindsay H. Allen, Ph.D., RD, Professor (Nutrition)
Lars Berglund, Ph.D., Professor (Endocrinology)
Kenneth H. Brown, M.D., Professor (Nutrition)
C. Christopher Calvert, Ph.D., Professor (Animal Science)
Edward J. DePeters, Ph.D., Professor (Animal Science)
Kathryn G. Dewey, Ph.D., Professor (Nutrition)
Kent L. Erickson, Ph.D., Professor (Cell Biology and Human Anatomy)
James G. Fadel, Ph.D., Professor (Animal Science)
Andrea J. Fassett, D.V.M., Ph.D., Associate Professor (Molecular Biosciences)
Nilesh W. Gaiwad, Ph.D., Associate Professor (Nutrition, Environmental Toxicology)
J. Bruce German, Ph.D., Professor (Food Science and Technology)
M. Eric Gershwin, M.D., Professor (Internal Medicine)
Ralph Green, M.D., Professor (Pathology)
Ian J. Griffin, M.D., Associate Professor (Pediatrics)
Jean-Xavier Guinard, Ph.D., Professor (Food Science and Technology)
Robert M. Hackman, Ph.D., Research Nutritionist (Nutrition)
Fawaz G. Hajj, Ph.D., Assistant Professor (Nutrition)
Peter J. Havel, M.D., Professor (School of Veterinary Medicine)
Liping Huang, Ph.D., Adjunct Professor (USDA, WHNRC)
Daniel Hwangbo, Ph.D., Adjunct Professor (USDA, WHNRC)
Lucia Kaiser, Ph.D., Professor (Nutrition)
Sidika E. Kasim-Karakas, M.D., Professor (Internal Medicine)
George A. Kayser, M.D., Ph.D., Professor (Internal Medicine)
C. Lloyd Keen, Ph.D., Distinguished Professor (Nutrition, Internal Medicine)
Nancy L. Keim, Ph.D., Associate Adjunct Professor (USDA, WHNRC)
Darshan S. Kelley, Ph.D., Adjunct Professor (Nutrition)
Janet C. King, Ph.D., D.V.D., Ph.D., Professor (Nutrition)
Kirk C. Klaasig, Ph.D., Professor (Animal Science)
Jennifer A. Larsen, Ph.D., Assistant Professor of Clinical Nutrition (Molecular Biosciences)
Kevin D. Laugero, Ph.D., Assistant Adjunct Professor (USDA, WHNRC)
Jo L. Linnaker, Ph.D., Professor (Nutrition, Internal Medicine)
Stanley L. Marks, B.V.Sc., Ph.D., Associate Professor (Medicine and Epidemiology)
Valentina Medici, M.D., Assistant Professor (Internal Medicine)
John W. Newman, Ph.D., Associate Professor (Nutrition)
James W. Olliff, Ph.D., Professor (Animal Science)
Patricia Oteiza, Ph.D., Professor (Nutrition, Environmental Toxicology)
Anthony F. Phillips, M.D., Professor (Pediatrics)
Jan J. Ramsey, Ph.D., Associate Professor (Molecular Biosciences)
Helen E. Raybould, Ph.D., Professor (Anatomy, Physiology and Cell Biology)
Heidi A. Rossow, Ph.D., Associate Professor (Nutrition)
John C. Rutledge, Ph.D., Professor (Endocrinology)
Karen Ryan, Ph.D., Assistant Professor (Neurobiology)
Ralph Green, M.D., Professor (Pathology)
Karen A. Ryan, Ph.D., Chairperson of the Group
Francine M. Steinberg, Ph.D., R.D., Professor (Nutrition)
Charles B. Stephens, Ph.D., Adjunct Professor (USDA, WHNRC)
Christine P. Stewart, Ph.D., Assistant Professor (Nutrition)
Ameer Y. Tahar, Ph.D., Assistant Professor (Food Science)
Natalie Tork, Ph.D., Associate Professor (Gastroenterology & Hepatology)
Marta Van Loan, Ph.D., Adjunct Professor (Nutrition/USDA, WHNRC)
Craig H. Warden, Ph.D., Associate Professor (Neurobiology, Physiology, and Behavior)
Carl K. Winter, Ph.D.

Emeriti Faculty

Betty Burn, Ph.D., Associate Adjunct Professor (Nutrition)
Andrew Clifford, Ph.D., Distinguished Professor Emeritus (Nutrition)
Harry W. Calvin, Jr., Ph.D., Professor Emeritus (Nutrition)
Douglas E. Conklin, Ph.D., Professor Emeritus (Animal Science)
Paul Davis, Ph.D., Research Professor Emeritus (Animal Science)
Richard A. Freedland, Ph.D., Professor Emeritus (Nutrition)
William N. Garrett, Ph.D., Professor Emeritus (Nutrition)
Dorothy W. Gietzen, Ph.D., Emeritus Professor (Nutrition)
M. Edward Greenwood, Ph.D., Distinguished Professor Emeritus (Nutrition)
Louis Grivetti, Ph.D., Emeritus Professor (Nutrition)
Charles H. Halsted, M.D., Emeritus Professor (Nutrition)
Robert J. Hansen, Ph.D., Emeritus Professor (Nutrition)
Amy Black Joy, Ph.D., Specialist in Cooperative Extension (Nutrition)
Jiro J. Kaneko, D.V.M., Ph.D., D.V.Sc. (hc), Emeritus Professor (Nutrition)
Janet King, Ph.D., Professor Emeritus (Nutrition)
Verne E. Mendel, Ph.D., Emeritus Professor (Nutrition)
Ray L. Martin, Ph.D., Adjunct Professor (Nutrition)
Judith S. Stern, Sc.D., R.D., Distinguished Professor Emeritus (Nutrition, Internal Medicine)
Vincent A. Ziboh, Ph.D., Professor (Nutrition)
Roger R. McDonald, Ph.D., Emeritus Professor (Nutrition)
Verne E. Mendel (Nutrition/Endocrinology) (Nutrition)
Jennifer M. Morris, Ph.D., Professor Emeritus (Nutrition)
Eustacia Pollitt, Ph.D., Professor Emeritus (Nutrition)
Robert B. Rucker, Ph.D., Professor Emeritus (Nutrition)
Christine P. Stewart, Ph.D., Assistant Professor (Nutrition)
Barbara O. Schneeboom, Ph.D., Professor Emeritus (Nutrition)
Howard G. Schultz, Ph.D., Emeritus Professor (Nutrition)
Donald A. Walsh, Ph.D., Emeritus Professor (Nutrition)
Bruce M. Wolfe, M.D., Emeritus Professor (Nutrition)
Judith S. Stern, Sc.D., R.D., Distinguished Professor (Nutrition, Internal Medicine)

Graduate Study. The Graduate Group in Nutritional Biology offers programs of study and research leading to the M.S. and Ph.D. degrees. The great diversity of research interests represented by the faculty members allows students to choose from a wide variety of themes: nutritional biochemistry, animal nutrition, nutrition and development, nutrient bioavailability, human/clinical nutrition, nutrition and behavior, nutritional energetics, community nutrition, community health, maternal and child nutrition, nutrition and endocrinology, international nutrition, obe-