

**FOOD INDUSTRY FIM
MANAGEMENT**

**Department of Agricultural
Economics
College of Agriculture and
Natural Resources**

- 100 Decision-making in the Agri-Food System**
Fall, Spring. 3(3-0) Interdepartmental with Agribusiness Management. Administered by Department of Agricultural Economics. SA: FSM 200
Organization and operation of the agri-food system. Economic analysis of agri-food firms and consumers. Management functions and decision-making of agri-food firms.
- 210 Professional Seminar in Food Industry Management**
Spring. 1(1-0) P: (ABM 100 or concurrently or ABM 130 or concurrently) R: Open only to Food Industry Management majors.
Industry trends in food industry management. Verbal, written, and visual communication techniques applied to professional situations, including professional development and career planning.
- 220 Food Product Marketing**
Fall. 3(3-0) P: (ABM 100 or concurrently)
Structure of the food marketing system including food processors, manufacturers, retailers and food service. Impact of consumer behavior and buying patterns. International food product marketing. Strategic planning in food marketing.
- 222 Agribusiness and Food Industry Sales (W)**
Fall, Spring. 3(3-0) Interdepartmental with Agribusiness Management. Administered by Department of Agricultural Economics. P: (ABM 100 or ABM 130 or EC 201 or EC 202) and completion of Tier I writing requirement. R: Open only to sophomores or juniors or seniors. SA: FSM 320
Selling processes and activities within agribusiness and food firms. Principles and techniques of sales. Operation of sales organizations.
- 335 Food Marketing Management**
Spring. 3(3-0) P: (FIM 220 or MSC 300) and (MSC 303) SA: ML 335, MTA 335, FSM 335
Management decision-making in food industry organizations (processors, wholesalers, retailers). Marketing and sales in response to customer and consumer needs. Distribution and merchandising systems in domestic and international contexts.
- 337 Labor and Personnel Management in the Agri-Food System**
Fall. 3(3-0) Interdepartmental with Agribusiness Management. P: (ABM 100 or ABM 130) R: Open only to juniors or seniors. SA: FSM 325
Human resource management principles for farms, agribusinesses and food firms: planning, recruiting, training, scheduling, motivating, supervising and evaluating. Labor regulations, compensation and records.

- 873 Plankton Biology**
Spring of odd years. 3(2-3) RB: (FW 472)
Biology of plankton organisms in freshwater and marine systems. Field and laboratory methods. Individual research projects. Field trips required.
- 874 Advanced Fisheries Ecology and Food Web Management**
Spring of odd years. 3(3-0) RB: (ZOL 355) and (FW 472) and (FW 479)
Application of food web theory to fisheries management. Evaluation of abiotic and biotic mechanisms as they affect aquatic community structure and food web dynamics.
- 875 Advanced Aquaculture**
Fall of odd years. 3(3-0) RB: (FW 475)
Adaptations and responses of aquatic organisms to environmental change in aquaculture systems. Research methods and applications for aquaculture planning and management decisions.
- 877 Fish Population Dynamics**
Fall of even years. 3(2-2) R: Open only to graduate students in the College of Agriculture and Natural Resources or College of Natural Science.
Quantitative analysis of fish populations. Evaluation, causes, and impacts of the rates of change in survival, growth, reproduction, and recruitment for fish populations and their yield.
- 879 Advanced Limnology**
Spring of even years. 3(3-0) RB: (FW 472 or ZOL 431)
Theory and management of streams, rivers, lakes, reservoirs, and other deepwater habitats from ecosystem and landscape perspectives.
- 881 Building and Implementing Watershed Management Plans**
Fall, Spring, Summer. 3(3-0) Fall: Virtual University. Spring: Virtual University. Summer: Virtual University. Interdepartmental with Resource Development; Forestry. Administered by Department of Community, Agriculture, Recreation and Resource Studies. RB: (RD 324 and ZOL 355 and RD 452)
Not open to students with credit in RD 824.
Problem definition. Data collection. Public consultation. Program evaluation. Case studies include watershed planning in the Great Lakes region.
- 882 Watershed Assessments and Tools**
Fall, Spring, Summer. 3(3-0) Fall: Virtual University. Spring: Virtual University. Summer: Virtual University. Interdepartmental with Resource Development; Forestry. Administered by Department of Community, Agriculture, Recreation and Resource Studies. RB: (RD 452 and RD 881)
Techniques for assessing and predicting physical, chemical, biological, and socioeconomic conditions within a watershed. Water quality monitoring. Bio-assessment protocols. Pollutant loading models.
- 884 Outreach in Fisheries, Wildlife and Natural Resources Management**
Spring of odd years. 3(3-0) Interdepartmental with ANR Education and Communication Systems. RB: Previous course in communications recommended.
Theory, research, practice and current issues in using outreach in fisheries, wildlife and natural resource management.

- 885 Leadership in Natural Resources and Environmental Management**
Fall. 3(3-0) Interdepartmental with Forestry; Park, Recreation and Tourism Resources; Agricultural Economics.
Theory and practice of leadership in natural resource and environmental management. Integration across disciplinary and jurisdictional divisions.
- 891 Advanced Topics**
Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course.
In depth study of advanced topics in fisheries and wildlife.
- 892 Biodiversity**
Spring. 2(2-0) A student may earn a maximum of 4 credits in all enrollments for this course. Interdepartmental with Zoology. Administered by Department of Zoology. RB: (ZOL 250)
Status of world biota and factors in the decline and extinction of major groups of plants and animals. Theory and design of natural reserves. Assessment and ecological meaning of diversity. Management for global and local diversity.
- 893 Seminar in Fisheries and Wildlife**
Fall, Spring. 1(1-0) A student may earn a maximum of 7 credits in all enrollments for this course.
Study and research in advanced problems and current development in fisheries and wildlife.
- 897 Ecosystem Ecology**
Spring. 4(4-0) Interdepartmental with Zoology; Plant Biology. Administered by Department of Zoology.
Structure and function of natural ecosystems. Succession, food web analysis, energy flow, nutrient cycling, and effects of human activities on ecosystems. Global environmental change. Ecosystem management and restoration.
- 898 Master's Research**
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to graduate students in the Fisheries and Wildlife major.
Master's degree Plan B research paper.
- 899 Master's Thesis Research**
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to graduate students in the Fisheries and Wildlife major.
Master's thesis research.
- 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 level graduate students in Fisheries and Wildlife.
Doctoral dissertation research.

Food Industry Management—FIM

- 351 Retail Management**
Fall, Spring, Summer. 3(3-0) Interdepartmental with Marketing and Supply Chain Management. Administered by Department of Marketing and Supply Chain Management. P: (MSC 300 or MSC 327) R: Open only to juniors or seniors in the Eli Broad College of Business or the Food Industry Management or Merchandising Management major. SA: ML 351, MTA 351
Domestic and international retailing structure, environment, and development. Managerial strategy. Locational, purchasing, organizational, personnel and promotional techniques. Retail budgeting and control. Social and ethical considerations.
- 400 Public Policy Issues in the Agri-Food System**
Spring. 3(3-0) Interdepartmental with Agribusiness Management. Administered by Department of Agricultural Economics. P: (ABM 100) R: Open only to juniors or seniors. SA: FSM 421
Objectives, alternatives and consequences of public policy in the agri-food system. Analysis of economic implications for food and agribusiness firms, farmers, consumers and society.
- 410 Advanced Professional Seminar in Food Industry Management**
Fall. 1(1-0) P: (ABM 210 or FIM 210) R: Open only to Food Industry Management juniors or seniors.
Advanced professional problems and reestablishment of career planning in the agri-food system. Industry trends, career alternatives, and job search strategies. Enhanced verbal, written and visual communication techniques.
- 422 Vertical Coordination in the Agri-Food System**
Fall. 3(3-0) Interdepartmental with Agribusiness Management. Administered by Department of Agricultural Economics. P: (ABM 100 and EC 201) R: Open only to juniors or seniors. SA: FSM 443
Analysis of vertical coordination in the industrialized agri-food system. Agricultural cooperatives, contracts, marketing orders, and trade associations. Analysis of imperfect competition and methods of conducting business. Interaction with legal systems and government.
- 427 Global Agri-Food Industries and Markets**
Fall. 3(3-0) Interdepartmental with Agribusiness Management. Administered by Department of Agricultural Economics. P: (FIM 220 or ABM 225)
Strategic understanding of the international agri-food system. Analysis of global production, marketing, and consumption. Knowledge of changing conditions in international industries and markets. Global trends and opportunities.
- 439 Food Business Analysis and Strategic Planning(W)**
Fall. 3(3-0) Interdepartmental with Marketing and Supply Chain Management. P: (FIM 220) R: Open only to juniors or seniors SA: ML 439, MTA 439, MSC 439
Principles and techniques of business analysis and strategic planning applied to food firms. Food trend forecasts, market potential, competition and cost analyses, business and strategic planning.

- 490 Independent Study in Food Industry Management**
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: (ABM 100) R: Open only to sophomores or juniors or seniors in the Food Industry Management major. Approval of department: Application required. Students are limited to a combined total of 6 credits in ABM 490 and FIM 490. SA: FSM 490
Independent supervised study in topics in food industry management.
- 493 Professional Internship in Food Industry management**
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: (ABM 100) R: Open only to juniors or seniors in the Food Industry Management major. Approval of department; application required. A student may earn a maximum of 6 credits in all enrollments for any or all of these courses: ABM 493, AEE 493, ANR 493, ANS 493, CSS 493, EEP 493, FIM 493, FW 493, HRT 493, PKG 493, PLP 493, PRR 493, and RD 493.
Supervised professional experience in the food industry.

- 275 Seafood Systems Management**
Spring. 3(3-0) Interdepartmental with Fisheries and Wildlife; Animal Science. Administered by Department of Fisheries and Wildlife.
Domestic and international perspectives on major aquatic foods. Cultural and nutritional value; wild harvest; aquaculture; processing technology; food handling and food safety.
- 320 Muscle Foods**
Spring. 3(2-3) Interdepartmental with Animal Science. Administered by Department of Animal Science. P: (ANS 210 or FSC 211 or HNF 150)
Structure of muscle. Meat technology and merchandising concepts.
- 325 Food Processing: Unit Operations**
Fall, Spring. 4(2-6) P: (ANS 210 or FSC 211) and completion of Tier I writing requirement. SA: FSC 229, FSC 339
Principles, technologies, and applications in conversion of raw products into high quality foods. Unit operations: thermal processing, irradiation, freezing, membrane fractionation, enzyme technologies, dehydration and refrigeration. Field trip required.
- 329 Fundamentals of Food Engineering**
Spring. 3(3-0) Interdepartmental with Biosystems Engineering. Administered by Department of Agricultural Engineering. P: (FSC 229) and (MTH 126 or LBS 118) and (PHY 231 or LBS 164) RB: (FSC 211) SA: FE 329
Unit operations in food industry: fluid mechanics, heat transfer, rate processes, refrigeration, freezing, and dehydration. Thermal process calculations.
- 342 Food Safety and Hazard Analysis Critical Control Point Program**
Fall. 3(3-0) RB: (FSC 211 or concurrently or HNF 150 or concurrently or HNF 311 or concurrently) or a prior or concurrent basic course in microbiology, chemistry or biological sciences. SA: FSC 442
Sources of microbiological, chemical and physical hazards; minimizing microbial growth and survival; good manufacturing, cleaning and sanitation practices; Hazard Analysis Critical Control Point Programs in food processing and food service.

FOOD SCIENCE FSC

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

- 120 What's for Dinner: Science on Your Plate**
Fall, Spring. 1(2-0) Not open to students with credit in FSC 229.
Relationship between science and food. Current issues and future challenges in food science. Impact of technology, government, consumers and the media.
- 150 Introduction to Human Nutrition**
Fall, Spring, Summer. 3(3-0) Interdepartmental with Human Nutrition and Foods. Administered by Department of Food Science and Human Nutrition.
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.
- 211 Principles of Food Science**
Fall, Spring. 3(3-0)
Scientific principles, historical perspective, and current status of technology related to food composition, safety, toxicology, processing, preservation, and distribution.
- 401 Food Chemistry**
Fall. 3(3-0) P: (BMB 200 or CEM 352 or BMB 401 or concurrently) R: Not open to freshmen or sophomores.
Organic and biological reactions of food constituents. Chemical changes in foods during processing and storage affecting texture, color, flavor, stability, and nutritive qualities.
- 402 Food Chemistry Laboratory**
Fall. 1(0-3) P: (FSC 401 or concurrently) and completion of Tier I writing requirement.
Chemical changes in food constituents which affect stability of food products and properties such as color, flavor and texture.
- 420 Quality Assurance**
Fall. 2(2-0) P: (STT 200 or STT 201 or STT 231 or STT 315 or STT 351) and (FSC 211 or concurrently or ANS 210 or concurrently or HRT 204 or concurrently) R: Open only to juniors or seniors or graduate students in the Department of Food Science and Human Nutrition or in the Food Processing and Technology Specialization.
Theory and application of quality assurance programs for food processing industries.