

**458 Housing from a Human Ecological Perspective**  
Spring. 3(3-0) R: Not open to freshmen or sophomores.

Impact of housing on human beings and families. Psychological and cultural dimensions. Financial and policy factors.

**460 Retailing Information Systems**  
Fall. 4(4-0) P:M: (CSE 101 or CSE 131) and (MTH 110 or MTH 116 or MTH 106 or MTH 114 or MTH 124 or STT 200 or STT 201) and (HED 371)

Information needed to make effective retail decisions. Use of technology in collecting, analyzing, and interpreting retail systems data and in writing and presenting reports.

**465 International Retailing**  
Fall. 3(3-0) P:M: (HED 261) and (MSC 300 or MSC 327) and completion of Tier I writing requirement. R: Open only to juniors or seniors in Merchandising Management or Food Management.

Influence of economic development on distribution and consumption. Retailing in the world market.

**471 International Buying and Product Development**  
Spring. 3(3-0) P:M: (HED 371)

International merchandising. Global procurement. Sourcing strategies and international purchase negotiations.

**481 Merchandising Strategy Analysis**  
Spring. 3(3-0) P:M: (HED 371) and (FI 201 or FI 320 or ABM 435) and completion of Tier I writing requirement. RB: (HED 363 and HED 373) or approval of department.

Strategic and financial planning for retailers.

**490 Independent Study**  
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Not open to freshmen or sophomores. Approval of department.

Supervised individual study in an area of human environment and design.

**490H Honors Independent Study**  
Fall, Spring. 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.

Independent study of selected topics in human environment and design.

**493A Internship in Merchandising Management**  
Fall, Summer. 3 to 8 credits. P:M: (HED 362 and HED 371) R: Approval of department.

Supervised professional experience in a selected company which cooperates in offering students structured management activities.

**493B Internship in Apparel and Textile Design**  
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P:M: (HED 323) R: Approval of department.

Preprofessional experience in a selected business, industry, or community organization.

**493C Internship in Interior Design**  
Summer. 3(0-6) P:M: (HED 393) R: Open only to juniors or seniors in the Interior Design major and approval of department.

Preprofessional experiences in selected interior design business or community projects.

## HUMAN NUTRITION AND FOODS HNF

### Department of Food Science and Human Nutrition College of Human Ecology

**150 Introduction to Human Nutrition**  
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.

**180 Preview of Nutritional Sciences**  
Spring. 1(1-1) R: Open only to freshmen or sophomores.

Overview of nutritional sciences as a preprofessional major. Introduces students to faculty nutrition research projects, enables students to participate in a directed research experience, and exposes students to various career opportunities.

**300 Experimental Approaches to Foods**  
Fall, Spring. 4(2-4) P:M: Completion of Tier I writing requirement. RB: (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.

**311 Principles of Human Nutrition**  
Spring. 3(3-0) P:M: (BMB 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**  
Spring, Summer. 3(2-2) P:M: (HNF 150 or HNF 311) R: Open to sophomores or juniors or seniors in the Dietetics, Nutritional Sciences or Food Science majors. SA: HNF 220

Nutrient composition of foods to meet nutritional needs for meal planning. Sources of reliable food and nutrition information. Evaluation and communication of scientific and consumer information. Concepts in nutritional epidemiology.

**375 Community Nutrition**  
Fall. 3(3-0) P:M: (HNF 150 or HNF 311)

Human ecological approach to dietary and anthropometric assessment, intervention and evaluation of population groups. Policies, programs and resources available to address community nutritional needs.

**400 Art and Science of Food Preparation**  
Spring. 2(1-3) RB: (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. Lecture offered full semester; laboratory offered half of semester.

**406 Sociocultural Aspects of Food**  
Fall, Spring. 3(3-0) P:M: (HNF 150 or concurrently) RB: 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) RB: (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:M: (FSC 342 or concurrently) RB: (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. SA: HNF 441

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

**444 Computerized Foodservice Management Laboratory**  
Fall, Spring. 2(1-2) P:M: (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. Spring: Total for both half-semester. P:M: (HNF 440 or concurrently) RB: (MMG 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.

**453 Nutrition and Human Development**  
Spring. 3(3-0) P:M: (HNF 150) and (PSL 250 or concurrently or PSL 431 or concurrently) SA: HNF 463, HNF 376

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.

## Human Nutrition and Foods—HNF

- 461 Advanced Human Nutrition: Carbohydrates, Lipids and Proteins**  
Fall. 3(3-0) P:M: (BMB 200 or BMB 401 or BMB 461) and (PSL 250 or PSL 432) SA: HNF 460  
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.
- 462 Advanced Human Nutrition: Vitamins and Minerals**  
Fall. 3(3-0) P:M: (HNF 461 or concurrently) SA: HNF 460  
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.
- 465 Nutritional Pathophysiology**  
Fall. 4(4-0) P:M: (HNF 461 or concurrently) and (ANTR 350 or PSL 432) SA: HNF 473  
Effects of specific pathophysiologic states on the function of target organs. Assessment of nutritional and medical status using laboratory tests. Putative mechanisms of action, efficacy, and safety of relevant alternative and complementary therapies.
- 466 Medical Nutrition Therapy**  
Spring. 4(3-2) P:M: (HNF 461 and HNF 462) and (HNF 465 or PSL 432) and completion of Tier I writing requirement. R: Open only to juniors or seniors. SA: HNF 470  
Anatomical, physiological and biochemical changes associated with diseases. Nutritional assessment. Use of modified diets as adjuncts to other therapies.
- 467 Outcome Measurement and Documentation in Medical Nutrition Therapy**  
Spring. 1(0-2) P:M: (HNF 461 and HNF 462 and HNF 465) RB: Senior dietetic majors. SA: HNF 379 C: HNF 466 concurrently.  
Planning, implementation, outcome measurement, and documentation in medical nutrition therapy (MNT). Clinical, behavioral and functional outcomes resulting from interventions in clinical and outpatient settings.
- 474 Drug-Nutrient Interactions**  
Spring. 2(2-0) RB: (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:M: (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:M: (HNF 461 and HNF 462) and completion of Tier I writing requirement. RB: (FSC 455)  
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 to juniors or seniors. 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.

## INFORMATION TECHNOLOGY MANAGEMENT

ITM

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

- 309 Business Information Systems and Technology**  
Fall, Spring, Summer. 3(3-0) P:M: (CSE 101 or concurrently) R: Open only to juniors or seniors in The Eli Broad College of Business. Not open to students in The School of Hospitality Business. SA: BUS 309  
Role of information technology in shaping and supporting business processes in a global marketplace. Effects on organizations and individuals.
- 311 Systems Analysis and Design**  
Spring. 3(3-0) P:M: (BUS 309) R: Open only to students in The Eli Broad College of Business. SA: BUS 311  
Structured analysis and design of information systems. Use of computer aided software engineering tools. Consulting issues associated with the design and implementation of information systems.
- 412 Marketing Technology and E-Commerce**  
Fall, Spring. 3(3-0) Interdepartmental with Marketing and Supply Chain Management. Administered by Department of Marketing and Supply Chain Management. P:M: (MSC 300 and MSC 317 and ITM 309) R: Open only to juniors or seniors in The Eli Broad College of Business, and to students in programs in which MSC 412 is a catalog-listed requirement.  
Enabler technologies and their role in creating marketing opportunities, efficiencies, and innovations. Tools, applications, platforms, and infrastructures. Determination of business configurations that foster value creation from enabler technologies.

- 413 Fundamentals of Database Information Systems**  
Fall, Spring. 3(3-0) R: Open only to Juniors or seniors in The Eli Broad College of Business. Not open to students in The School of Hospitality Business. C: ITM 311 concurrently.  
Semantic and syntactic modeling of business requirements for databases. Specificational and navigational processing of databases. Database design parameters for business use.
- 414 Enterprise Resource Planning Systems**  
Spring. 3(3-0) P:M: (ITM 311 and BUS 309) R: Open only to students in The Eli Broad College of Business.  
Analysis, design and use of enterprise systems. Importance of enterprise system fit and re-engineering of the enterprise. Implementation risks and organizational returns. Use of enterprise software.
- 444 Information Technology Project Management**  
Spring. 3(3-0) Interdepartmental with Computer Science and Engineering; Telecommunication. P:M: (ITM 311) R: Open only to seniors in the Specialization in Information Technology.  
Practical training and experiences in design, testing, and launch of new information technologies and systems.
- 490 Independent Study in Information Technology**  
Fall, Spring, Summer. 1 to 4 credits. P:M: (BUS 309) R: Open only to students in The Eli Broad College of Business.  
Directed study in information technology under faculty supervision.
- 491 Special Topics in Information Technology**  
Fall, Spring. 1 to 4 credits. P:M: (BUS 309) R: Open only to students in The Eli Broad College of Business.  
Current topics in information technology.

## INTEGRATIVE STUDIES IN ARTS AND HUMANITIES

IAH

### Center for Integrative Studies in Arts and Humanities College of Arts and Letters

- 201 United States and the World (D)**  
Fall, Spring. 4(4-0) P:M: Completion of Tier I writing requirement. RB: Designated score on English placement test. R: Concurrent registration in AL 201 (Writing Tutorial) required for students receiving 1.0 or 1.5 in Tier I writing course. Not open to students with credit in IAH 202 or IAH 206.  
Major issues in development of US society and culture, presented in international and comparative context. Influences from native Americans, Europeans, Africans, and Asians. Organized historically, with thematic emphasis on literature and the arts.