

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.

202 Europe and the World (I)
 Fall, Spring, Summer. 4(4-0) P:M: Completion of Tier I writing requirement. RB: Designated score on English placement test. R: Open only to undergraduate students. Concurrent registration in AL 201 (Writing Tutorial) is required for students receiving 1.0 or 1.5 in Tier I course. Not open to students with credit in IAH 201 or IAH 206.

Cultural encounters and political relationships between Europeans and people(s) from other regions of the world since 1500 as shown through study of written texts, literature, the visual arts, music, and other forms of expression. Examples from Europe and several continents.

206 Self, Society, and Technology (D)
 Fall, Spring. 4(4-0) P:M: Completion of Tier I writing requirement. RB: Designated score on English placement test. R: Open only to undergraduate students. Concurrent registration in AL 201 (Writing Tutorial) is required for students receiving 1.0 or 1.5 in Tier I course. Not open to students with credit in IAH 201 or IAH 202.

Exploration of how technology affects and is affected by our conceptions of ourselves, relations with others, and our ideals. Approaches and materials from philosophy, literature, art, music, and history as well as the natural sciences.

211A Area Studies and Multicultural Civilizations: Africa (I)
 Spring. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Arts and humanities of Africa: literature, art, music, religion and philosophy presented in historical context. Selected regions, cultures, and themes. Variable by term.

211B Area Studies and Multicultural Civilizations: Asia (I)
 Fall, Spring. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Arts and humanities of Asia: literature, visual arts, music, religion and philosophy presented in historical context. Selected regions, cultures, and themes. Variable by term.

211C Area Studies and Multicultural Civilizations: The Americas (D)
 Fall, Spring. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Arts and humanities of the Americas: literature, visual arts, music, religion and philosophy presented in historical context. Selected regions, cultures, and themes. Variable by term.

211D Area Studies and Multicultural Civilizations: The Middle East (I)
 Fall. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Arts and humanities of the Middle East: literature, visual arts, music, religion and philosophy presented in historical context. Themes variable by term.

221A Great Ages: The Ancient World (I)
 Fall, Spring. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Arts and humanities of the ancient world examined through the frame of urban and intellectual life. Literature, visual arts, music, religion and philosophy presented in historical context. Selected regions and themes, variable by term.

221B Great Ages: The European Renaissance
 Fall of odd years. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Arts and humanities of Renaissance Europe: literature, visual arts, music, religion and philosophy presented in historical context. Selected themes, variable by term.

221C Great Ages: The Modern World (I)
 Fall, Spring. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Arts and humanities of the modern world, examined through the frame of urban and intellectual life. Literature, visual arts, music, religion and philosophy presented in historical context. Selected regions and themes. Variable by term.

231A Themes and Issues: Human Values and the Arts and Humanities
 Fall, Spring. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Values of individualism, responsibility, love, community, and rationality. Students are introduced to diverse methods and materials from the arts and humanities.

231B Themes and Issues: Moral Issues and the Arts and Humanities
 Fall, Spring. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Human conflict and moral dilemmas, addressed through diverse methods and materials from the arts and humanities.

231C Themes and Issues: Roles of Language in Society (D)
 Fall, Spring. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Language as the medium of culture in various societies. Power and social identity as manifested through language. Students are introduced to diverse methods and materials from the arts and humanities.

241A Creative Arts and Humanities: Music and Society in the Modern World (D)
 Fall of even years. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

The arts and humanities of the modern world through the prism of music. Music traditions and methodologies in their historic context. Relationship of music creativity to societies in which it has been produced.

241B Creative Arts and Humanities: Philosophy in Literature
 Spring. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Philosophy and literature, relationships to each other and to societies in which they were produced. Themes such as the meaning of life, God and the problem of evil, and the nature of knowledge. Authors such as Voltaire, Dostoevsky, Wright, and Atwood examined from a variety of perspectives.

241C Creative Arts and Humanities: Cultural and Artistic Traditions of Europe
 Fall, Spring. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

European artistic and cultural movements and styles, introduced through works of art, music, literature, philosophy and religion. Presented in historical context. Specific eras and works variable by term.

241D Creative Arts and Humanities: Theater and Society in the West
 Spring. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Artistic creativity seen through the prism of theater. Presented in historical context. Influences from art, literature, music, and religion. Focus on translation of social visions into dramatic art. Plays and themes variable by term.

241E Creative Arts and Humanities: The Creative Process
 Spring of even years. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Philosophical, religious and historical foundations for understanding the process of creation in visual arts, theatre, music and literature. Variations across eras and societies.

241F Creative Arts and Humanities: Traditions in World Art (I)
 Fall. 4(4-0) P:M: (IAH 201 or IAH 202 or IAH 206)

Aesthetic qualities of painting, sculpture and architecture within historical contexts across major civilizations. Visual forms in relation to belief systems and musical and literary traditions.

INTEGRATIVE STUDIES IN BIOLOGICAL SCIENCE

ISB

Center for Integrative Studies in General Science College of Natural Science

200 History of Life
 Fall, Spring, Summer. 3(3-0) P:M: (MTH 103 or concurrently or MTH 110 or concurrently or MTH 116 or concurrently or LBS 117 or concurrently or MTH 124 or concurrently or MTH 132 or concurrently or MTH 201 or concurrently or STT 200 or concurrently or STT 201 or concurrently) or designated score on Mathematics placement test.

Life from its origin to the dawn of human history. Living things as both the products of evolutionary processes and as a major force driving evolution and altering the environment of planet earth.

202 Applications of Environmental and Organismal Biology
 Fall, Spring, Summer. 3(3-0) P:M: (MTH 103 or concurrently or MTH 110 or concurrently or MTH 116 or concurrently or LBS 117 or concurrently or MTH 106 or concurrently or MTH 124 or concurrently or MTH 132 or concurrently or MTH 201 or concurrently or STT 200 or concurrently or STT 201 or concurrently) or designated score on Mathematics placement test.

Historical and recent development of ideas about behavior, ecological, and evolutionary processes. Critical evaluation of the use and misuse of human understanding of nature, emphasizing recent findings.