

UNDERGRADUATE HANDBOOK
DEPARTMENT OF RESOURCE ECONOMICS

CONSUMER AND FAMILY ECONOMICS

FOOD MARKETING ECONOMICS

MANAGERIAL ECONOMICS

NATURAL RESOURCE ECONOMICS

<http://www.umass.edu/resec>

University of Massachusetts
Amherst, Massachusetts 01003-9246

Undergraduate Program Director
Bernard Morzuch
213 Stockbridge Hall
Telephone: 413.545.5718
morzuch@resecon.umass.edu

September 2005

Table of Contents

| | |
|---|----|
| Overview of Undergraduate Program and Related Career Opportunities | 1 |
| Summary of Undergraduate Requirements | 3 |
| Consumer and Family Economics Option Requirements | 6 |
| Food Marketing Economics Option Requirements | 7 |
| Managerial Economics Option Requirements | 8 |
| Natural Resource Economics Option Requirements | 9 |
| Suggested Sequence of Courses | 10 |
| Undergraduate Course Descriptions | 11 |
| Departmental Honors Program | 16 |
| Search for Employment | 17 |
| Requirements for Undergraduate Minor | 18 |
| Faculty | 21 |

Overview of Undergraduate Programs and Related Career Opportunities

The Department of Resource Economics is an academic unit within the College of Food and Natural Resources of the University of Massachusetts Amherst.

Students in the Department of Resource Economics choose among four options: Consumer and Family Economics, Food Marketing Economics, Managerial Economics in Food and Resource Industries, Natural Resource Economics.

Students in all four options take a common core of 11 courses plus the junior year writing course. Departmental core courses have been selected to provide the basic tools of economic theory and quantitative analysis and a perception of how our economic system works. They also provide a base of understanding on which to build an applied economics specialization. Ten additional courses are required for each option. Departmental option requirements enable students to focus course work on particular career specialties. Some major career opportunities in each option are identified below. Although most Department graduates accept jobs upon graduation, a substantial number continue their education in graduate school. Students who are considering going to graduate school in any field of economics should supplement Departmental requirements with additional math courses. Consult with your advisor and note section IIC below on additional recommended courses.

Career Opportunities

Consumer and Family Economics

The Consumer and Family Economics Option focuses on the economic needs and functions of individuals and families. Students are prepared to mediate between the consumer and various financial and business institutions as financial counselors and consumer affairs specialists. This option also provides students with a strong foundation in social and behavioral sciences that will prepare them for careers in the areas of family financial management and consumer policy. Graduates may also become Certified Financial Planners.

Food Marketing Economics

Food marketing employs more people than any other single industry in the nation. There are opportunities for careers in the procurement, processing, packaging, advertising, and retail merchandising of food. This expanding industry is becoming dependent upon professional management.

The food marketing economics program provides students with a basic knowledge of economics, marketing and business management and the skills required to apply that knowledge to food marketing situations. Career opportunities include sales, managerial and research positions with consulting firms, food manufacturers, food brokers, food wholesalers, food retailers and trade associations. There are also opportunities with government, research and regulatory agencies serving the public.

Managerial Economics in Food and Resource Industries

The managerial economics option is intended for students who seek training in applied economics and quantitative methods for use in business decision making. Students acquire skills in linear programming, econometrics, forecasting, production economics and market demand analysis. Computer applications are emphasized. Microeconomic models and case studies drawn from the natural resources and food distribution systems are used to demonstrate how the decision maker can operate effectively within a complex economy consisting of millions of businesses and thousands of markets. The influence of government and trade regulations and the role of risk and uncertainty receive special attention.

Career opportunities include research, planning, marketing and managerial positions in a wide range of firms, especially in food and natural resource related industries. Typical job activities include: management, environmental consulting, energy demand analysis, market research, financial analysis and strategic planning.

Natural Resource Economics

The natural resource economics option prepares students to assist in making public and private decisions about environmental and natural resource issues. Increasing population and income are multiplying pressures on our land, water, atmosphere, energy and other natural resources, making allocation, management, and protection decisions top priorities. With increasing public support and governmental involvement and a growing private environmental industry, the 1990's can be considered the decade of the environment.

The fundamental resource problem is how the decisions of one individual or group affects others, often adversely. Students study the problems and possible solutions in such areas as water quality and supply, air quality, land use, pesticide and other hazardous material policy, solid waste disposal, and fishery, forest and wildlife management. The training provides for careers in research, planning, education and administration. Employers could be federal, state, or community governments, consulting firms, or other private business firms.

Summary of Undergraduate Requirements

I. University Requirements

A. University Graduation Requirements

1. 120 graduation credits.
2. Minimum cumulative average of 2.0.
3. Completion of General Education requirements as described below.
4. Completion of college requirements. The College of Natural Resources and the Environment has no college-wide graduation requirements.
5. Completion of the requirements of a major. RES-ECON major requirements are detailed below.

B. University General Education.

The General Education Requirements consist of courses with General Education designations in the following curriculum areas.

Writing – The Freshman Writing requirement is satisfied by College Writing (CW) taken during the freshman year or by exemption from the requirement through the Placement Exam, SAT/Achievement test scores, or Advanced Placement test score. The Junior Year Writing requirement (which does not carry a General Education designation) is part of the requirements for each student's major.

Six Social World Courses – Students are required to take two courses in the Arts (AT or AL), one of which must be in Literature (AL); one course in Historical Studies (HS); two courses in the Social and Behavioral Sciences (SB); and one additional course (beyond these requirements), which may be in any of the areas within the Social World (AL, AT, HS, or SB), or an Interdisciplinary (I) course.

Social and Cultural Diversity – Students must take two Diversity courses. One must focus on Global Diversity (designated G) and the other a U.S. Diversity (designated U). (This applies to all freshman starting Fall 2002 and all other students thereafter; continuing students can take any combination of G and U courses, provided they total to two courses.)

Three Biological and Physical World courses – This requires at least one course in each of the Biological Sciences (BS) and Physical Sciences (PS). The third course may be either BS or PS.

Basic Math Skills (Tier I) – A student may be exempted from the Basic Math Skills requirement by achieving a sufficiently high score on the Mathematics Placement Exam or the Basic Math Skills (Tier I) Exemption Exam. Students not exempted by examination or transferable credit must take one Basic Math Skills (R1) course.

Analytic Reasoning (Tier II) – This requirement is fulfilled by completion of one Analytic Reasoning (R2) course.

Interdisciplinary courses – A student may substitute up to three interdisciplinary courses (I) for some General Education requirements, except for CW, R1, and R2. Up to three ‘I’ courses may be substituted in the other areas, subject to the restriction that all students must take at least one course in each of AL, HS, SB, BS, and PS. An ‘I’ course which as a Social and Cultural Diversity designation (ID) may also be used to fulfill a Diversity component.

IMPORTANT RESTRICTIONS CONCERNING GENERAL EDUCATION COURSES:

1. Only one course in the student’s major department may be counted toward satisfaction of the following General Education requirements: AL, AT, HS, SB, BS, PS, or R2. If the student uses one course in the department to fulfill one of these requirements, and that course does not have a Diversity designation (is not designated as ALD, ATD, HSD, SBD, or ID), the student may use a second course in the major department to fulfill one of the two Diversity requirements. However, the second departmental course may not fulfill any other requirement, such as the SB requirement. At least one Diversity requirement must be fulfilled outside the major department.
2. A General Education requirement will NOT be fulfilled by a course for which a “pass” grade (P) is recorded. If you have taken a General Education course on a pass/fail basis, and a P is recorded on your transcript, you need the permission of your Dean to have the P changed to a letter grade. Forms for this are available from the Undergraduate Deans. If you receive your Dean’s permission and have the P changed to a letter grade, the course will then count toward fulfilling your General Education requirements.

II. RES-ECON Departmental Requirements

A. RES-ECON Departmental Core Requirements – required by all options (11 courses plus the junior year writing course).

1. RES-ECON 102, Introduction to Resource Economics. ECON 103 may be substituted.
2. An introductory course in the department other than the requirement of the student’s option (see next pages). Introductory courses are RES-ECON 121 Hunger in a Global Economy, RES-ECON 140 Managing Your Own Business, RES-ECON 162 The Consumer in Our Society, RES-ECON 241 Introduction to Food Marketing Economics, RES-ECON 262 Environmental Economics, and RES-ECON 263 Natural Resource Economics.
3. RES-ECON 112, Computing – Foundations to Frontiers.
4. RES-ECON 211 or 212 Introductory Statistics for the Life Sciences, or Social Sciences STATISTC 140 may be substituted.
5. One Calculus course – either MATH 127 Calculus for the Life and Social Sciences or MATH 131 Calculus I.
6. ECON 104 Introduction to Macroeconomics.
7. ECON 204 Intermediate Macroeconomic Theory.
8. RES-ECON 305 Price Theory (Intermediate Microeconomics). ECON 203 may be substituted.
9. RES-ECON 312 Introductory Econometrics.
10. RES-ECON 313 Quantitative Methods in Applied Economics.
11. COMM 260 Public Speaking.
12. SCH-MGMT 310 Management Communications (General Education junior year writing course).

B. RES-ECON Departmental Option Requirements (10 courses). There are four options within the Department of Resource Economics: Consumer and Family Economics, Food Marketing Economics, Managerial Economics in Food and Resource Industries, Natural Resource Economics. Each has its own set of ten specified courses in addition to the departmental core listed above. These requirements are identified on the following pages.

C. Additional Recommended Courses (not requirements)

1. For students considering graduate work the following courses are strongly recommended:
 - a. MATH 128 Calculus (continuation of MATH 127), or MATH 132 Calculus II
 - b. MATH 233 Multivariate Calculus
 - c. MATH 235 Introduction to Linear Algebra
 - d. ECON 152 Mathematical Methods in Economics

D. Other RES-ECON Departmental Requirements

1. Departmental requirements may not be taken pass/fail.
2. The grade point average of all courses taken to satisfy departmental requirements (in parts IIA and IIB above) must be 2.0 or better.
3. The student is responsible for following and completing department requirements.
4. Any exception to Departmental requirements must be approved by the Academic Advisor and Undergraduate Program Director and a waiver form must be completed and filed in the student's academic folder.

III. Summary of Graduation Requirements for a Student Majoring in RES-ECON

| | |
|---------------------------------|-------------------|
| 1. University Requirements | 36 Credits |
| 2. Department Requirements | |
| a) Department Core | 33 |
| b) Junior Year Writing Course | 3* |
| c) Option Requirements | 30 |
| Total Department Requirements | 66 |
| 3. Free Electives | 18** |
| Total Graduation Credits | 120 |

* The Junior Year Writing course, shown as a department requirement, is also a University General Education requirement. Thus, in reality the University requires 39 credits.

**The number of free elective credits will usually be greater than 18 because some departmental requirements may also be counted toward University General Education requirements. These include MATH 127 or 131 (R2), ECON 104 (SB), and one department course: either RES-ECON 102 (SB) or 121 (SBD) or 211/212 (R2) or 262 (SB) or 263 (SB). (RES-ECON 121 may also be used additionally to fulfill a General Education Diversity requirement.) Typically, then, the number of free electives would be 29.

Consumer and Family Economics Option Requirements

1. Students in this option take the following four courses and six courses selected from the list below in addition to the 10 departmental core courses.

| | |
|--------------|--|
| RES-ECON 162 | The Consumer in Our Society |
| RES-ECON 360 | Personal and Family Finance |
| RES-ECON 460 | Family Economics |
| RES-ECON 470 | Family Economic Policy: Issues and Implication |

2. Select six additional courses from the following course list. Other courses not on this list may be substituted with the approval of the advisor. Note: Prerequisites may be required in some cases. Students can refine their area of specialization by selecting all or most of these six courses according to the groups below:

For students who want to focus on Family Economics and Policy:

| | |
|--------------|--|
| RES-ECON 350 | Family Economics Issues Through the Life Cycle |
| RES-ECON 428 | Managerial Economics |
| SOCIOL 222 | The Family |
| SOCIOL 327 | Social Change |
| SOCIOL 341 | Social Welfare |
| ECON 341 | Labor Economics |
| ECON 348 | Political Economy of Women |
| POLISCI 280 | Public Policy |
| POLISCI 385 | Comparative Public Policy |

For students who want to focus on Family Financial Management.

| | |
|--------------|---|
| RES-ECON 324 | Small Business Finance |
| RES-ECON 350 | Family Economic Issues Through the Life Cycle |
| RES-ECON 466 | Family Financial Analysis |
| ECON 313 | Public Finance |
| ACCOUNTG 221 | Introduction to Accounting |
| FINOPMGT 301 | Corporation Finance |
| FINOPMGT 310 | Capital Markets and Institutions |
| FINOPMGT 320 | Investments |
| FINOPMGT 330 | Corporate Risk Management |

For students who want to focus on Consumer Economics

| | |
|--------------|---|
| RES-ECON 343 | Food Merchandising |
| RES-ECON 362 | Consumer Protection and Legislation |
| RES-ECON 452 | Industrial Organization |
| RES-ECON 453 | Public Policy Affecting the Food Industry |
| ECON 308 | Political Economy of the Environment |
| ECON 311 | Money and Banking |
| POLISCI 280 | Public Policy |
| MARKETNG 301 | Fundamentals of Marketing |
| MARKETNG 410 | Consumer Behavior |

3. Internship: An internship is required. (9-12 credits)

Food Marketing Economics Option Requirements

1. Students in this option take the following six courses and four courses selected from the list below in addition to the 10 departmental core courses.

| | |
|--------------|---|
| RES-ECON 241 | Introduction to Food Marketing Economics |
| RES-ECON 343 | Food Merchandising |
| RES-ECON 452 | Industrial Organization in Resource Economics |
| RES-ECON 453 | Public Policy in Private Markets |
| MANAGMNT 301 | Principles of Management |
| MARKETNG 301 | Fundamentals of Marketing |

2. Select four courses from the following list. Students may wish to organize their choices to complete a career emphasis. The following guide shows possible career emphases and the letter used to identify appropriate courses for each. Students who are not specializing choose any four courses with the approval of their advisor. Other courses may be substituted with the approval of the advisor.

| | | |
|--------------------|-----------------------|------------------|
| A. Management | C. Marketing | E. Public Policy |
| B. Labor Relations | D. Marketing Research | |

School of Management Courses

| | | |
|-------|--------------|---------------------------------------|
| (A,C) | ACCOUNTG 221 | Introduction to Accounting I |
| (A,C) | ACCOUNTG 222 | Introduction to Accounting II |
| (A) | FINOPMGT 301 | Corporation Finance (or RES-ECON 324) |
| (A,E) | MANAGMNT 260 | Introduction to Law |
| (A,B) | MANAGMNT 314 | Human Resource Management |
| (A) | MANAGMNT 330 | Organizational Behavior |
| (A) | MANAGMNT 365 | Business and Its Environment |
| (B) | MANAGMNT 444 | Management – Union Relations |
| (C,D) | MARKETNG 410 | Consumer Behavior |
| (C,D) | MARKETNG 412 | Marketing Research |
| (D) | MARKETNG 421 | Product Strategy |
| (C,D) | MARKETNG 422 | Promotional Strategy |
| (C) | MARKETNG 425 | Sales and Distribution Strategy |
| (C) | MARKETNG 437 | International Marketing |
| (A,C) | MARKETNG 441 | Marketing Management |

Social Science Courses

| | | |
|---------|-------------|-------------------------------|
| (C) | ECON 322 | International Trade |
| (B) | ECON 330 | Labor in the American Economy |
| (B) | ECON 341 | Labor Economics |
| (E) | POLISCI 280 | Public Policy |
| (C) | SOCIOL 327 | Social Change |
| (A,B,E) | SOCIOL 386 | Complex Organizations |

Food and Natural Resources Courses

| | | |
|-----------|--------------|--|
| (A) | RES-ECON 324 | Small Business Finance (or FINOPMGT 301) |
| (A,E) | RES-ECON 428 | Managerial Economics in Food and Resource Industries |
| (C,D) | RES-ECON 462 | Experimental Economics |
| (A,B,C,D) | FOOD-SCI 265 | Survey of Food Science |

Managerial Economics in Food and Resource Industries Option Requirements

1. Students in this option take the following six courses, and four courses selected from the list below in addition to the 10 departmental core courses.

| | |
|--------------|--|
| RES-ECON 324 | Small Business Finance (or FINOPMGT 301 Corporation Finance) |
| RES-ECON 428 | Managerial Economics in Food and Resource Industries |
| RES-ECON 452 | Industrial Organization in Resource Economics |
| RES-ECON 453 | Public Policy in Private Markets |
| ACCOUNTG 221 | Introduction to Accounting I |
| MANAGMNT 301 | Principles of Management |

2. Select four courses from the following course list. Other courses not on this list may be substituted with the approval of the advisor.

RES-ECON Courses

| | |
|--------------|--|
| RES-ECON 343 | Food Merchandising |
| RES-ECON 462 | Experimental Economics |
| RES-ECON 471 | Benefit-Cost Analysis of Natural Resource Programs |

SCH-MGMT Courses

| | |
|--------------|----------------------------------|
| ACCOUNTG 222 | Introduction to Accounting II |
| FINOPMGT 310 | Capital Markets and Institutions |
| MANAGMNT 314 | Human Resource Management |
| MANAGMNT 444 | Management-Union Relations |
| MARKETNG 301 | Fundamentals of Marketing |
| MARKETNG 410 | Consumer Behavior |
| MARKETNG 412 | Marketing Research |
| MARKETNG 425 | Sales and Distribution Strategy |
| MARKETNG 441 | Marketing Management |

Economics Courses

| | |
|----------|-------------------------------|
| ECON 311 | Money and Banking |
| ECON 321 | International Monetary Theory |
| ECON 322 | International Trade |
| ECON 330 | Labor in the American Economy |
| ECON 341 | Labor Economics |

Other Courses

| | |
|------------|-----------------------|
| SOCIOL 327 | Social Change |
| SOCIOL 386 | Complex Organizations |

Natural Resource Economics Option Requirements

1. Students in this option take the following five required courses plus five from those listed below in addition to the 10 departmental core courses.

| | |
|--------------|---|
| RES-ECON 262 | Environmental Economics |
| RES-ECON 263 | Natural Resource Economics |
| RES-ECON 471 | Benefit-Cost Analysis of Natural Resource Programs |
| RES-ECON 472 | Advanced Topics in Resource and Environmental Economics |
| One of: | ENVIRSCI 213 Introduction to Environmental Policy or POLISCI 382 Environmental Policy |

2. Select five additional electives. The following provides some suggestions although other courses may be chosen with approval of the advisor. Students who wish to organize their choices to complete a career emphasis should consult with their advisor to identify the appropriate courses.

Physical and Biological Science

| | |
|--|--|
| BIOLOGY 524 | Coastal Plant Ecology |
| ENVIRSCI 214 | Principals of Environmental Biology |
| ENVIRSCI 315 | Principals of Environmental Toxicology and Chemistry |
| <i>Other 300 – 500 level Environmental Science Courses</i> | |
| GEO-SCI 285 | Environmental Geology |
| GEO-SCI 485 | Applied Environmental Geology |
| ENV-HLTH 562 | Air Quality Assessment |

Forestry and Wildlife

| | |
|--------------|-----------------------------------|
| FOREST 540 | Forest Resources Management |
| FOREST 577 | Ecosystem Modeling and Simulation |
| W&FCONSV 261 | Wildlife Conservation |
| W&FCONSV 564 | Wildlife Habitat Management |
| W&FCONSV 571 | Fisheries Science and Management |
| W&FCONSV 577 | Ecosystem Modeling and Simulation |

Public Policy and Business

| | |
|--------------|--|
| ECON 308 | Political Economy of the Environment |
| ECON 313 | Public Finance |
| ENVIRDES 547 | Theory: Natural and Cultural Factors |
| ENVIRDES 577 | Urban Policies |
| GEO-SCI 362 | Land Use and Society |
| GEO-SCI 370 | Urban Geography |
| HISTORY 383 | American Environmental History |
| NRC 382 | Human Dimensions of Natural Resource Management |
| NRC 409 | Natural Resources Policy and Administration |
| NRC 549 | Ecosystem Management |
| POLISCI 382 | Environmental Policy |
| ENV-HLTH 567 | Environmental Compliance Regulations |
| REGIONPL 553 | Resource Policy and Planning |
| REGIONPL 558 | Issues in Environmental Management |
| REGIONPL 575 | Planning Law and Resource Management |
| RES-ECON 428 | Managerial Economics in Food and Resource Industries |
| RES-ECON 452 | Industrial Organization in Resource Economics |
| RES-ECON 453 | Public Policy in Private Markets |
| RES-ECON 462 | Experimental Economics |

Suggested Sequence of Courses

Note Gen Ed = General Education Course

| <i>Fall Semester</i> | <i>Credit</i> | <i>Spring Semester</i> | <i>Credit</i> |
|---|---------------|---|---------------|
| Freshman Year | | | |
| English Writing 111, 112, 113 | 3 | ECON 104 Macroeconomics Gen Ed | |
| Gen Ed | 3 | (Social World) | 3 |
| Gen Ed | 3 | Gen Ed | 3 |
| Gen Ed (Basic Math Skills Tier 1) ¹ | 3 | Gen Ed | 3 |
| RES-ECON 102 Intro. Resource Econ. ² | 3 | RES-ECON (100 or 200 level) ³ | 3 |
| | | MATH 127 or 131 (Gen Ed Analytic Reasoning Tier II) | 3 |
| Total | 15 | Total | 15 |
| Sophomore Year | | | |
| Gen Ed | 3 | ECON 204 Intermediate Macroeconomics | 3 |
| RES-ECON 305 Price Theory | 3 | Gen Ed | 3 |
| RES-ECON (100 or 200 level) ³ | 3 | Option requirement in RES-ECON | 3 |
| RES-ECON 211/212 Introductory Statistics | 3 | Option requirement in RES-ECON | 3 |
| Free Elective | 3 | Free Elective | 3 |
| Total | 15 | Total | 15 |
| Junior Year | | | |
| SCH-MGMT 310D Junior Year Writing | 3 | RES-ECON 312 Econometrics | 3 |
| Gen Ed (Social World) | 3 | COMM 260 Public Speaking or COMM | |
| RES-ECON 313 Quantitative Methods | 3 | 263 or COMM 352 | 3 |
| Option requirement in RES-ECON | 3 | Option requirement in RES-ECON | 3 |
| Free Elective | 3 | Option requirement in RES-ECON | 3 |
| Total | 15 | Free Elective | 3 |
| | | Total | 15 |
| Senior Year | | | |
| Option requirement in RES-ECON | 3 | Option requirement in RES-ECON | 3 |
| Option requirement in RES-ECON | 3 | Option requirement in RES-ECON | 3 |
| Option requirement in RES-ECON | 3 | Free Elective | 3 |
| Free Elective | 3 | Free Elective | 3 |
| Free Elective | 3 | Free Elective | 3 |
| Total | 15 | Total | 15 |

^{1.} Students who pass the Mathematics Placement Exam or Basic Math Skills Tier I Exemption Exam do not need to take a Basic Math Skills course. They may take calculus in the first semester and gain another free elective.

^{2.} Only one RES-ECON General Education course can be counted toward Gen Ed requirements (other than the diversity requirement) by students graduating as a major in Resource Economics. RES-ECON 102 is counted as this one course in the above plan. Other RES-ECON courses which could be counted toward Gen Ed requirements are 121, 211/212, 262 and 263. RES-ECON 121 is a diversity course.

^{3.} Each option requires one or two courses at this level. The department also requires one course at this level other than the option requirement.

Undergraduate Course Descriptions

102 Introduction to Resource Economics (SB) (both semesters)

Stevens, 216 Stockbridge, Morzuch, 213 Stockbridge

Microeconomic theory for majors and non-majors. Concepts of supply, demand, markets, natural resource management, economic policy. Applications to business and government decision-making emphasized.

112 Computing: Foundations to Frontiers (both semesters)

Caffery, 220B Stockbridge

Hands-on lab environment to develop proficiency with information technology tools and concepts. Needs assessment and systems analysis; relational database applications; Web research and site development; on-line surveys and server-side processing of data; data manipulation and analysis with spread sheets and statistical software; presentation via paper, Web, and electronic slide shows.

121 Hunger in a Global Economy (SBG) (1st semester)

Caswell, 215 Stockbridge

The causes of hunger (chronic undernutrition) from an economic perspective. Focus on how population growth and economic development are increasing demand for food and on the prospects for food production to supply those needs at affordable prices, while sustaining the environment. Discussion in the context of the global economy in which increased trade links even the poorest urban and rural residents in developing countries to market forces.

140 Managing Your Own Business (2nd semester)

Allen, 220B Stockbridge

Understanding the issues and challenges of running a small business and how to deal with them. The jobs of the manager: planning, organizing and monitoring. Marketing, production, financial and personnel management.

142 People in Organizations (2nd semester)

Basic principles of organizational operation and personnel management with emphasis on human behavior.

162 The Consumer in Our Society (1st semester)

Mammen, 300 Stockbridge

An introduction to Consumer Economics including an examination of a breadth of consumer problems and issues. Focus on the identification of the consumer interest, advertising, fraud, credit, consumer rights and responsibilities, and legal protection available to consumers.

211 Introductory Statistics for the Life Sciences (R2) (both semesters)

Morzuch, 213 Stockbridge; Rogers, 218 Stockbridge

Designed for students in: ANIMLSCI, ENVIRSCI, FOREST, CIVIL-EN, NRC, PLNTSOIL, RES-ECON, W&FCONSV, and related majors. Introduction to basic statistical methods used to collect, summarize, and analyze numerical data. Emphasis on application to decision making; examples from the biological sciences. Topics include: common statistical notation, elementary probability theory, sampling, descriptive statistics, statistical estimation and hypothesis testing, and an introduction to analysis of variance. Basic algebra necessary.

212 Introductory Statistics for the Social Sciences (R2) (both semesters)**Lecture 1**

Lass, 211 Stockbridge; Brandt, 212G Stockbridge

Designed for students in: APPMKT, CAS, ECON, HRTA, RES-ECON, and related majors. Introduction to basic statistical methods used to collect, summarize, and analyze numerical data. Emphasis on application to decision making; examples from the social sciences. Topics include: common statistical notation, elementary probability theory, sampling, descriptive statistics, statistical estimation and hypothesis testing. Basic algebra necessary.

212 Introductory Statistics for the Social Sciences (R2) (both semesters)**Lecture 2**

Rogers, 218 Stockbridge

Designed for students in: SCHOOL OF MANAGEMENT. Introduction to basic statistical methods used to collect, summarize, and analyze numerical data. Emphasis on application to decision making; examples and applications from the business. Topics include: common statistical notation, elementary probability theory, sampling, descriptive statistics, statistical estimation and hypothesis testing. Basic algebra necessary and familiarity with accessing information via the Internet.

241 Introduction to Food Marketing Economics (2nd semester)

Rogers, 218 Stockbridge

The role of economic markets in coordinating economic activity through the vertical system that connects consumers with the producers who supply the goods and services to satisfy their needs, wants, and whims. The agencies, functions, and practices involved in the movement of agricultural products from producer to consumer: characteristics of the production, processing and distribution of agricultural commodities; important changes in food consumption and current issues in food marketing. Prerequisite: RES-ECON 102 or ECON 103.

262 Environmental Economics (SB) (2nd semester)

Field, 212F Stockbridge

Economics of environmental issues stemming from land, energy, and water use. Emphasis on economic implications of alternative environmental policies including current legislation for the private and public sectors of the economy.

263 Natural Resource Economics (SB) (1st semester)

Field, 212F Stockbridge

Economics analyses of energy, water, the conservation of natural resources, recycling, and the management of land, forest, and mineral resources.

305 Price Theory (1st semester)

Lavoie, 212D Stockbridge

Intermediate level microeconomic theory. Consumer demand theory and economics of production. Geometric and mathematical approaches. Models of market behavior, related to example situations. Applications to business and government decision-making emphasized. Required theory course for more advanced departmental offerings. Prerequisites: MATH 127 or RES-ECON 102.

310D SCH-MGMT

This course satisfies the Junior Year Writing requirement for students in Hotel, Restaurant and Travel Administration; Resource Economics and Sport Management. The emphasis is on developing students' skills in critical thinking, writing, and effective communication. Prerequisite: English 112.

312 Introductory Econometrics (2nd semester)

Lass, 211 Stockbridge

Basic concepts in econometric methods: estimation of linear economic models and introduction to problems that arise. Application of methods to real world data; emphasis is on application through use of econometric software and microcomputers. Students undertake research projects. Prerequisites: RES-ECON 211/212 or equivalent, MATH 127.

313 Quantitative Methods in Applied Economics (1st semester)

Moffitt, 212B Stockbridge

Introduction to contemporary quantitative methods as applied to production, marketing and resource management problems in both private and public settings. Topics include: linear programming and decision making under uncertainty. Prerequisite: RES-ECON 211/212 or equivalent.

324 Small Business Finance (2nd semester)

Allen, 220B Stockbridge

Focus on the planning function of financial management: capital budgeting (long term), proforma accounting statements and financial ratio analysis (intermediate term), and cash flow management (short term). Business plan project.

340 Ethics and the Consumer

An analysis of ethical decision-making by consumers and management of private and public institutions and its impact. Focus on how responsible decisions are made in an interdependent global economy.

343 Food Merchandising (1st semester)

Caswell, 215 Stockbridge

Explores the development and implementation of merchandising strategies by food processors, wholesalers and retailers. Analysis of consumer demand for food, processors' branding and promotional strategies, and retail store formats. Emphasis on industry use of information technology, food distribution channels, mechanics of merchandising (buying, pricing, and display), and future trends. Homework stresses application. Prerequisite: RES-ECON 102 or ECON 103.

350 Family Economic Issues Through the Life Course

Mammen, 300 Stockbridge

An examination of the dynamics of economic decisions and behaviors of individuals and families as influenced by the demographic, social, and psychological changes of their needs throughout the life course.

360 Personal and Family Finance (1st semester)

Alhabeeb, 212A Stockbridge

Economic analysis of the financial issues facing individuals and families. Topics include budgeting and cash management, credit, insurance, taxes, investment, retirement, and estate planning. Prerequisites: RES-ECON 102 or ECON 103, MATH 127 or consent of instructor.

362 Consumer Protection and Legislation (2nd semester)*Mammen, 300 Stockbridge*

Basic issues in seller-consumer relationship. Analysis of consumer legislation; its economic and social impact.

390A Economics of Contemporary Information Technology (2nd semester)*Field, 212F Stockbridge*

Economic analysis of the role that information plays in the economy, and study of the contemporary problems in information production, distribution and consumption that stem from the widespread adoption of new information technologies. Will address both macro and micro implications of IT, and both efficiency and equity concerns at the local, national and international levels.

428 Managerial Economics in Food and Resource Industries (2nd semester)*Moffitt, 212B Stockbridge*

Application of economics, statistics, and computers to the decision-making process. Topics include: production economics, demand analysis, business forecasting, cost analysis, and pricing and promotional strategies. Prerequisites: accounting or finance, econometrics, intermediate microeconomics, and quantitative methods, or consent of instructor.

452 Industrial Organization in Resource Economics (1st semester)*Lavoie, 212D Stockbridge*

Market structure models with application to the food system, especially food processing, retailing, and service, and to natural resource industries. Firm behavioral strategies under various market structures. The role of advertising in the food system, and other issues related to consumer demand (e.g., green marketing). Market performance including prices, costs, profits, labor issues, and progressiveness. Other topics include market power, mergers, barriers to entry, pricing methods, coupons and new products. Prerequisite: RES-ECON 305 or ECON 203.

453 Public Policy in Private Markets (2nd semester)*Caswell, 215 Stockbridge*

Rationale and structure of public policies that affect the operation of private markets in the U.S., with special emphasis on consumer goods industries. Focus on antitrust and competition policies (e.g., those covering collusive restraints of trade, monopolization, and mergers) and on policies that affect product quality and information (e.g., product standards, regulation of advertising and labeling). Prerequisite: RES-ECON 452 or consent of instructor.

460 Family in Economic Systems (2nd semester)*Alhabeeb, 212A Stockbridge*

Microeconomic analysis of the household decision-making and its activities. Topics include allocation of time, household production, sexual division of labor, investment in human capital, economics of fertility, marriage, and divorce. Prerequisites: RES-ECON 305, 350, ECON 203 or consent of instructor.

462 Experimental Economics (2nd semester)*Murphy, 219A Stockbridge*

Laboratory experimental studies of economic behavior; development of techniques of experimentation with application to monopoly, bilateral bargaining, and competitive markets under various exchange rules; public goods and common-pool resources. Prerequisites: RES-ECON 102 or equivalent.

466 Family Financial Analysis*Alhabeeb, 212A Stockbridge*

Analysis of families' use of financial resources to achieve economic well-being. Topics includes credit problems, investments, debt, financial counseling, and financial planning. Prerequisite: RES-ECON 360.

470 Family Economic Policy: Issues and Implications (1st semester)*Mammen, 300 Stockbridge*

Analysis of public programs that affect economic well-being of families. Topics include poverty and measures of economic welfare, housing, health, taxes, transfer payments; underlying philosophies and policy alternatives.

471 Benefit-Cost Analysis of Natural Resource Programs (2nd semester)*Stevens, 216 Stockbridge*

Theoretical foundations and practical procedures of benefit-cost analysis as applied to public natural resources and environmental projects, programs and regulations. Critical discussion of strengths and weaknesses of this tool. Topics from water resources, land use, outdoor recreation, air quality, coastal zone management, and other natural resources and environmental areas. Prerequisite: RES-ECON 305 or ECON 203.

472 Advanced Topics in Resource and Environmental Economics*Stranlund, 214 Stockbridge*

Topics may include: the design of environmental and natural resource policies, particularly incentive-based policies; the analysis and control of environmental risks; cost-benefit analyses of specific environmental policies; critiques of cost-benefit analysis, international environmental cooperation; environmental and natural resource policy in the developing world; sustainability, and the conservation of biodiversity. Prerequisite: RES-ECON 305 or ECON 203

496M (Food Marketing, Managerial); 496R (Natural Resources), Independent Study

These Independent Study courses are available to students who wish to pursue a particular topic in depth. They generally take the form of a reading course with weekly one-on-one discussions with the professor about the reading, a research experience with completion of a written mini-thesis report involving regular consultation with the professor or a combination of these two formats. Other formats are possible with the approval of the professor selected by the student to direct the course. They do not count toward any departmental requirements.

298Y, 398Y, 498Y Practicum

Under the University Internship Program students may work in a professional environment and earn academic credit. The program integrates practical professional experience with the student's prior and future course of study. Eligible students, working with a faculty sponsor, can earn up to 15 credits for a full semester internship. Typically, a student in a full-semester internship would register for 9 credits of 298Y Practicum (mandatory pass-fail) for the field experience, and 6 credits of 498Y Practicum (either pass-fail or letter graded) for the associated paper. See Julie Caswell (in 215 Stockbridge) or Barry Field (in 212F Stockbridge), departmental Internship Coordinators for more details about the program.

Departmental Honors Program

The Departmental honors program is intended to provide learning opportunities on a more advanced scale for motivated students and to give formal recognition to students who produce exceptionally high quality work. While *cum laude* is awarded automatically for an overall grade point average of 3.2 or better, in order to graduate *summa cum laude* or *magna cum laude*, students must satisfy three types of requirements.

1. attainment of a minimum grade point average (see below)
2. satisfactory completion of a Senior Honors Thesis or Project
3. completion of four honors courses

The requirements are briefly summarized below; additional details may be obtained from the departmental Honors Coordinator.

Admission to Departmental Honors:

1. You must have an overall cum of at least 3.2
2. You must have completed at least one Honors course with a grade of B or better and with a positive evaluation from the professor.
3. You will need a satisfactory interview with the Department Honors Coordinator.
4. You will need to submit a Change of Major form (RES-ECON – DH or RES-ECON – HR) to the University Honors Office.

Minimum Grade Point Averages

Students must attain the following minimum grade point averages :

| | |
|-----------------|-----|
| Magna Cum Laude | 3.5 |
| Summa Cum Laude | 3.8 |

Senior Honors Thesis or Project

The senior honors thesis or project must be completed in accordance with the procedures established by the University Honors Council. The grade on the thesis or project must be at least an AB. Normally, a student will register for 3 credits of RES-ECON 499Y (Honors Research) in one semester and for 3 credits of RES-ECON 499T (Honors Thesis) or 499P (Honors Project) in the following semester. Six credits must be earned in 499Y plus 499T or 499Y plus 499P. Normally a Y grade (work in progress) is submitted for 499Y; then at the completion of 499T or 499P a letter grade is assigned to both 499Y and 499T or 499P.

Honors Courses

Students must complete a minimum of four honors courses of which at least three must be departmental honors courses. At least one of the three departmental courses must be numbered 300 or above. At the most, one of the three courses may be an independent study course (either a 1 credit honors independent study taken in conjunction with a regular 3 credit department course or a 3 credit honors independent study may be taken as a departmental independent study honors course). Each semester, there will be a list of departmental courses which may be taken as honors courses. Also, departmental 700-level graduate courses may also be taken to satisfy the honors course requirement. A minimum grade of B must be received in all courses.

Honors Coordinator

Bernard Morzuch, 213 Stockbridge

Searching for Employment

The University and the Department can be helpful to you in finding employment opportunities and in taking full advantage of the opportunities you discover. Nonetheless, much of the responsibility rests with the individual student. As an individual you must take the initiative to act on this information and these opportunities. Establish a relationship with the Campus Career Network during your sophomore or junior year. Build a network of contacts and use creative methods to identify additional opportunities. Active participation in the Department's Undergraduate Club will prove helpful.

University Placement Assistance

The greatest amount of employment assistance available through the University is that offered by the Career Network. To learn of the assistance available there and establish your credentials file, you should visit the Center well in advance of graduation, certainly during your Junior year. To keep informed of events/programs offered, maintain contact with the Center, watch the Collegian regularly for announcements, and also, the 2nd floor Stockbridge Hall employment bulletin board. Assistance offered by the Center includes:

- Employer interviews – Fall and Spring
- Job bank – for position announcements received by telephone or mail
- Computerized job-applicant matching system
- Employment information library; including directories of prospective employers
- Workshops on resume and cover letter preparation, interviewing techniques and strategies, etc.
- Video-taping and critique of practice interviews
- Interest/occupation matching test – to aid in identifying potentially rewarding/satisfying careers
- Sponsorship of co-op or internship fairs each semester, alumni career nights, etc.

Department Assistance

The CFNR Career Services Office, part of the Campus Career Network, is dedicated to the specific needs of students in the College of Food & Natural Resources. This office is located in Stockbridge Hall, staffed by Ginger Goldsbury, Assistant Director of Career Planning. To learn of the assistance available through the Campus Career Network visit their website at www-ccn.acad.umass.edu and/or visit the office in Stockbridge Hall.

Assistance offered by the Campus Career Network includes:

- Self-assessment and career exploration
- Pre-graduation professional level work experience through coops or internship opportunities available through Field Experience placement.
- On-campus interviews
- Electronic resume referral to employers not interviewing on campus
- Workshops for resume and cover letter preparation, professional presentation techniques, and job-search strategies.
- Individual career/job search counseling appointments, including mock interviews
- Sponsorship of numerous major fairs, including Graduate and Professional School Information Day each October, and campus-wide career and co-op job fairs.

Self Help

Most students can be quite resourceful. Searching for employment opportunities is an occasion where you can help yourself considerably. Developing a network of contacts and information is one very useful step you can take for yourself. Contacts can be developed by attending events such as meetings and conferences, involving persons from the industry or occupational area of greatest interest to you. They can also be made through part-time jobs, guest speakers or seminars at school career or internship fairs, or through friends, acquaintances, and alumni in the field. In addition, opportunities to make use of resumes may occur at any time. Be sure that you are prepared.

Who to contact:

Campus Career Network liaisons for Resource Economics: Career Planning and Field Experience: Ginger Goldsbury, 111A Stockbridge Hall; 545.6011; email: ggoldsbury@acad.umass.edu

Requirements for Undergraduate Minor

1. Introductory Calculus: MATH 127 or 131
2. Introductory Statistics: RES-ECON 211/212 or STATIS 111 or STATIS 140
3. Introductory Microeconomics: RES-ECON 102 or ECON 103
4. Four Departmental courses as specified by option
5. A grade point average of 2.0 or better on all courses that count towards the minor; courses may not be taken Pass/Fail

Consumer and Family Economics

Required:

- 162 The Consumer in Our Society
- 360 Personal and Family Finance

Elect Two:

- 350 Family Economic Issues Through the Life Course
- 460 Family Economics
- 466 Family Financial Analysis
- 470 Family Economic Policy: Issues and Implications

Food Marketing Economics Option

Required:

- 241 Introduction to Food Marketing Economics
- 343 Food Merchandising

Elect Two:

- 305 Price Theory (Intermediate Microeconomics) (prerequisites RES-ECON 102, MATH 127)
- 312 Introductory Econometrics (prerequisites RES-ECON 211/212, MATH 127)
- 313 Quantitative Methods in Applied Economics (prerequisite RES-ECON 211/212 or equivalent)
- 452 Industrial Organization in Resource Economics (prerequisite RES-ECON 305)
- 453 Public Policy in Private Markets (prerequisite RES-ECON 452 or consent of instructor) (RES-ECON 452 is recommended)

Managerial Economics Option

Required:

- 428 Managerial Economics in Food and Resource Industries (prerequisite RES-ECON 305 or ECON 203, and quantitative methods)

Elect Three

- 305 Price Theory (Intermediate Microeconomics) (prerequisites RES-ECON 102, MATH 127)
- 312 Introductory Econometrics (prerequisites RES-ECON 211/212, MATH 127)
- 313 Quantitative Methods in Applied Economics (prerequisite RES-ECON 211/212)
- 324 Small Business Finance
- 452 Industrial Organization in Resource Economics (prerequisite RES-ECON 305)
- 453 Public Policy in Private Markets (prerequisite RES-ECON 452 or consent of instructor) (RES-ECON 452 is recommended)
- 471 Benefit-Cost Analysis of Natural Resource Programs (prerequisite RES-ECON 305)

Natural Resource Economics Option*Required:*

262 Environmental Economics or 263 Natural Resource Economics

Elect Three:

263 Natural Resource Economics or 262 Environmental Economics

305 Price Theory (Intermediate Microeconomics) (prerequisites RES-ECON 102, MATH 127)

312 Introductory Econometrics (prerequisites RES-ECON 211/212, MATH 127)

313 Quantitative Methods in Applied Economics (prerequisite RES-ECON 211/212)

471 Benefit-Cost Analysis of Natural Resource Programs (prerequisite RES-ECON 305)

472 Advanced Topics in Resource and Environmental Economics (prerequisites RES-ECON 305 or ECON 203)

NOTES: Transfer credits will be evaluated on an individual basis. No required course may be taken on a pass/fail basis. Independent study and practicum courses will not be counted toward the minor. ECON 203 may be substituted for RES-ECON 305 as a prerequisite for other courses but ECON 203 cannot be counted as one of the four departmental courses students must take under each option. Other equivalent courses from other departments will be evaluated on an individual basis by the minor advisor.

Faculty

| | |
|---|----------|
| P. Geoffrey Allen, Professor and <i>Chair of the Department</i> Production and Managerial Economics 220B Stockbridge Hall..... | 545.5715 |
| Musaddak J. Alhabeeb, Associate Professor Consumer and Family Economics 212A Stockbridge Hall..... | 545.5010 |
| Sylvia Brandt, Assistant Professor Natural Resource Economics and Public Policy 212G Stockbridge Hall..... | 545.5722 |
| Julie A. Caswell, Professor Food Marketing and Managerial Economics 215 Stockbridge Hall..... | 545.5735 |
| Barry C. Field, Professor and <i>Undergraduate Program Director</i> Environmental and Institutional Economics 212F Stockbridge Hall | 545.5709 |
| Daniel A. Lass, Professor Production Economics and Econometrics 211 Stockbridge Hall..... | 545.1501 |
| Nathalie Lavoie, Assistant Professor Industrial Organization 212D Stockbridge Hall..... | 545.5713 |
| Sheila Mammen, Associate Professor Consumer and Family Economics 300 Stockbridge Hall..... | 545.2470 |
| L. Joe Moffitt, Professor Agricultural Production Economics 212B Stockbridge Hall | 545.5719 |
| Bernard J. Morzuch, Professor Production and Managerial Economics 213 Stockbridge Hall..... | 545.5718 |
| James Murphy, Assistant Professor Natural Resource Economics and Public Policy 219A Stockbridge Hall..... | 545.5716 |
| Richard T. Rogers, Professor Food Marketing and Managerial Economics 218 Stockbridge Hall..... | 545.5741 |
| Thomas H. Stevens, Professor Natural Resource Economics 216 Stockbridge Hall..... | 545.5714 |
| John Stranlund, Associate Professor Natural Resource and Environmental Economics 214 Stockbridge Hall..... | 545.6328 |