

## 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.

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 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.

**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. Specification 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 ITM 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: (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 or approval of department. Not open to students with credit in ITM 311.

Structured analysis and design of enterprise information systems. Use of computer-aided software design tools. Consulting issues associated with the design and implementation of information systems.

**823 Advanced Enterprise Database Systems**  
Spring. 3(3-0) Interdepartmental with Accounting. Administered by Department of Accounting and Information Systems. P:M: (ACC 321 or ACC821 or ITM821) R: Open only to MBA students and master's students in Accounting or approval of department.

Enterprise information architectures. Semantic and syntactic modeling of enterprise economic phenomena. Relational database technology and database design for business systems. Business process analysis patterns and implementation compromises.

**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. P:M: (ACC 823 and ITM 823) R: Open only to MBA students and master's students in Accounting or approval of department.

Analysis and design of object-oriented business systems. Unified modeling language descriptions of business phenomena and rules. Object-oriented programming. Use-case analysis and specification. XML tag sets for transactions and reporting.

## 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.

**826 Enterprise Information 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. Not open to students with credit in ITM 414.

Analysis, design and use of enterprise systems. Importance of enterprise system fit and reengineering of the enterprise. Implementation risks and organizational returns. Use of enterprise software.

**911 Doctoral Seminar in Information Systems**  
 Fall. 3(3-0) RB: Master's degree in business, computer science, telecommunication or engineering.

Seminar in management information systems for new doctoral students and researchers new to the field.

**912 Information Technology Transactional Perspectives**

Spring of even years. 3(3-0) Interdepartmental with Telecommunication. RB: Graduate level microeconomics course R: Open only to doctoral students.

Multiple perspectives on relationships between organizations and information technology. Information processing, communications and management strategy approaches. Economic perspectives.

**913 Seminar in Information Systems Design Science**

Spring of odd years. 3(3-0) RB: (ITM 911)

Research in design science in information systems. Ontological issues in design science research.

**914 Behavioral Aspects of Information Systems**

Fall. 3(3-0) RB: Two prior courses in information systems. R: Open to doctoral students in the College of Business or approval of college.

Information Systems theory from a behavioral and social science perspective.

**917 Research Methods in Information Systems**

Fall. 3(3-0) RB: (MSC 905) Graduate courses in Philosophy of Science, Intermediate Statistics. R: Open only to doctoral students in the College of Business or College of Communication Arts and Sciences or approval of college.

Research methodologies utilized to study information systems phenomena from social science, computational science and clinical approaches. Critique information systems literature from various methodological perspectives.

## INTEGRATIVE PIM MANAGEMENT

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

**800 Managerial Skills**

Summer. 1(1-1) 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(1-1) 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(1-1) 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(1-1) 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. 1(1-1) 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(1-1) RB: (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(1-1) 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. 1(1-1) 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(1-1) 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(1-1) 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(1-1) RB: (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(1-1) RB: (PIM 811 and 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.

**850 Analysis and Decision Models**

Summer. 1(1-1) RB: (STT 315) R: Open only to MBA students in the Program in Integrative Management.

Models to support decision making: applications of regression analysis, decision analysis, simulation, forecasting, and project management.

**852 Organization Design**

Fall. 1(1-1) R: Open only to MBA students in the Program in Integrative Management.

Assessing tasks, environments, and technology to organize and implement corporate and business unit strategies. Assessing distinctive competencies in organizations to deal with dynamic environments. Application of course concepts to work environment.

**853 Human Resource Management**

Fall. 1(1-1) R: Open only to MBA students in the Program in Integrative Management.

Strategic organizational issues associated with managing the labor market to acquire, develop, and compensate human resources. Application of course concepts to work environment.

**855 Strategic Management**

Fall. 1(1-1) R: Open only to MBA students in the Program in Integrative Management.

Determination of the strategic direction of the firm in a global, complex, and volatile environment. Analysis of the management of strategic actions and processes within and across firm boundaries. Integration of environmental factors and organizational functions in the analysis of management problems.