

535. Clinical Skills V
Spring, Summer. 2(1-2) P: HM 534. R: Open only to graduate-professional students in College of Human Medicine.

Advanced interviewing and physical examination skills. Oral case presentations and written medical records. Introductory problem solving skills.

536. Comprehensive Domain
Spring. 2 credits. R: Not open to first year students. Open only to graduate-professional students in College of Human Medicine.
Basic sciences applied to clinically relevant situations. Problem-based small group experiences.

539. Hematopoietic/Neoplasia
Spring. 3 credits. P: Block I. R: Open only to graduate-professional students in College of Human Medicine.

Learn/apply advanced concepts of the basic sciences to clinically relevant situations. Done in integrated, problem-based small group experiences and other experiences.

543. Human Development and Behavior in Society
Summer. 5(4-2) R: Graduate-professional students in College of Human Medicine.

Social science basis of medicine including social and cultural influences on health and behavior. Overview of normal growth and development throughout the life span.

546. The Social Context of Clinical Decisions
Fall. 2(2-0) P: Completion of Block I requirements. R: Open only to graduate-professional students in College of Human Medicine.
Social perspectives on medicine and medical care.

547. The Social Context of Clinical Decisions II
Spring. 2(2-0) P: HM 546. R: Open only to graduate-professional students in College of Human Medicine.

Issues and concepts related to social and professional responsibilities of physicians.

548. Medical Humanities Seminar
Spring. 2(2-0) P: HM 547. R: Open only to graduate-professional students in College of Human Medicine.

Issues related to the humanities and human values pertinent to medical practice.

571. Integrative Clinical Correlations I
Fall. 2(2-0) P: ANT 551, BCH 521, PSL 501 or all concurrently. R: Graduate-professional students in College of Human Medicine.

Correlation of the principles of the basic biological and behavioral sciences with the disciplines of clinical medicine using case presentations.

572. Integrative Clinical Correlations II
Spring. 2(2-0) P: HM 571, ANT 552, ANT 562, MIC 552, PTH 542 or all concurrently. R: Graduate-professional students in College of Human Medicine.

Correlation of the principles of the basic biological and behavioral sciences within the disciplines of clinical medicine using case presentations.

573. Integrative Clinical Correlations III
Summer. 1(2-0) P: HM 543, HM 572, PHD 523, PHM 563, RAD 553 or all concurrently. R: Graduate-professional students in College of Human Medicine.

Correlation of the principles of the basic biological and behavioral sciences with the disciplines of clinical medicine using case presentations.

581. Mentor Program
Fall, Spring, Summer. 1(0-2) A student may earn a maximum of 3 credits in all enrollments for this course. R: Graduate-professional students in College of Human Medicine.

Dimensions of being a physician: skills needed to perform the job with patients and other medical workers. Current trends in the fields.

582. Mentor Program Year II
Fall, Spring. 1(0-2) A student may earn a maximum of 2 credits in all enrollments for this course. P: Completion of 3 credits of HM 581. R: Open only to graduate-professional students in College of Human Medicine.

Continuing exploration of the dimensions of being a physician, professional skills needed to interact with patients and medical workers, and current trends in field.

591. Special Problems in Human Medicine
Fall, Spring, Summer. 1 to 34 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Graduate-professional students in College of Human Medicine.

Work under the direction of a faculty member on an experimental, theoretical, or applied problem that requires a broad, interdisciplinary approach.

605. Comprehensive Care Clerkship
Fall, Spring, Summer. 4 to 20 credits. A student may earn a maximum of 20 credits in all enrollments for this course. Interdepartmental with Family Practice. P: FMP 602. R: Open only to graduate-professional students in College of Human Medicine.

Comprehensive and longitudinal management of patients in ambulatory care settings.

608. Sub-Specialty Clerkships
Fall, Spring, Summer. 4 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: FMP 602. R: Open only to graduate-professional students in College of Human Medicine.

Hospital- and office-based clinical experiences in sub-specialties in medicine and surgery.

630. Emergency Medicine Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: MED 608. R: Open only to graduate-professional students in the College of Human Medicine.

Clinical diagnosis and treatment of emergencies seen in community emergency departments.

635. Core Competencies I
Fall. 2 credits. A student may earn a maximum of 6 credits in all enrollments for this course. Interdepartmental with Family Practice; Medicine; Pediatrics and Human Development. P: FMP 602. R: Open only to graduate-professional students in College of Human Medicine.

A weekly seminar addressing core knowledge and skills from an interdisciplinary perspective.

636. Core Competencies II
Spring. 2 credits. A student may earn a maximum of 6 credits in all enrollments for this course. Interdepartmental with Family Practice; Medicine. P: FMP 602. R: Open only to graduate-professional students in College of Human Medicine.

A weekly seminar addressing core knowledge and skills from an interdisciplinary perspective.

637. Core Competencies III
Spring, Summer. 2 credits. A student may earn a maximum of 6 credits in all enrollments for this course. Interdepartmental with Family Practice; Medicine; Obstetrics, Gynecology and Reproductive Biology; Pediatrics and Human Development; and Surgery. P: FMP 602. R: Open only to graduate-professional students in College of Human Medicine.

A weekly seminar addressing core knowledge and skills from an interdisciplinary perspective.

691. Research Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: HM 690 or approval of community research director. R: Open only to graduate-professional students in the College of Human Medicine.

Biological, behavioral, or clinical research project.

829. Design and Conduct of Epidemiological Studies and Clinical Trials
Spring. 3(2-2) Interdepartmental with Large Animal Clinical Sciences. Administered by Large Animal Clinical Sciences. P: VM 533 or approval of department. R: Open only to graduate students in the colleges of Human Medicine, Osteopathic Medicine, or Veterinary Medicine.

Applied analytical methods in experimental design. Assessment of health and disease status of animal and human populations. Risk assessment and interpretation of clinical trials.

HUMAN NUTRITION AND FOODS HNF

**Department of Food Science
and Human Nutrition
College of Agriculture and
Natural Resources
College of Human Ecology**

150. Introduction to Nutrition and Food Science
Fall, Spring, Summer. 3(3-0) Interdepartmental with Food Science.

Nutrition needs in life stages from a human ecological perspective. Domestic and international factors affecting the availability of a safe, nutritious food supply. Relationships of food choices to health and disease.

300. Experimental Approaches to Foods
Fall, Spring. 4(2-4) P: Completion of Tier I writing requirement. (CEM 143) R: Open to only to juniors or seniors in the Department of Food Science and Human Nutrition.

Effects of preparation methods and ingredient substitutions on chemical and physical properties of food constituents. Effects of changes in chemical and physical properties on functional and sensory attributes of foods.

Descriptions—Human Nutrition and Foods of Courses

311. Principles of Human Nutrition

Spring. 3(3-0) P: (BCH 200)

Identification, function and food sources of nutrients required by humans. Normal metabolism. Effects of deficiencies or excesses of specific nutrients on metabolism.

320. Basic Skills in Dietetic Practice

Fall. 2(1-2) P: (HNF 150 or HNF 311) R: Open to sophomores or juniors or seniors in the Dietetics or Nutritional Sciences major.

Evaluation and communication of scientific and consumer information. Sources of reliable food and nutrition information. Statistical interpretations. Nutritional epidemiology, nutrient composition, and computer diet analysis.

SA: HNF 220

375. Community Nutrition

Fall, Summer. 3(3-0) P: (HNF 150 or HNF 311)

A human ecological approach to dietary and anthropometric assessment of population groups and policies, programs and resources available to address community nutritional needs.

379. Basic Nutritional Counseling

Spring. 3(2-3) P: (HNF 150 and HNF 320) R: Open to juniors or seniors in the Dietetics or Nutritional Sciences major or to graduate students in the Human Nutrition major.

Interviewing. Medical records and dietary history. Assessment of nutritional status. Planning, implementing, and evaluating nutritional programs. Quality assurance. Professional ethics.

400. Art and Science of Food Preparation

Spring. 1 credit. P: (HNF 300 or concurrently) R: Open only to seniors in the Dietetics or Nutritional Sciences major or to graduate students in the Human Nutrition major.

Art and science of food preparation in relation to cost, health, and historical, regional, ethnic, and religious customs. Product evaluation using sensory techniques. Offered half of semester.

406. Sociocultural Aspects of Food

Fall, Spring. 3(3-0) P: ISS course or concurrently R: Open only to juniors or seniors.

Factors impacting food consumption from a human ecological perspective. International and national food consumption patterns. Geographic, political, and economic aspects of food consumption. Food availability and distribution. Family structure, taboos, religion, and food related health problems.

410. Sensory Assessment of Foods

Spring. 2(1-2) P: (HNF 300 or FSC 401) and (STT 200 or STT 201 or STT 315 or STT 421 or STT 464) R: Open only to majors in the Department of Food Science and Human Nutrition.

Discriminative, consumer and descriptive methods used to evoke, measure, analyze, and interpret sensory reactions to food characteristics.

440. Foodservice Operations

Fall. 4(4-0) P: (HNF 150) R: Open only to juniors or seniors in the Dietetics or Nutritional Sciences major or to graduate students in the Human Nutrition major.

Principles, processes and control strategies in foodservice operations: menu planning, procurement, and on-premise storage and issuance. Purchasing, budgets, human resources, control management, ethics, marketing, production, safety and sanitation.

SA: HNF 441

444. Computerized Foodservice Management Laboratory

Fall, Spring. 2(1-2) P: (HNF 440 or concurrently) RB: Competency in computer spreadsheet applications. R: Open only to juniors or seniors in the Dietetics or Nutritional Sciences major or to graduate students in the Human Nutrition major.

Use of prototype management computer software for inventory management, recipe adjustment, recipe and menu precosting, nutrient analysis, cost analysis, accounting procedures, and other foodservice applications.

445. Foodservice Management Experience

Fall, Spring. 2 credits. P: (HNF 440 or concurrently) and (MIC 205) R: Open only to seniors in the Dietetics or Nutritional Sciences major or graduate students in the Human Nutrition major. Approval of department.

Receipt, storage, preparation and service of foods. Safety and sanitation. Design, layout, and care of equipment. Costing. Meal tickets required. Offered half of semester.

461. Advanced Human Nutrition: Carbohydrates, Lipids and Proteins

Fall. 3(3-0) P: (BCH 200 or BCH 401 or concurrently) and (PSL 250 or PSL 432)

Energetics and metabolism of carbohydrates, proteins, and lipids as related to dietary requirements and disease processes in humans. Recommended dietary allowances. Food sources of nutrients.

SA: HNF 460

462. Advanced Human Nutrition: Vitamins and Minerals

Fall. 3(3-0) P: (HNF 461 or concurrently)

Metabolism of vitamins and minerals in relation to dietary requirements and disease processes in humans. Food sources of nutrients. Nutrient interrelationships. Factors affecting bioavailability and stability of nutrients.

SA: HNF 460

463. Nutrition and Human Development

Fall. 3(3-0) P: (HNF 461 or HNF 462 or concurrently)

Role of nutrients in anatomical, physiological, and biochemical processes as related to human growth and development. Nutrition throughout the life cycle. Nutritional assessment and programs.

470. Medical Nutrition Therapy

Spring. 4(3-2) P: (HNF 461 and HNF 462) and completion of Tier I writing requirement. R: Open to juniors or seniors.

Anatomical, physiological and biochemical changes associated with diseases. Nutritional assessment. Use of modified diets as adjuncts to other therapies.

473. Interpretation of Clinical Laboratory Tests in Dietetics

Fall. 3(3-0) P: (HNF 461 or concurrently)

Principles, procedures and interpretation of clinical laboratory tests. Interrelationships of nutrition and the biological sciences. Relationships of test results to total nutritional care.

474. Drug-Nutrient Interactions

Spring. 2(2-0) P: (HNF 461 and HNF 462) R: Open to juniors or seniors in the Department of Food Science and Human Nutrition.

Reciprocal effects of foods, nutrients, and dietary constituents and pharmacologic agents. Drug-nutrient interactions in high risk groups including the elderly. Drug-nutrient counseling.

475. Community Nutrition Applications

Spring. 1(0-2) P: (HNF 375) R: Open to juniors or seniors.

Practice and evaluation of dietary and anthropometric nutritional assessment. Apply communication, advocacy and problem solving skills by identifying and addressing the nutrition needs and wants of a target population.

480. Concepts of Human Nutrition Research Methods

Spring. 2(1-3) P: Completion of Tier I writing requirement. (HNF 311 or HNF 461 or HNF 462 or FSC 455) R: Open only to seniors or graduate students in the Department of Food Science and Human Nutrition. Approval of department.

Issues and techniques involved in nutrition research with humans and animals. Guided laboratory experience plus independent project.

490. Independent Study

Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to juniors or seniors. Approval of department.

Individual study of selected topics in foods, foodservice management or nutrition.

490H. Honors Independent Study

Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to honors students. Approval of department.

Individual study of selected topics in foods, foodservice management or nutrition.

494. Practicum

Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to majors in the Department of Food Science and Human Nutrition. Approval of department.

Professional experience in selected settings and organizations under faculty supervision.

807. Advanced Food Toxicology
Fall of even years. 3(3-0) Interdepartmental with Food Science; and Animal Science. Administered by Food Science. R: Approval of department.

Toxicology related to food safety. Metabolism of toxicants as influenced by food constituents, mutagenesis, and chemical carcinogenesis. Risk assessment.

840. Human Nutrition and Chronic Diseases

Fall of odd years. 3(3-0)

Dietary intervention and treatment of chronic diseases: obesity, cardiovascular disease, diabetes, gastrointestinal disorders and cancer.

843. Community Nutritional Assessment

Spring of odd years. 3(2-2)

Nutritional assessment of population groups in community settings. Interpretation of national and international health data.

890. Supervised Individual Study

Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in Food Science and Human Nutrition. Students are limited to a combined total of 10 credits in HNF 890 and HNF 894.

Faculty supervised study of nutrition areas of individual interest.

891. Topics in Human Nutrition (MTC)

Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to graduate students.

Current topics in applied and basic human nutrition.

892. Nutrition Seminar

Fall, Spring. 1(1-0) A student may earn a maximum of 6 credits in all enrollments for this course. Presentations by students on current topics in nutrition.

894. Human Nutrition Practicum

Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in Food Science and Human Nutrition. Students are limited to a combined total of 10 credits in HNF 890 and HNF 894. Approval of department.

Experience in agencies or offices related to Human Nutrition. Field experience required.

899. Master's Thesis Research

Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 20 credits in all enrollments for this course. R: Open only to masters students in Human Nutrition and Foods.

935. Nutrition: Lipid and Carbohydrate Metabolism

Fall of even years. 3(3-0) Interdepartmental with Animal Science.

Regulatory aspects of lipid and carbohydrate metabolism as influenced by nutritional status.

936. Protein Nutrition and Metabolism
Spring of even years. 3(3-0) Interdepartmental with Animal Science. Administered by Animal Science.

Nutritional and endocrine regulation of protein synthesis and degradation, protein quality assessment, protein status, protein-energy malnutrition. Protein metabolism during exercise. Metabolism, digestion, and absorption of amino acids and proteins.

937. Mineral Nutrition and Metabolism

Fall of even years. 3(3-0) Interdepartmental with Animal Science. Administered by Animal Science.

Forms and locations of mineral elements in the body, metabolic functions, deficiencies, and toxicities, interrelationships and quantitative requirements.

938. Nutrition: Metabolism and Function of Vitamins

Spring of odd years. 3(3-0) Interdepartmental with Animal Science.

Regulatory roles of vitamins at cellular and molecular levels.

999. Doctoral Dissertation Research

Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to doctoral students in Human Nutrition and Foods.

INTEGRATIVE MANAGEMENT

PIM

The Eli Broad College of Business and The Eli Broad Graduate School of Management

800. Managerial Skills

Summer. 1.5(1.5-0) R: Open only to MBA students in the Program in Integrative Management.

Approaches to effective group management in business organizations. Creating, maintaining, and leading work groups.

801. Firm Analysis

Fall. 1 credit. R: Open only to MBA students in the Program in Integrative Management.

Faculty supervised analysis of the student's employing organization. Organization and financial structure. Information, accounting, operating, and marketing systems.

802. Environmental Analysis

Spring. 1 credit. R: Open only to MBA students in the Program in Integrative Management.

Faculty supervised analysis of the student's employing organization. Customer and competitor analysis. Legal and financial environment. Human resource issues.

803. Strategic Analysis

Fall. 1 credit. R: Open only to MBA students in the Program in Integrative Management.

Faculty supervised analysis of the student's employing organization. Strategy formulation and policy integration.

811. Financial Accounting Concepts
Summer. 2(2-0) R: Open only to MBA students in the Program in Integrative Management.

Financial reporting issues from a user's perspective. Measurement, valuation, and reporting concepts and issues. Analysis and use of financial accounting information for decision making.

812. Managerial Accounting Concepts

Fall. 1.5(1.5-0) P: PIM 811. R: Open only to MBA students in the Program in Integrative Management.

Accounting information for decision making and control: cost behavior patterns, activity-based costing, cost allocations, budgeting, transfer pricing, and accounting controls. Application of course concepts to work environment.

813. Information Systems

Fall. 1.5(1.5-0) R: Open only to MBA students in the Program in Integrative Management.

Information, process, and technology architectures of corporate information systems. Role of information in organizational control and decision making. Methods for evaluating effectiveness of information systems. Application of course concepts to the work environment.

821. Managerial Economics

Summer. 2(2-0) R: Open only to MBA students in the Program in Integrative Management.

Economics of the firm, with applications. Supply and demand, production and cost, competitive markets, pricing with market power, strategic behavior.

822. Macroeconomics for Managers

Summer. 1.5(1.5-0) R: Open only to MBA students in the Program in Integrative Management.

Determinants of national income, employment, and inflation. Macroeconomic environment of business: business fluctuations, fiscal and monetary policy, international capital flows, and forecasting macroeconomic data.

831. Managerial Legal Environment

Spring. 1.5(1.5-0) R: Open only to MBA students in the Program in Integrative Management.

The U.S. legal system. The interrelationship of law and ethics. Regulation of business by courts, state and federal statutes, and governments. Applications of course concepts to work environment.

841. Corporate Finance

Fall. 1.5(1.5-0) P: PIM 811. R: Open only to MBA students in the Program in Integrative Management.

Valuation techniques for bonds and stocks. Investment decisions by firms. The relation between risk and return. Pricing models for risk. U.S. capital markets. Application of course concepts to work environment.

842. Managerial Finance

Spring. 1.5(1.5-0) P: PIM 811, PIM 841. R: Open only to MBA students in the Program in Integrative Management.

Market efficiency, capital budgeting, security issues, dividend policy, capital structure, and bankruptcy costs. Agency problems between different stakeholders and option pricing. Application of course concepts to work environment.