582 Mentor Program Year II  
Fall, Spring, Summer. 1 to 2 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P:NM: 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. Current trends.

591 Special Problems in Human Medicine  
Fall, Spring, Summer. 1 to 4 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. R: (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. Fall: Lansing, GR, Kalamazoo, Flint, Saginaw. Spring: (Same as above). Summer: (Same as above). A student may earn a maximum of 12 credits in all enrollments for this course. R: (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.

609 Laboratory Medicine Clerkship  
Fall, Spring, Summer. 1 to 8 credits. Fall: Flint G.Rapids Kalamazoo Lansing Saginaw UP. Spring: Flint G.Rapids Kalamazoo Lansing Saginaw UP. Summer: Flint G.Rapids Kalamazoo Lansing Saginaw UP. A student may earn a maximum of 16 credits in all enrollments for this course. R: (FMP 602) R: Open only to graduate-professional students in College of Human Medicine or Osteopathic Medicine. Interdepartmental with Osteopathic Medicine. R: Open only to graduate-professional students in College of Human Medicine or Osteopathic Medicine. SA: PTH 609

Laboratory procedures. Correlation of laboratory data with morphologic abnormalities in patients with pathophysiology.

610 Pathology Clerkship  
Fall, Spring, Summer. 1 to 8 credits. A student may earn a maximum of 12 credits in all enrollments for this course. Interdepartmental with Osteopathic Medicine. R: Open only to graduate-professional students in College of Human Medicine or Osteopathic Medicine. SA: PTH 608

Anatomic and clinical pathology with emphasis on clinical-pathological correlation. Conducted in pathology departments of affiliated hospitals.

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. R: (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.

HUMAN NUTRITION AND FOODS

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

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: 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(2-2) P: BMB 200 or BMB401 or BM 461 or PSL 250 or PSL 431

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(2-3) P: (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: (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) R: (HNF 300 or concurrent) 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.
Human Nutrition and Foods—HNF

898 Master's Project
Fall, Spring, Summer. 1 to 5 credits. R: Open only to master's degree students in Human Nutrition.
Directed scholarly participation in support of Plan B master's degree requirements in human nutrition.

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.
Master's thesis research.

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 Department of Animal Science.

937 Mineral and Vitamin Nutrition and Metabolism
Spring of even years. 3(3-0) Interdepartmental with Animal Science. Administered by Department of Animal Science. P:M: (BMB 461 and BMB 462)
Forms and locations of mineral elements in the body, metabolic functions, deficiencies, and toxicities, interrelationships and quantitative requirements. Significant vitamins and mineral interrelationships relative to bone metabolism, antioxidant health and erythropoiesis.

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.
Doctoral dissertation research.

INFORMATION TECHNOLOGY MANAGEMENT

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.

414 Enterprise Resource Planning Systems
Fall, Spring. 3(3-0) 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: (ITM 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: (ITM 309) R: Open only to students in The Eli Broad College of Business.
Current topics in information technology.

814 Decision Support Systems in Business
Fall. 3(3-0) Interdepartmental with Marketing and Supply Chain Management. P:M: (MBA 823 or ITM 309)
Computer-based managerial decision support systems (DSS). Basic system architectures for DSS. Individual and group systems. Data-driven and intelligence (model) driven systems. Project analysis of a globally distributed system.

821 Enterprise Database Systems
Fall. 3(3-0) Interdepartmental with Accounting. Administered by Department of Accounting and Information Systems. Not open to students with credit in ACC 321.
Management of information in business organizations. Conceptual modeling of transaction processing systems, workflow systems, and enterprise-wide networks of value-added activities. Integration of decision support and policy level systems with economic event processing systems. Information system implementation.

822 Analysis and Design of Enterprise Systems
Spring. 3(3-0) Interdepartmental with Accounting. Administered by Department of Accounting and Information Systems. R: Open only to MBA students and master's students in Accounting and Information Systems.
Not open to students in Accounting and Information Systems. Open only to MBA students and master's students in Accounting or approval of department.

823 Advanced Enterprise Database Systems
Spring. 3(3-0) Interdepartmental with Accounting. Administered by Department of Accounting and Information Systems. R: Open only to MBA students and master's students in Accounting or approval of department.

824 Digital Business Models and Processes
Spring. 3(3-0) Interdepartmental with Accounting. Administered by Department of Accounting and Information Systems. R: Open only to MBA students and master's students in Accounting or approval of department.
Frameworks for linking information technologies with business performance. Identification and valuation of key information technologies. Information Technology (IT) enabled business models, organizational processes, and knowledge management systems.

825 Object-Oriented Business Information Systems
Fall of even years. 3(3-0) Interdepartmental with Accounting. Administered by Department of Accounting and Information Systems. R: Open only to MBA students and master's students in Accounting or approval of department.