

DIVISION OF NUTRITIONAL SCIENCES

ADMINISTRATION

Jere Haas, director

Robert Parker, associate director for academic affairs

Elise West, assistant director for academic affairs

Michael Kazarinoff, director of graduate studies, Field of Nutrition

J. Thomas Brenna, director of undergraduate studies

THE DIVISION

Nutritional Science draws upon the chemical, biological, and social sciences to understand the complex relationships between human health, nutritional status, food and lifestyle patterns, and social and institutional environments. Understanding these relationships includes the study of the metabolic regulation and function of nutrients, nutrient requirements throughout the life span, the role of diet in reducing risk of chronic disease, the nutritional quality of foods, and interventions and policies designed to promote the nutritional health of individuals, communities, and populations.

The focus of this broad field of study at Cornell is the Division of Nutritional Sciences, which brings together specialists from many disciplines. The faculty are involved in undergraduate and graduate teaching, research, and extension of research-based knowledge throughout New York State, the nation, and the world.

The division is affiliated with both the College of Human Ecology and the College of Agriculture and Life Sciences. The undergraduate program in Nutritional Sciences is offered through the College of Human Ecology. An undergraduate program, Nutrition, Food, and Agriculture, is offered in the College of Agriculture and Life Sciences. The undergraduate program in Human Biology, Health, and Society is offered through the College of Human Ecology. A program of study in nutrition for biological science majors is offered in collaboration with the undergraduate program in biology. Graduate study in the field of nutrition, is administered by faculty members throughout the university.

FACILITIES

Most of the faculty members of the division work in Savage Hall, Kinzelberg Hall, and Martha Van Rensselaer Hall. In addition to housing offices, classrooms, and seminar rooms, these buildings contain research facilities, specialized laboratories, a human metabolic research unit, and computer facilities: The division's Learning Resource Center in Martha Van Rensselaer Hall is used by students for individual study and for small

group discussions. The Learning Resource Center contains computers and printed and audiovisual resources which give students access to specialized software. Savage Hall also has a graduate reading room.

UNDERGRADUATE PROGRAMS

The Division of Nutritional Sciences offers three programs leading to a B.S. degree:

Nutritional Sciences (NS), College of Human Ecology: this program provides students with a strong foundation in the broad field of nutritional sciences as well as thorough training in chemistry and biology. Students may prepare for a variety of career interests including medicine and other health careers, fitness and sports nutrition, nutrition counseling, clinical nutrition, dietetics, nutritional biochemistry, community nutrition, and nutrition education.

Nutrition, Food, and Agriculture (NFA), College of Agriculture and Life Sciences: this program is for students who want strong training in human nutrition combined with supportive course work in the agriculture and the life sciences. Strong preparation in biology, chemistry, and math is required. Students in the Nutrition, Food, and Agriculture program supplement the nutrition curriculum with courses in areas such as food science, animal science, plant science, advanced biology, business and economics, education, and communication.

Human Biology, Health, and Society (HBHS), College of Human Ecology: established in 1997, this program gives students a strong foundation in biology. It then goes on to explore human health issues from the perspectives of both biology and the social sciences. Students complete a rigorous curriculum in the natural sciences and then, choosing from a wide array of courses offered in the College of Human Ecology, focus their studies on health issues of their choice. Students can explore such topics as gene expression and metabolism related to disease states, biological and social aspects of growth and development, and policies and programs influencing health.

The Division also offers the **Program of Study in Human Nutrition for biological sciences majors** who may be enrolled in the College of Agriculture and Life Sciences or College of Arts and Sciences. The program of study in Human Nutrition offers biology majors courses on the nature and biochemical function of essential and non-essential nutrients, nutrient requirements, the role of nutrients in gene expression, and the role of diet in both risk of chronic disease and treatment of existing disease states.

Students in this program of study are encouraged to complete a diverse set of advanced courses. They afford a perspective on current knowledge of nutrient requirements and function, and how this knowledge can be put to use. With the exception of a

core course in the structure and function of nutrients, the course requirements are unspecified.

Faculty advisers work with individual students to develop a curriculum that fits the students' interests. As part of their program, students are encouraged to obtain laboratory experience either through coursework or research. Students completing the program in nutrition most often choose to continue their education in medical or graduate school, and pursue careers in the applied aspects of nutrition or in laboratory-based or epidemiological research.

THE CURRICULUM

Undergraduate students in these programs complete the requirements of their colleges as well as the courses required by the program of their specific interest.

The NS, NFA, and HBHS programs all require a rigorous sequence of courses in chemistry and biology, including introductory chemistry and biology, organic chemistry, biochemistry, and physiology. A minimum competency in college algebra is required with an additional math and/or statistics requirement for some programs and career paths. Students in the HBHS major also complete a course in physics and two additional courses in advanced biology.

All students complete the introductory course, Nutrition, Health and Society (NS 115). The NS and NFA programs require the completion of four other core courses: Social Science Perspectives on Food and Nutrition (NS 245); Nutritional and Physicochemical Aspects of Foods (NS 345); Physiological and Biochemical Bases of Nutrition (NS 331); and Methods in Nutritional Sciences (NS 332). Students in these programs also must select a minimum of nine credits in advanced courses in the nutritional sciences.

The HBHS major requires a minimum of six credits from courses that integrate biology and the social sciences as they examine health issues. In addition, students also must complete nine credits of advanced electives in courses focused on human biology, health, and society.

Undergraduate students in these programs have a faculty adviser with whom they meet at least twice a year. Advisers help students plan their course schedules and can suggest opportunities for individual study or experience outside the classroom.

In all undergraduate programs the correct sequencing of biology, chemistry, and/or nutrition courses is very important. Students considering these programs should get detailed information about course requirements from the division's Academic Affairs Office, 309/335 MVR. This office offers a wide range of advising materials to help students develop a program of study that matches students' interests and needs.

CAREER OPTIONS AND COURSE PLANNING

Requirements for the programs are the minimum set of courses necessary for a bachelor's degree in these fields. Students should supplement their requirements with elective courses and other learning experiences that will prepare them for entry-level jobs or advanced study in their field(s) of interest. A summary of suggested electives for different career interests follows:

Medicine and Other Health Careers:

Recommended courses for pre-med students include calculus and two terms of physics. Specific information about medical school admissions requirements can be obtained from the university's Health Careers Office, 203 Barnes Hall. Students interested in other health careers should acquire specific information about those requirements. Courses of interest may include those related to the biological and social determinants of health; human growth, development, and behavior through the life course; interpersonal communications; advanced biology; sociology; psychology; and ethics.

Dietetics: Students who wish to work in the areas of clinical nutrition, nutrition counseling, sports nutrition, community nutrition, or food and nutrition management should complete the academic requirements for The American Dietetic Association (ADA). Courses in foods, nutrition and disease, microbiology, management, statistics, and nutritional care are added to the courses required for the nutrition programs. For more information about meeting ADA requirements. Contact Gail Canterbury, dietetics program administrative assistant, 335 MVR.

Exercise, Nutrition, and Health Promotion:

Students should complete a course in physiology and a course in anatomy after introductory biology. Students can complete the Applied Exercise Science Concentration at Ithaca College, which includes courses in kinesiology, exercise physiology, and biomechanics. Students who wish to apply to graduate schools to study physical therapy should complete a year of introductory physics, a course in statistics, a course in ethics, and three courses in psychology. Students should check the specific requirements of their schools of interest. For information about the Applied Exercise Science Concentration, contact the DNS Academic Affairs Office, 309 MVR.

Biomedical Research/Nutritional Biochemistry:

Recommended electives include calculus, physics, genetics, advanced biology and chemistry, toxicology, and nutritional sciences courses related to the physiology, biochemistry, and metabolism of different nutrients and disease states.

Public Health and Community Nutrition:

Suggested electives include courses in communications, education, human development, policy analysis and management, maternal and child nutrition, geriatric nutrition, nutrition and disease, and food economics.

Nutrition, Food, and Business: Recommended electives include courses in management, marketing, economics, communications, hotel administration, and food science.

Nutrition and Agriculture: Recommended electives include courses in food science, animal science, plant sciences, international agriculture, agricultural economics, biological sciences, and rural sociology.

International Nutrition: Recommended electives include courses in language, anthropology, agricultural economics, policy, economics, rural sociology, international agriculture, and nutritional sciences related to maternal and child health and problems of developing nations.

Biology and Behavior: Recommended electives include courses in psychology, human development, and neurobiology.

Food, Nutrition, and Health Policy:

Recommended electives include courses in economics, sociology, government, policy analysis, and management.

SPECIAL EXPERIENCES

Undergraduates can enhance their experiences by participating in structured field experiences or study abroad. Academic credit can be earned for field experiences in a community agency, health-care facility, or business. The Urban Semester in the College of Human Ecology provides students with an opportunity to study and gain field experience in New York City. All students intending to spend a term off campus in field experience or study abroad must plan their courses well in advance to be sure that all program requirements can be met.

INDEPENDENT STUDY ELECTIVES

Independent study courses (NS 400, 401, 402) can be used to obtain credit for more diverse or intensive experience than the classroom can offer, whether this involves laboratory work, library research, or field study. Any student interested in independent study should obtain the sponsorship of a faculty adviser and the approval of the associate director for academic affairs or consider applying to the honors program.

HONORS PROGRAM

The honors program, leading to a B.S. degree with honors in the College of Human Ecology, or B.S. degree with Distinction in Research in the College of Agriculture and Life Sciences, gives official recognition to students who have demonstrated excellence in their academic work and their capacity for independent study.

In addition to fulfilling the requirements for a major, students in the honors program take seminars in designing and evaluating research, complete an original piece of research (at least six credits of NS 499), and prepare an honors thesis. The honors project may be laboratory or field research or deal with policy and program development. For more information, students should contact J. T. Brenna, B38 Savage Hall or C. Bisogni, 328 MVR.

COURSES RECOMMENDED FOR NONMAJORS

Courses in nutritional sciences can strengthen programs of study in biological sciences, biology and society, communications, food science, human development, human services, and other fields.

NS 115, Nutrition, Health and Society is open to all students. After NS 115, nonmajors with limited backgrounds in chemistry and biology may elect NS 245, Social Science Perspectives on Food and Nutrition; NS 247, Food for Contemporary Living; NS 262, Nutrients and Cells; NS 275, Human Biology and Evolution; NS 306, Nutritional Problems of Developing Nations; NS 315, Obesity and the Regulation of Body Weight; NS 347, Human Growth and Development: Biological and Behavioral Interactions; NS 380, Integrating Food Systems and Human Nutrition Needs; NS 450, Public Health Nutrition; NS 451 Epidemiology and Health of Human Communities. Nonmajors with strong backgrounds in chemistry and the biological sciences may consider NS 331, Physiological and Biochemical Bases of Human Nutrition, as well as many advanced nutritional sciences courses, such as NS 345 Physicochemical and Nutritional Aspects of Foods; NS 431 Mineral Nutrition and Chronic Disease; NS 441, Nutrition and Disease; and NS 475 Mechanisms Underlying Mammalian Development Defects.

GRADUATE PROGRAMS

Graduate study is administered by the Field of Nutrition, a group of about 40 faculty members from throughout the university who have a common interest in nutritional problems. In the M.S. and Ph.D. degree programs, students may specialize in molecular and biochemical nutrition, human or animal nutrition, community nutrition, or international nutrition. Research is emphasized in all graduate programs. Field experience may be an important component of concentrations in community, international and public-health nutrition, and nutrition education. Teaching experience and participation in the graduate student seminar (NS 703) are important aspects of graduate training.

The specialties and interests represented by faculty in the Field of Nutrition provide almost unlimited opportunity for graduate study. Cornell's extensive laboratory and agricultural facilities ensure that students interested in experimental nutrition have exceptional choices and thorough training. As the largest faculty in the country devoted to the study of human nutrition, the field includes specialists in biochemical, metabolic, epidemiological, and sociocultural research. Opportunities to work with community and federal agencies are available to students interested in applied nutrition and public policy. Students in international nutrition are expected to conduct their thesis research abroad.

For more information about the graduate program, please write for the brochure. Graduate Study in Nutrition, available from the Director of Graduate Studies, Field of Nutrition, Cornell University, 309 MVR Hall, Ithaca, NY 14853-4401; telephone (607) 255-4410; web site: www.nutrition.cornell.edu/grad.html, e-mail: nutrition_gfr@cornell.edu

COURSES

NS 115 Nutrition, Health and Society

Fall. 3 credits. S-U grades optional. M W F 1:25. D. Levitsky.

The course discusses the facts and fallacies concerning the role that nutrition, exercise, and other health behaviors play in preventing disease, maintaining good health, and maximizing athletic performance. Emphasis is on understanding the biological mechanisms through which good nutrition and regular exercise affect psychological and physical health.

NS 116 Personalized Concepts and Controversies

Fall. 1 credit. Corequisite: NS 115. S-U only. Limited to freshmen and transfer students, 10 per section. TBA.

This course provides students enrolled in NS 115 individualized assistance in many skills including using computers to analyze diets, finding and using scientific references, understanding and criticizing scientific articles, and reviewing material presented in lectures.

NS 120 Nutrition and Health: Issues, Outlooks, and Opportunities

Spring. 1 credit. S-U grades only. Limited to 120 freshmen, sophomores, and juniors, others by permission of instructor. W 12:20. E. West.

A course for students interested in exploring careers in the broad fields of food, nutrition, and health. Experts representing different areas discuss their work, focusing on current issues and trends as well as the requisite knowledge and skills. This course describes many of the disciplines that are drawn upon in addressing human problems related to food, diet, and health. Students explore career opportunities through a variety of assignments. This is **not** an introductory nutrition course for nonmajors.

NS 200 Vegetarian Nutrition: An Introduction

Fall. 3 credits. S-U grades optional. Prerequisites: NS 115 advised but not essential. T R 2:55-4:10. T. C. Campbell.

This introductory course surveys vegetarianism from a variety of nutrition and health considerations. The material to be presented and discussed primarily includes the empirical scientific evidence presented for easy comprehension for students without nutrition training. The course also consider the historical and sociocultural roots, both ancient and of more recent times, that have led to the growing interest in, and acceptance of, this type of dietary practice. Particular attention is given to the role of vegetarianism in the prevention and reversal of chronic degenerative diseases. Special topics on competitive sport, childhood nutrition, food preparation, and dietary transition are offered. Internationally known guest speakers, provide six to eight of the lectures.

NS 222 Maternal and Child Nutrition

Fall. 3 credits. Prerequisites: NS 115 and a college biology course or instructor's permission; S-U grades optional. Limited to sophomores and juniors. Preregistration is required in room 309 MVR Hall. T R 1:25-2:40. P. Brannon, C. Garza.

The course focuses on the biological bases of nutritional requirements in pregnancy, lactation, infancy, and childhood through adolescence. The course stresses critical analyses of beneficial and adverse outcomes

of diverse nutrient intakes and dietary patterns, assessment of nutritional status, and the integration of nutrition, other life sciences, and social conditions in understanding nutritional needs during these life stages. Topics include oral contraception and health, relationships between maternal diet and pregnancy outcomes; breast- and formula feeding; childhood and adolescent obesity; and, the nutritional needs of young children and adolescents.

NS 245 Social Science Perspectives on Food and Nutrition

Fall. 3 credits. Prerequisite: NS 115. Letter grade only. T R 10:10-11:25. J. Sobal.

Theories, concepts, and methods from the social sciences are used to examine food, eating, and nutrition. The course uses the food and nutrition system and the food choice process as conceptual models for examining the scope of social aspects of nutrition.

NS 247 Food for Contemporary Living

Fall and spring. 2 credits. Laboratory sections limited to 32 students. Preregistration during course preregistration required in 309 MVR Hall. Laboratory coat or apron required. Fall W 12:20-3:20; spring T 1:25-4:25 or R 9:05-12:05. TBA.

Emphasizes meal planning for healthy individuals using national nutrition standards; the development of food preparation and presentation skills; the application of sensory evaluation techniques; food science principles as they apply to cooking and ethnic and cultural influences on cuisine.

NS 262 Nutrients and Cells

Spring. 3 credits. Prerequisites: one semester of biology and chemistry. M W F 9:05. N. Noy.

The course focuses on the relationship of the cells with the environment. Examples from three general areas are considered: (1) mechanisms of uptake of nutrients by bacterial and by mammalian cells; (2) intracellular outcomes of nutritional stimuli: effects on metabolism and gene expression, toxicity; (3) and pathways of neutralization: detoxification, secretion, and DNA repair.

NS 275 Human Biology and Evolution (also BIOEE 275 and ANTHR 275)

Fall. 3 credits. S-U grades optional with permission of either instructor. Lec, M W F 10:10; disc, M. Lec every W and F; occasional lectures on M. Offered alternate years. Not offered 2003-2004.

K. A. R. Kennedy, J. D. Haas.
An introduction to the biology of *Homo sapiens* through an examination of human evolution, biological diversity, and modes of adaptation to past and present environments. Evolutionary theory is reviewed in relation to the current evidence from the fossil record and studies of the evolution of human behavior. A survey of human adaptation covers a complex of biological and behavioral responses to environmental stress. Human diversity is examined as the product of long-term evolutionary forces and short-term adaptive responses. Topics such as creationism, the Piltdown fraud, the sociobiology debate, genetic engineering, race and IQ, and racism are presented as examples of current issues in human biology.

NS 300 Special Studies for Undergraduates

Fall or spring. Prerequisites: permission of instructor. S-U grades optional. DNS faculty.

Special arrangements can be made to establish equivalency for courses not transferred from a previous major or institution. Students prepare a description of the study they want to undertake using a form available from the College Registrar's Office. The form, signed by both the instructor directing the study and the associate director for academic affairs, is filed at course registration or during the change-of-registration period.

[NS 306 Nutritional Problems of Developing Nations

Spring. 3 credits. Prerequisites: NS 115. S-U grades optional. T R 10:10. Offered alternate years. Next offered 2003-2004. M. C. Latham.

The course is designed for undergraduates interested in the nutritional problems of developing countries. Attention is given to the array of nutritional problems encountered, the causes of hunger and malnutrition, the epidemiology of the major nutritional problems afflicting poor nations, the functional consequences of these problems on individuals and societies, and the types of programs that can be implemented to improve health and nutrition.]

[NS 315 Obesity and the Regulation of Body Weight (also PSYCH 613)

Spring. 3 credits. Prerequisites: NS 115, PSYCH 101. Limited to juniors and seniors. S-U grades optional. Offered alternate years. Next offered 2003-2004. T R 1:25-3:00. D. Levitsky.

This course is a multidisciplinary discussion of the causes, effects, and treatments of human obesity. Topics include the biopsychology of eating behavior, the genetics of obesity, the role of activity and energy metabolism, the psychosocial determinants of obesity, anorexia nervosa, therapy and its effectiveness, and social discrimination.]

NS 320 Introduction to Human Biochemistry

Fall. 4 credits. Prerequisites: one year college biology; one year college general chemistry; and CHEM 257 or 357-358; or permission of the instructor. S-U grades optional. M W F 10:10, sec T 1:25. W. Arion, P. Stover.

The principles of biochemistry are presented within the context of human health and disease. Metabolism of carbohydrates, lipids, proteins, and selected micro-nutrients is taught from a perspective that emphasizes their role in supporting the structure and physiological functions of the major organs of the body, including the blood. The concepts of enzyme catalysis, enzyme regulation, hormone action, and bioenergetics are incorporated within this framework. The fundamental concepts of eucaryotic DNA structure, function, and gene expression are covered with reference to their importance in regulating metabolism and the impact of a changing nutrient environment.

NS 331 Physiological and Biochemical Bases of Human Nutrition

Spring. 4 credits. Prerequisites: BIO S 330, or 331, or NS 320, or equivalent. S-U grades optional. Lec M W F 10:10; disc, W or R. M. Stipanuk, C. McCormick.

This course examines the biochemical and physiological bases of human nutritional requirements. The instructors use an integrated approach to cover the digestion and metabolism of the nutrients (carbohydrates, proteins, lipids, vitamins, and minerals). Metabolic and chronic diseases that are related

to nutrition are discussed throughout the semester. The discussion sections and problem sets provide an opportunity to examine in greater depth selected topics from lecture.

NS 332 Methods in Nutritional Sciences

Fall. 3 credits. Each section limited to 18 students. Prerequisites: NS 345, NS 331 preferred or concurrent registration. Laboratory preregistration during course preregistration required in 309 MVR. One evening prelim to be scheduled. Lec M 12:20; lab M W 1:25-4:25 or T R 10:10-1:10. M. N. Kazarinoff.

Laboratory introduction to principles and analytical techniques of nutritional research. Emphasis is on analytical concepts and skills required to determine nutrient function and nutritional status of individuals. Topics include methods of nutrient, metabolite, and enzyme analysis in body fluids, and methods for assessing individual food intake and nutritional status, and methods for assessing the composition of foods.

NS 341 Human Anatomy and Physiology

Spring. 4 credits. Letter grade only. Prerequisites: college biology; NS 115 recommended. **Completion of laboratory permission forms required in 309 MVR during course enroll period. Limit 18 per lab. Attendance is required at first lab, or you will forfeit your placement. For further information go to room 309 MVR.** Lec M W F 11:15; lab W or R or F 9:05-11:00 or 2:30-4:25. V. Utermohlen.

Introduction to human anatomy and physiology with particular emphasis on aspects of relevance to the nutrition sciences and medicine. All major organ systems will be covered. Laboratories emphasize location, recognition, and description of anatomical structures. Testing of physiological functions focuses on the tests with nutritional and medical relevance.

NS 345 Nutritional and Physicochemical Aspects of Food

Spring. 3 credits. Prerequisite: college course in organic chemistry or biochemistry. S-U grades optional. T R 1:25-2:40. B. Lewis, B. Parker.

A study of the nutritional, physical, and chemical properties of foods including composition, food structure, enzymic and nonenzymic phenomena, and processing/preparation aspects. Issues related to food safety, regulation, and food composition data bases are also discussed.

NS 346 Introduction to Physicochemical Aspects of Foods—Laboratory

Spring. 1 credit. Each section limited to 18 students. Limited to dietetics students in DNS. Prerequisites: NS 345 or concurrent registration; a college course in organic chemistry and permission of instructor during course registration (permission-of-instructor forms must be obtained from and returned to 309 MVR). Letter grade only. M 12:20-3:20 or T 9:05-12:05. B. Lewis, B. Parker.

Laboratory exercises are designed to illustrate principles related to food quality and ingredient functionality, and to introduce students to the analytical methodology associated with food evaluation.

NS 347 Human Growth and Development: Biological and Behavioral Interactions (also HD 347 and B&S 347)

Spring. 3 credits. Prerequisites: BIO G 101 or 109 or equivalent; HD 115 or PSYCH 101 or equivalent. M W F 1:25. Offered alternate years. Not offered 2003-2004. J. Haas, S. Robertson.

This course is concerned with the interrelationships of physical and psychological growth and development in humans, particularly during infancy. Intrinsic and extrinsic causes of variations in growth, including various forms of stimulation, are considered. In addition, the consequences of early growth and its variation for current and subsequent behavioral, psychological, and physical development are examined. The interaction between physical and behavioral or psychological factors is emphasized throughout the course.

NS 361 Biology of Normal and Abnormal Behavior (also PSYCH 361)

Fall. 3 credits. Prerequisites: BIO G 101-102 and PSYCH 101, or permission of the instructor. A fundamental knowledge of biology and psychology is essential. S-U grades optional. Limited to 50 juniors and seniors. M W F 9:05. B. Strupp.

Serves as a critical evaluation of biological factors thought to influence behavior and/or cognitive functioning. Biological, psychological, and societal influences are integrated. Topics include nutrition and behavior, psychiatric disorders, developmental exposure to environmental toxins and abused drugs, biopsychology of learning, memory, intelligence, and related cognitive disorders.

NS 378 Food, Nutrition, and Service Management

Fall. 3 credits. Prerequisites: NS 115, NS 247 or permission of instructor. T R 1:25-2:40. Faculty.

The course discusses how management principles and theories apply to foodservice operations and nutrition services. The systems concept of organization is utilized. Emphasis is placed on leadership development, decision making/problem solving as it relates to procurement, production, distribution, and quality assurance in food and nutrition services. Menu development projects demonstrate the interrelationships of nutrition, labor, equipment, food costs, and customer satisfaction. Marketing strategies and implementation are discussed. Teamwork and negotiating skills are emphasized.

NS 380 Integrating Food Systems and Human Nutrition Needs

Spring. 2 credits. Prerequisites: NS 115 or FOOD 200 or AN SC 100. Letter grade only. T R 8:40-9:55. Staff.

This is a student-centered course that uses case studies to examine the link between human nutrition and health issues to those involved in systems of food production and distribution. Student teams investigate new and existing technological options within food systems that can be used to address domestic or international human nutrition needs.

NS 398 Research in Human Nutrition and Health

Fall. 1 credit. Required for students admitted to the Division of Nutritional Sciences Honors program and open to all students. May be offered in spring if enrollment warrants. S-U grades only. Days TBA. J. T. Brenna, C. Bisogni.

This lecture course focuses on the structures and practice of professional research conducted in human nutrition and health, a field that encompasses a wide range of questions ranging from subcellular components to population level issues. The course introduces the various approaches and methods used by researchers and addresses the topics of ethics and research controls. The course describes the structure of the scientific literature, preparation of research proposals, roles of scientific organizations, and funding sources. Students are required to attend and report on research seminars on campus.

NS 400-401-402-403 Special Studies for Undergraduates

Fall or spring. Credits to be arranged. S-U grades optional. Division faculty.

For advanced independent study by an individual or group of students who want to study a field of nutritional sciences not otherwise provided through course work in the division or elsewhere in the university. Students prepare a description of the study they want to undertake on a form to be signed by the instructor directing the study and the associate director for academic affairs. The form, available from the division office, is filed at course registration or within the change-of-registration period along with an add/drop slip in the Human Ecology Registrar Office. To ensure review before the close of the course registration or change-of-registration period, students should submit the special-studies form to the associate director for academic affairs as early as possible.

NS 400 Directed Readings

Study that predominantly involves library research and independent reading.

NS 401 Empirical Research

Study that predominantly involves data collection and analysis or laboratory or studio projects.

NS 402 Supervised Fieldwork

Study that involves both responsible participation in a community setting and reflection on that experience through discussion, reading, and writing. Academic credit is awarded for this integration of theory and practice.

NS 403 Teaching Apprenticeship

Study that includes assisting faculty with instruction.

NS 421 Nutrition and Exercise

Spring. 3 credits. Prerequisites: BIOAP 311 or NS 341 and NS 115 or NS 331 preferred. Limited to nutrition majors, others by permission of the instructor. S-U grades optional. Lec T R 11:15; sec T R or F 8:00-9:55. S. Travis.

Designed for nutrition majors, students in this course examine the interaction between nutrition, exercise, and athletic performance. Topics include the biological, psychological, and sociological aspects of nutrition as it relates to exercise performance. Lectures cover current research on nutritional needs in response to exercise including: fluids, energy nutrient requirements and caloric distribution, supplementation, ergogenic aids, pre/post event recommendations. Applications are made to various sports. Critical thinking skills are enhanced by critiques of studies on sports nutrition related topics and the evaluation of popular sports nutrition claims. Students learn educational strategies for communicating with the recreational and professional athlete, coach, and trainer.

NS 425 Nutrition Communications and Counseling

Spring, 3 credits. Prerequisites: NS 115, NS 245. Limited to dietetics majors. S-U grades optional. M 1:25, Sec W or F. S. Travis.

Students learn the theoretical basis of effective health promotion communications and develop effective nutrition communication skills through application in a variety of settings. The course provides hands-on experiences in counseling, educational program development, and oral and written communications.

NS 431 Mineral Nutrition and Chronic Disease

Fall, 3 credits. Prerequisites: NS 331, AN SC 410, or permission of instructor. S-U grades optional. T R 11:15. C. McCormick.

We evaluate the evidence that diet plays a role in osteoporosis and hypertension and consider whether iron status affects the development of heart disease and inflammation. An additional goal of the course is to review the data upon which recommendations for daily nutrient intakes are currently based, and the biological basis of current recommendations. Class discussion of key research articles are conducted and evaluated.

NS 441 Nutrition and Disease

Fall, 4 credits. Prerequisites: NS 331 and a human physiology course. S-U grades optional. M W F 10:10, F 8:00. V. Utermohlen.

Study of the anatomical, physiological, and metabolic abnormalities in acute and chronic illness, and the role of nutritional therapy in their prevention and care. Topics covered include: nutritional assessment, nutritional pharmacology, starvation, infection, trauma, cancer, diabetes mellitus, and renal, cardiovascular, pulmonary, skeletal, neurological, liver, and gastrointestinal disorders.

NS 442 Implementation of Nutrition Care

Fall, 3 credits. Prerequisites: NS 247, concurrent registration in NS 441 (or equivalent background in either course). S-U grades optional. Lec M W F 9:05. TBA.

Development of skills necessary to implement nutrition care in clinical settings: nutrition screening, dietary assessment, principles of medical nutrition therapy, menu planning for disease states, the role of other allied health practitioners in assuring nutritional health, and reimbursement and legislation in dietetics practice.

NS 450 Public Health Nutrition

Spring, 3 credits. Prerequisites: NS 115, and one course dealing with population-level studies, e.g., NS 245, HDFS 150, PAM 201, PAM 303, RSOC 100, RSOC 200. M W F 11:15, disc TBA. K. Rasmussen, D. Pelletier.

Public health nutrition is the major professional career track for nutritionists outside of dietetics. It deals with efforts to improve the diets and nutritional status of whole populations by working at the community, state, and national level. This course helps prepare students to work in public health nutrition by describing methods used in the assessment of nutrition problems, development of nutrition-related policies, and delivery of health, nutrition, and food assistance programs.

NS 451 Epidemiology and Health of Human Communities

Fall, 3 credits. Prerequisite: one semester of statistics (can be taken concurrently). M W F 1:25. E. Frongillo.

Examines through a series of case studies, the role of epidemiological investigation in understanding, assessing, and improving the health and nutrition of human communities and populations. Students read and discuss scientific research and public policy literature on specific topics of current interest. Emphasis is on the conceptualization of epidemiology as an ecological science that studies the interdependence and interaction of humans with their social, cultural, and physical environment. Intended for advanced undergraduates and graduate students with an interest in health, human biology, nutrition, or epidemiology.

NS 452 Molecular Epidemiology and Dietary Markers of Chronic Disease

Spring, 3 credits. Prerequisites: upper level biology course, introductory statistics course (can be taken concurrently), or permission of the instructor. S-U grades optional. T R 10:10–11:25. P. Cassano.

This course provides an introduction to chronic disease epidemiology, and covers the natural history of the major chronic diseases affecting the U.S. population. The course focuses on the use of biological markers in understanding the etiology of cardiovascular disease, cancer, and lung disease. The course integrates biological and epidemiological information, as well as public health considerations and concepts related to the prevention of disease. Topics include gene-nutrient interaction in relation to cardiovascular risk, micronutrients and cancer risk, and nutritional influences on the immune system in relation to asthma risk. The course provides a health context that enriches the learning experience in other advanced courses, particularly in biology and nutrition.

NS 455 Nobel Prizes in Biomedical Research

Spring, 2 credits. Prerequisites: a college course in biochemistry and/or cell biology, eg. BIOBM 330, BIOBM 331/332, NS 320, BIOBM 432. M W 9:05. D. Manor.

Key topics in biomedical research are covered in detail through discussions of selected Nobel prizes. For each specific biomedical problem addressed, the discussion encompasses detailed analysis of the relevant experiments and ensuing data, evaluation of the impact of the findings on public health, and retrospective assessment in view of present day knowledge. The course focuses mainly on breakthroughs associated with two major public health issues: infectious diseases and cancer. Other topics discussed include: vitamins, prions and technical breakthroughs such as DNA synthesis, mutagenesis and PCR.

NS 457 Economics of Hunger and Malnutrition (also ECON 474)

Spring, 3 credits. Prerequisites: ECON 101 and introductory statistics, or permission of the instructor. S-U grades optional. M W F 9:05. D. Sahn.

This course focuses on the analysis of global hunger and malnutrition. We analyze the dimensions, causes, and solutions to hunger and malnutrition, particularly in developing countries. Grades are based on a mid-term and a final exam, a term paper, and class participation.

NS 475 Mechanisms Underlying Mammalian Developmental Defects (also BIOAP 475)

Spring, 3 credits. Prerequisites: BIOBM 330, 331–332 or 333 (may be taken concurrently). Lec M W 9:05, lab R 2:00. D. Noden, P. Stover.

Developmental defects are present in nearly 5% of humans. Drawing upon current research, this course explores the causes of birth defects, emphasizing the interplay between genetic and environmental factors in the regulation of developmental processes. Emphasis is on nutritional disruptors, teratogens, and regulatory gene networks that are well characterized through animal studies and are associated with morphological, physiological, reproductive, or behavioral abnormalities in humans.

NS 488 Applied Dietetics in Foodservice Systems

Spring, 3 credits. Limited to 27 students. Prerequisites: NS 378, Micro 290. Laboratory preregistration during course preregistration is required in 309 MVR. White lab coat is required. Approximately \$25.00 will be needed for special supplies/activities. Lec M W 9:05; labs, W or R 2:30–6:30. Staff.

Students gain experience in facility design; equipment selection, use, and care; job analysis and evaluation; human resources planning; management of financial resources; recipe development and volume food production; computer-assisted management; employee training; applied safety and sanitation standards; and develop other skills required to operate/manage a foodservice program. The application of quality management in food service operations and facility management is stressed. Laboratories are arranged through Cornell Dining.

NS 499 Honors Problem

Fall and spring. Credits to be arranged. Open only to students in the division honors program. J. T. Brenna, C. A. Bisogni and division faculty.

An independent literature, laboratory, or field investigation. Students should plan to spread the work over two or more semesters.

NS 600 Special Problems for Graduate Students

Fall or spring. Credit to be arranged. Limited to graduate students recommended by their chair and approved by the instructor in charge. S-U grades optional. Division faculty.

Emphasis is on independent advanced work. Experience in research laboratories in the division may be arranged.

NS 601 Proteins and Amino Acids (also AN SC 601)

Spring, 2 credits. Prerequisites: physiology, biochemistry, and nutrition. Offered alternate years. W F 12:20. Not offered 2003–2004. R. E. Austic.

The course emphasizes the dynamic aspects of protein digestion and absorption, amino acid transport, and amino acid and nitrogen metabolism and their relationships to the nutritional requirements for amino acids.

NS 602 Lipids (also BIO AP 619)

Fall, 2 credits. T R 11:15. A. Bensadoun. Advanced course on biochemical, metabolic, and physiological aspects of lipids, more specifically lipid transport. Topics covered include lipid methodology, structure of plasma

lipoproteins, molecular biology and cell biology of apolipoproteins, lipoprotein receptors, lipid transfer factors, lipolytic enzymes, and atherosclerosis.

[NS 603 Mineral Nutrition: Metabolic, Health, and Environmental Aspects (also AN SC 603)]

Fall. 2 credits. Letter grade only. Prerequisites: biochemistry, physiology, and nutrition. T 2:20-4:25. Offered alternate years. Not offered 2003-2004. X. G. Lei. The course emphasizes the metabolic roles and environmental impacts of mineral nutrition in animal, human, and food systems. Team-taught lectures include general biochemical and physiological aspects of mineral metabolism and specific mechanisms of gene expression regulation and mammal health disorders associated with individual elements. Methodology and facility of mineral research is also discussed.]

NS 604 The Vitamins (also AN SC 604)

Fall. 2 credits. T R 10:10. Staff. Text-based discussion sessions on nutritional aspects of the vitamins, including recent developments in nutritional and biochemical interrelationships with other nutrients and metabolites.

NS 605 Nutritional Biochemistry Colloquium

Fall and spring. 1 credit. S-U grades only. R 12:20. Nutritional biochemistry faculty. Nutritional biochemistry colloquium is a graduate seminar series that focuses on recent advancements in biochemical nutrition. Weekly presentations are made by faculty, postdocs, and graduate students, and are based on the primary literature. The presentations are followed by a discussion involving all participants.

NS 607 Nutrition as an Integrating Discipline: Concepts and Paradigms

Fall. 3 credits. Prerequisite: some prior coursework or experience in nutrition, or permission of the instructor. M W F 10:10. M. N. Kazarinoff, J. P. Habicht and division faculty.

An overview course for beginning graduate students which introduces them to the full breadth of nutritional science disciplines, including quantitative and qualitative sciences. Also suitable for seniors as an integrating course. The course presents concepts and paradigms of molecular biology, biochemistry, clinical nutrition, epidemiology, anthropology, economics, program planning and administration, policy development, and ethics. The course uses Vitamin A as the example. Emphasis is placed on the integration of factual and conceptual knowledge to solve nutrition problems in human societies.

NS 611 Molecular Toxicology (also TOX 611)

Spring. 3 credits. Prerequisite: TOX 610 and a full-year 400-level course in biochemistry or equivalent. S-U grades optional. TBA. S. Bloom, R. Dietert. A study of the fundamental biochemical mechanisms of absorption, transport, metabolism, and excretion of drugs, carcinogens, and toxicants. Emphasis is placed on oxidative and conjugative pathways of metabolism and of environmental and nutritional factors that influence toxicant metabolism and disposition. Methods of evaluating in vivo and in vitro metabolism are also addressed.

[NS 612 Methods of Assessing Physical Growth in Children

Spring. 3 credits. Limited to graduate students and undergraduate students who have permission of the instructor. A previous course in statistics required. S-U grades optional. Lec T 1:25; lab, R 1:25-4:25; disc T 2:15-3:05. Not offered 2002-2003. J. Haas.

A laboratory course to train students in methods and techniques used to assess the physical growth and development of children. The methods explored are those applicable for field, community, and clinical studies and cover anthropometry, body composition, skeletal age, maturity indicators, physical fitness, and energy expenditure.]

NS 614 Topics in Maternal and Child Nutrition

Fall. 3 credits. Prerequisites: for undergraduates only, NS 331, and 222 or 347, BIO S 311, and permission of instructor. T R 8:30-9:55. K. Rasmussen. An advanced course on the role of nutrition during pregnancy and lactation. The feeding and growth of infants and children in health and disease is considered. Critical evaluation of current literature is emphasized via lecture, discussions, and a term paper.

NS 617 Teaching Seminar

Fall or spring. 0 credit. Limited to division graduate students and students who have permission of the instructor. S-U only. E. West, D. Way.

Provides individualized instruction focusing on development of teaching skills for guiding learning in lecture, discussion, and laboratory setting, and reflection on the impact of these skills on teaching and learning. Students identify the aspects of the specific teaching assignments they wish to develop, and work with instructors on independent learning projects that may include preparation for lecturing, preparation of exams, efficient grading, and so on. Optional videotaping provides opportunities for practice and analysis.

NS 618 Teaching Experience

Fall or spring. 0 credit. Limited to division graduate students and students who have permission of instructor. S-U only. E. West. Designed to provide experience in teaching nutritional sciences by direct involvement in college courses under supervision of a faculty member. The aspects of teaching and the degree of involvement vary, depending on the needs of the course and the experience of the student.

NS 619 Field of Nutrition Seminar (also AN SC 619)

Fall or spring. 0 credit. S-U only. M 4:00. Faculty and guest lecturers. Lectures on current research in nutrition.

[NS 620 Food Carbohydrates (also Food Science 620)]

Spring. 2 credits. Prerequisites: BIO S 330 or equivalent. Letter grades only. T R 10:10. Offered alternate years. Next offered 2003-2004. J. Brady, B. Lewis.

A consideration of the chemistry of carbohydrates, including sugars and complex carbohydrates (starches, pectins, hemicelluloses, gums, cellulose, and glycoconjugates). Emphasis is placed on intrinsic chemistry, functionality in food systems, and changes occurring during food processing and storage.]

NS 625 Community Nutrition in Action

Fall. 5 credits. Limited to dietetic interns. M 1:25-3:25. S. Travis.

This course provides students enrolled as dietetic interns with supervised, in-depth experiences in community nutrition program and fosters the integration of research, theory and practice. Through placements in community programs, students gain experience in program administration and in assessing, designing, implementing, and evaluating food and nutrition programs for targeted populations through public organizations. In weekly seminars (and other seminars and observations as arranged) students integrate theory and practice, reflect upon their placement experience, learn about community nutrition research, and explore the many issues facing community food and nutrition practitioners.

NS 626 Special Topics In Food

Fall. 2 credits. TBA. B. Lewis. This course provides a discussion of current research on specific topics related to functional foods and nutraceuticals/phytochemicals.

[NS 630 Anthropometric Assessment

Spring. 1 credit. Prerequisite: NS 331 or equivalent and permission of the instructor. 5 weeks only. Offered alternate years. Next offered 2003-2004. W 1:25-4:25. J. Haas.

Topics covered in this lecture/lab course are: biological basis of anthropometry for nutritional status assessment, quality control of anthropometric data, applications to special groups (infants, children, adolescents, pregnant women, and the elderly), statistical analysis and presentation of anthropometric data, reference standards and interpretation, measurement techniques of anthropometry, and body composition assessment.]

NS 637 Epidemiology of Nutrition

Spring. 3 credits. Limited to graduate students. Prerequisites: BTRY 601 and concurrent registration in BTRY 602 or equivalent knowledge. Basic knowledge about the nutritional aspects of growth and development and about nutritional biochemistry. T 3:00-5:00. J-P. Habicht. This course covers principles of nutritional epidemiology, impact assessment of nutrition intervention programs, and nutritional surveillance. Principles of using nutritional information in decision making are presented. The course shows how the biochemistry and physiology of nutrition can be related to epidemiological assessment and research strategies.

NS 638 Epidemiology of Nutrition Seminar

Spring. 3 credits. Reserved for graduate students planning field intervention studies; by permission of instructor. Prerequisite: NS 637. TBA. J-P. Habicht. Covers the meta-analysis, design, measurement, and analytic issues involved in developing, implementing, and analyzing studies of field interventions with nutritional impact.

NS 640 Social Science Theories in Nutrition

Fall. 3 credits. Limited to 20 graduate students. T R 10:10-12:05. J. Sobal. Social science theories and paradigms from sociology, psychology, anthropology, economics, political science, geography, and history that contribute to understanding food,

eating and nutrition will be discussed to understand how theories apply to nutrition topics, issues, and problems.

NS 644 Community Nutrition Seminar

Fall and spring. 1 credit. S-U only. M 11:15, spring M 12:20. A. Gillespie and Cornell Community Nutrition faculty.

Sponsored by the Cornell Community Nutrition Program. Graduate students and faculty learn about current research in the program and related fields within and outside Cornell; and learn about applications to Community Nutrition theories and research methodologies. The seminar also provides a forum to discuss participants' own research and current issues in Community Nutrition.

NS 646 Seminar in Physicochemical Aspects of Food

Spring. 1-3 credits. Prerequisite: a college course in organic chemistry or biochemistry. S-U grades optional. T R 1:25-2:40. B. Lewis, B. Parker.

An introduction to physicochemical aspects of food, for graduate students who have had limited or no work in this area. The seminar uses the lectures of NS 345 as a basis for supplementary readings and critical review of research on selected topics.

[NS 650 Assessing Food and Nutrition in a Social Context

Fall. 4 credits. Prerequisite: course in Social Sciences. Letter grades only. T R 1:25-2:40. Not offered 2002-2003. D. Pelletier, G. Peltó.

Food and nutrition problems in developed and developing countries may manifest themselves in biological or functional terms, but their causes and solutions ultimately are rooted in the socio-political world. This course provides multidisciplinary perspectives and some community experiences needed to assess and analyze the social context of nutrition problems. The course is relevant to developed and developing countries and to research and practice related to community nutrition as well as nutrition policy.]

[NS 651 Food and Nutrition Action in a Social Context

Spring. 3 credits. Prerequisites: at least 1 course in social sciences; NS 650 strongly recommended. Letter grades only. T R 1:25-2:40. Not offered 2002-2003. D. Pelletier, G. Peltó.

This course builds upon the perspectives developed in NS 650. It provides a framework for combining socio-political considerations and analytical criteria in the planning, implementation, and evaluation of nutrition actions at community and policy levels. Case studies from the United States and developing countries are used extensively for examining a wide range of nutrition actions from the perspective of this integrated framework.]

NS 660 Special Topics in Nutrition

Fall or spring. 3 credits maximum each term. Registration by permission of the instructor. Division faculty.

Designed for students who want to become informed in any specific topic related directly or indirectly to nutrition. The course may include individual tutorial study, experience in research laboratories, a lecture series on a special topic selected by a professor or a group of students, and/or selected lectures of another course already offered. Topics may be changed so that the course may be repeated for credit.

[NS 680 International Nutrition Problems, Policy, and Programs

Spring. 3 credits. Prerequisite: permission of instructor. T R TBA. Offered alternate years. Next offered 2003-2004. M. Latham.

Designed for graduate students who want to learn about the important nutritional problems of developing countries. The major forms of malnutrition related to poverty and their underlying causes are discussed. Emphasis is placed on programs and policies that can assist poor countries and communities to improve their nutritional and health status.]

NS 685 Empirical Methods for the Analysis of Household Survey Data: Applications to Nutrition, Health, and Poverty (also ECON 771)

Spring. 3 credits. Prerequisites: intermediate microeconomics, intermediate statistics or econometrics (through multiple regression and limited dependent variable models) or permission of the instructor. M W TBA. D. Sahn.

The course focuses on empirical methods for the analysis of household survey data. Students examine a series of measurement and modeling issues, focused on health and nutrition, education, and poverty. In addition, we explore methods to evaluate social program. Course readings, and data that are used for hand-on empirical exercises, are largely from Africa and Asia.

[NS 690 Trace Element and Isotopic Analysis (also CHEM 628)

Spring. 3 credits. Primarily for graduate students and advanced undergrads. Prerequisite: CHEM 288 or 390, 302 or CHEM 208 and MATH 112, or permission of instructor. S-U grades optional. T R 11:15. Offered alternate years. Next offered 2003-04. J. T. Brenna.

Survey course in modern high precision isotope ratio mass spectrometry (IRMS) techniques and trace/surface methods of analysis. Topics include dual inlet and continuous flow IRMS, thermal ionization MS, inductively coupled plasma MS, atomic spectroscopy, ion and electron microscopies, X-ray and electron spectroscopies, and biological and solid state applications. The first five weeks of CHEM 628/NS 690 focus on IRMS instrumentation and are offered as a separate 1 cr. special topics course (NS 660).]

NS 698 International Nutrition Seminar

Fall and spring. No credit. No grades given. R 12:20-1:10. J-P. Habicht, E. A. Frongillo.

This seminar series consists of presentations by Cornell faculty and graduate students, and by invited outside speakers. Speakers cover a range of topics relating to nutritional problems, policy, and programs in the nonindustrialized countries.

NS 699 Special Topics in International Nutrition

Fall and spring. 3 credits maximum each term. Registration by permission of instructor. Faculty in International Nutrition Program.

This option is designed for graduate students, mainly those with a concentration in international nutrition, who wish to become familiar with some specific topic related to international nutrition that is not adequately covered in an existing course. It consists of tutorial study on an agreed topic. Because the topics change, the course may be repeated for credit.

NS 700 Current Topics in Toxicology (also TOX 698)

Fall or spring. 1-3 credits. S-U grades optional. TBA. Staff.

A discussion of the most current developments in various areas of toxicological research and testing. Faculty and students participate jointly in evaluating research findings and provide seminars and discussion of such material. For information regarding the topic, instructor, location, and credit, contact the office of the Graduate Field of Environmental Toxicology or go to <http://www.cfe.cornell.edu/icet/seminars.htm>.

NS 702 Seminar in Toxicology (also TOX 702)

Fall or spring. 1 credit. S-U grades only. F 12:20. Staff.

The seminar program covers varied topics in biochemical, genetic, nutritional, veterinary, and regulatory toxicology, ecotoxicology, and environmental chemistry. Included are presentations of basic research studies, fundamental concepts, and research activities involving environmental problems of a toxicological nature. Presentations are given by speakers from Cornell and visitors.

NS 703 Seminar in Nutritional Sciences

Fall and spring. 1 credit. S-U grades only. T 12:20 or W 12:20. Division faculty.

Presentations of original articles pertinent to the Nutritional Sciences. Students read and learn how to critically analyze and interpret original articles published in a wide variety of journals. Students learn how to make professional presentations and how to critique the presentations given by others.

NS 899 Master's Thesis and Research

Fall or spring. Credit to be arranged. Prerequisite: permission of the chair of the graduate committee and the instructor. S-U grades optional. Division graduate faculty.

NS 999 Doctoral Thesis and Research

Fall or spring. Credit to be arranged. Prerequisite: permission of the chair of the graduate committee and the instructor. S-U grades optional. Division graduate faculty.

FACULTY ROSTER

- Arion, William J., Ph.D., U. of N. Dakota. Emeritus Prof.
 Bensadoun, Andre, Ph.D., Cornell U. Prof., Nutritional Sciences/Physiology
 Bisogni, Carole, Ph.D., Cornell U. Prof.
 Brannon, Patsy, Ph.D., Cornell U. Professor and Dean, College of Human Ecology
 Brenna, Thomas, Ph.D., Cornell U. Prof. and Director of Undergraduate Studies
 Campbell, T. Colin, Ph.D., Cornell U. Jacob Gould Schurman Emeritus Professor of Nutritional Biochemistry
 Cassano, Patricia, Ph.D., U. of Washington. Asst. Prof.
 Chen, Junshi, M.D., Peking Medical College, China. Adjunct Prof.
 Combs, Gerald F. Jr., Ph.D. Cornell U. Prof.
 Devine, Carol M., Ph.D., Cornell U. Assoc. Prof.
 Dollahite, Jamie, Ph.D., U. Texas. Assoc. Prof. and EFNEP Leader
 Frongillo, Edward, Jr., Ph.D. Cornell U. Assoc. Prof.
 Garza, Cutberto, M.D., Baylor College; Ph.D., MIT. Prof.
 Gillespie, Ardyth, Ph.D., Iowa State U. Assoc. Prof.

- Haas, Jere D., Ph.D., Pennsylvania State U.
Director and Nancy Schlegel Meining
Professor in Maternal and Child Nutrition
- Habicht, Jean-Pierre, Ph.D., Massachusetts
Inst. of Technology. James Jamison
Professor of Nutritional Epidemiology
- Kazarinoff, Michael N., Ph.D., Cornell U.
Assoc. Prof., Nutritional Sciences/Biochem-
istry, Molecular and Cell Biology and
Director of Graduate Studies
- Latham, Michael C., D.T.M.&H., U. of London
(England). Prof.
- Levitsky, David A., Ph.D., Rutgers U. Prof.
- Lewis, Bertha A., Ph.D., U. of Minnesota.
Assoc. Prof.
- Manor, Danny, Ph.D., Albert Einstein College
of Medicine. Asst. Prof.
- McCormick, Charles, Ph.D., North Carolina St.
U. Assoc. Prof.
- Noy, Noa, Ph.D., Tel-Aviv U. (Israel), Assoc.
Prof.
- Olson, Christine M., Ph.D., U. of Wisconsin.
Prof.
- Parker, Robert S., Ph.D., Oregon State U.
Assoc. Prof. and Associate Director for
Academic Affairs
- Pearson, Thomas, Ph.D., Johns Hopkins U.
Adjunct Prof.
- Pelletier, David, Ph.D., The Pennsylvania State
U. Assoc. Prof.
- Pelto, Gretel, Ph.D., U. Minnesota. Prof.
- Rasmussen, Kathleen M., Sc.D., Harvard U.
Prof.
- Rivera, Juan, Ph.D., Cornell U. Adjunct Asst.
Prof.
- Sahn, David, Ph.D., M.I.T. Prof.
- Sobal, Jeffery, Ph.D., U. of Pennsylvania.
Assoc. Prof.
- Stipanuk, Martha H., Ph.D., U. of Wisconsin.
Prof.
- Stoltzfus, Rebecca, Ph.D., Cornell U. Assoc.
Prof.
- Stover, Patrick, Ph.D., Med. College of
Virginia. Assoc. Prof.
- Strupp, Barbara, Ph.D., Cornell U. Assoc. Prof.
- Travis, Susan, M.S., Colorado State. Lecturer
- Utermohlen, Virginia, M.D., Columbia U.
Assoc. Prof., Nutritional Sciences/Biochem-
istry, Molecular and Cell Biology
- West, Elise, Ph.D., Cornell U. Lecturer and
Assistant Director for Academic Affairs

Other Teaching Personnel

- Swanson, Joy, Ph.D., Cornell U. Research
Associate
- You, Chasook, Ph.D., Cornell U. Teaching
Support Specialist

Joint Appointees

- Bauman, Dale, Prof., Animal Science/
Nutritional Sciences
- Miller, Dennis, Prof., Food Science/Nutritional
Sciences