

SPECIAL REPORT

OF THE

**ACADEMIC MATTERS COUNCIL,
ACADEMIC PRIORITIES AND
PROGRAM AND BUDGET COUNCIL**

concerning

**CREATION OF A DEGREE PROGRAM
BS IN MANAGERIAL ECONOMICS
(#2307)**

Presented at the
782nd Regular Meeting of the Faculty Senate
December 6, 2018

COUNCIL MEMBERSHIP

ACADEMIC MATTERS COUNCIL

Wesley Autio, Carol Barr, Bryan Beck, William Brown, Allison Butler, D. Anthony Butterfield, Marcy Clark, Colleen Coakley, Elizabeth Connor, Hayley Cotter, Morgan Donovan-Hall, Sharon Domier, Wei Fan, Diane Flaherty, Laura Francis, Mark Guerber, Jennifer Heuer, Maeve Howett, *Chair*, Patrick Kelly, Kathryn Lachman, Meredith Lind, Linda Lowry, Roberta Marvin, Eric Moschella, Ruthann Paradise, Sarah Pfatteicher, Jennifer Randall, MJ Peterson, Patrick Sullivan, Jack Wileden, Rebecca Woodland, and Kate Woodmansee

ACADEMIC PRIORITIES COUNCIL

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PROGRAM AND BUDGET COUNCIL

Joseph Bartolomeo, William Brown, D. Anthony Butterfield, Elizabeth Chang, Tanushree Chatterjee, Nancy Cohen, Patricia Galvis y Assmus, Steven Goodwin, Deborah Gould, Mark Guerber, Eddie Hull, Moira Inghilleri, Michael Leto, Andrew Mangels, Ernest May, Lynn McKenna, Moksha Padmaraju, Anthony Paik, *Chair*, MJ Peterson, Alex Phillips, Anurag Sharma, Catrine Tudor-Locke, Lisa Wegiel

ACADEMIC MATTERS COUNCIL

The Academic Matters Council recommends approval of this proposal.

ACADEMIC PRIORITIES COUNCIL

The Council's extended discussion of this proposal included requests for additional information on two points. The department provided this information, elaborating on how the program would broaden participation and completion at the University by students in underrepresented and underserved groups, as well as providing a copy of the Memorandum of Understanding between the Isenberg School and the Resource Economics Department in support of the proposed major. After these materials were received and discussed the Academic Priorities Council voted to recommend approval of this proposal.

PROGRAM AND BUDGET COUNCIL

The Program and Budget Council recommends approval of this proposal.

Briefly describe the Proposal

See attachments.

MOTION: That the Faculty Senate approve the Creation of a New Degree Program: BS in
10-19 Managerial Economics, as presented in Sen. Doc. No. 19-018.

UMass New Academic Program - Submission Template

Replace blue text with requested information

Proposed Degree(s) Title: Bachelor of Science in Managerial Economics

Proposed CIP Code: (provided by campus OIR)

Date of Board of Trustees Vote: (leave blank; AASAIR will fill in)

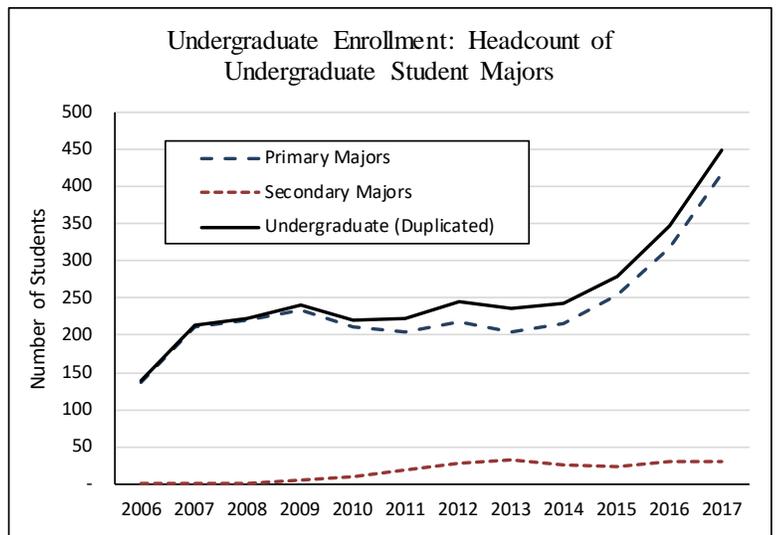
Date Letter of Intent submitted to Commissioner (leave blank; AASAIR will fill in)

A. Alignment with Institution Mission Priorities.

How does the proposed program align with the institution’s mission priorities?

The University’s mission is to provide an affordable and accessible education of high quality and to conduct programs of research and public service that advance knowledge and improve the lives of the people of the Commonwealth, the nation, and the world. The Department of Resource Economics proposal for a *Bachelor of Science in Managerial Economics* will contribute to that mission by providing students a BS degree that is increasingly sought by private and public employers. The BS degrees in Resource Economics emphasize modeling consumer, firm and government choices, and associated markets, applying quantitative methods to analyze those choices, and using analyses to provide important results for decision-making. The Department currently offers a *BS in Resource Economics* and students can choose the managerial economics option within that major. A *BS in Resource Economics* with a managerial economics concentration or option is less informative to potential students and employers. Our graduates will be better served and more competitive in job markets with a *BS in Managerial Economics* – a degree that more accurately portrays their academic credentials and abilities to potential employers.

The number of Resource Economics majors has increased dramatically during the past three years. We saw a dramatic increase around 2005-2006 after which numbers remained rather stable at 200-250 majors. The number of majors increased rapidly between 2014 and 2017, from 243 to 449 majors. During fall semester 2017, we surpassed 525 majors. The managerial economics option of the *BS in Resource Economics* has been offered since 1993 and is the most popular option with more than 86 percent of our current majors.



B. Alignment with System Priorities

1. Will this proposed program address a regional/local/state workforce shortage? Explain.

The program will prepare students for professions that currently see high demand nationally and are projected to have high demand into 2024. Major occupational groups where our graduates have been employed are shown in Table 1. Overall projected growth between 2014 and 2024 for these occupational groups is 7.9 percent. Specific projected growths include management (5.5%), and business and financial operations (8.4%), the two primary occupational groups where our graduates are employed. Other groups (and projected growth) where our graduates have also been employed include: computer and mathematical occupations (13.1%); life, physical, and social science occupations (7.4%); community and social service occupations (10.5%); healthcare support occupations (23%); sales and related occupations (5%); and transportation and material moving occupations (4.8%). In these groups, our graduates typically find analytical and management positions.

Table 1. Employment by major occupational group, 2014 and projected 2024 (Numbers in 1,000)

	Employment		Change		Median Income
	2014	2024	Number	%	
Management	9,157.5	9,662.9	505.4	5.5	\$98,560
Business and financial operations	7,565.3	8,197.8	632.4	8.4	\$65,710
Computer and mathematical	4,068.3	4,599.7	531.4	13.1	\$81,430
Life, physical, and social science	1,310.4	1,408.0	97.6	7.4	\$62,160
Community and social service	2,465.7	2,723.4	257.7	10.5	\$42,010
Healthcare support	4,238.0	5,212.2	974.2	23.0	\$27,040
Sales and related	15,423.1	16,201.1	778.0	5.0	\$25,660
Transportation and material moving	9,748.5	10,215.3	466.8	4.8	\$30,090
Totals	63,207.1	67,168.7	3,961.4	6.3	

⁽¹⁾ Data are from the Occupational Employment Statistics program, U.S. Bureau of Labor Statistics.
 Source: Employment Projections program, U.S. Bureau of Labor Statistics

BLS also projects strong growth for occupations requiring Bachelor’s (12.1%), Master’s (18.4%), and Doctoral or Professional (16.0%) degrees. Our rigorous BS degree prepares students well for post baccalaureate degree programs. These graduates would then be well prepared to complete Master’s degrees in economics (or resource economics), mathematics, or statistics. At the Master’s level, the growth in economist positions is projected at 10 to 19% by 2022. Related fields like mathematics and statistics are projected to grow at 20 to 29% by 2022.

2. For undergraduate programs only - With what, if any, other institutions have articulation agreements been arranged for this program? (attach agreements)

None

3. How will the proposed new academic program broaden participation and completion at the institution by underrepresented and underserved groups?

The *BS in Managerial Economics* will more accurately present our program and the credentials it provides to all students. It is an open major allowing all First-Year, transfer, and on-campus major declaration students access to the academic program and the benefits of obtaining a *BS in Managerial Economics*. Currently many students may not realize that the *BS in Resource Economics* includes a concentration in managerial economics. Bringing this information to the forefront will benefit all students.

In addition to highlighting the content and access of this program, the new major will broaden participation and completion among underrepresented and underserved groups through programs that encourage and support these students in declaring, pursuing, and completing the *BS in Managerial Economics*. These groups include female, ALANA, and URM students. All of these programs dovetail with the SBS Pathways initiative (<https://www.umass.edu/sbs/sbs-pathways-philosophy>) to create SBS Pathways through Managerial Economics. These programs include:

- Recruitment of First-Year, Transfer, and On-Campus Major Declaration Students
 - Personalizing recruitment efforts – personal connections with friends, teachers and school counselors are important to student education choices. We will focus on attending events and conferences where we are in contact with these important individuals to students' choices. Our recruitment materials/exhibits will highlight the benefits of the program for diverse students. Our Chief Undergraduate Advisor already is active in this arena and we will target teacher conferences for economics, school guidance counselor conferences, and perhaps conferences that serve diverse professionals. An important element of promoting the degree is our high 4-year and 6-year graduation rates.
 - Develop programs with Massachusetts community colleges. Many students without the necessary financial resources may start their college degrees a community college. We will work with counselors/advisors at these community colleges to promote the Managerial Economics degree and encourage underrepresented and underserved students to join us following their community college program. Students can be encouraged to take key courses that are prerequisites to our program including statistics, microeconomics, macroeconomics, calculus, and general education credits. We may be able to also attract “non-traditional” students who are looking to reposition themselves in a changing job market. Community colleges offer a great pathway to a BS in Managerial Economics and we will be able to establish relationships with some community colleges that provide a pathway to our degree program.
 - We have a great gender diversity in our faculty and we will feature that as a means of attracting women to the major and create a more gender diverse undergraduate population. This will include emphasizing our diversity by developing additional GenEd courses taught by our female faculty that will attract women to our program. We will also explore developing a Women in Managerial Economics (or just Women in Economics) society/club to encourage more interaction between students and faculty in our program. We will increase our featuring of women who have completed the BS, MS, or PhD in Resource Economics.
- Supporting Student Success & Sense of Community
 - Create a set of peer tutors to help students through some of our key challenging courses: introductory statistics; intermediate statistics; intermediate microeconomics; quantitative

methods; and perhaps the upper-level courses in industrial organization and managerial economics.

- Encourage greater student involvement in the Department through work-study opportunities and research opportunities with faculty. Employ and establish a diverse group of students in these opportunities.
- Work with the College of Social and Behavioral Sciences to take full advantage of SBS Pathways to support underrepresented and underserved students in pursuing academic, co-curricular, experiential, and professional development experiences. Connect students with the SBS Academic Fellows Program (<https://www.umass.edu/sbs/sbs-academic-fellows-program>) for ALANA, URM, First-Gen, and Pell Eligible students through major-based Undergraduate Diversity Fellows.
- Assessment
 - We will use assessment to track student numbers, retention rates, and graduation rates. In addition, we will survey current students and our alumni on paths they took into the major and elements of the program that are important to them. This will include information on factors that either did or did not lead to a good experience in the program for these students and a focus on how the experience can be improved.

C. Overview of Proposed Program

1. Context. Describe the program's development, as well as its proposed administrative and operational organizational structure.

The Department currently offers a *BS in Resource Economics* and students in that program can choose among three options:

- Consumer and family economics;
- Environmental and natural resource economics; and
- Managerial economics.

We propose to offer two BS degrees:

1. The *BS in Resource Economics* with two options:
 - Consumer and family economics; and
 - Environmental and natural resource economics.
2. The *BS in Managerial Economics*

The *BS in Managerial Economics* will be administered by the Department of Resource Economics and will follow the current administrative structure for the *BS in Resource Economics* managerial economics option. The Department Chair, the Department's Undergraduate Studies Committee, and the Undergraduate Program Director will manage the program and curriculum in concert with our *BS in Resource Economics* program. We anticipate growth in the program, but plan to manage the program with our existing resources and with new faculty hired from our two current tenure track searches. The Department successfully completed tenure track searches in 2017, 2016 and 2015, and five of our six new tenure track hires will

teach course requirements in the Department's *BS in Managerial Economics* program. The Department will complete two tenure track searches during the 2018-19 academic year. Each of those two hires will teach required courses in the *BS in Managerial Economics* program.

The Department **requires** that all our majors meet with an advisor. We have a Chief Undergraduate Advisor who has handled our advising and we have completed a search for a second full time Undergraduate Advisor who will join the Department during summer 2018. Our two advisors will advise all students in both BS programs. Given our recent growth and the current projections, we anticipate needing additional advising help in 2019-20.

2. Description. What is the intent /purpose of the program? What knowledge and skills will students acquire? For what careers will graduates be prepared?

The *BS in Managerial Economics* will concentrate on the application of economic principles to decision-making. Students develop expertise in microeconomics and quantitative analysis, including two courses in statistics and an applied quantitative analysis course. Students also develop skills in accounting, finance, business strategies, and market/consumer demand analysis depending upon their individual interests. Microeconomic models and case studies are used to demonstrate how individuals can make wise choices to operate effectively within a complex economy of millions of businesses linked by thousands of markets. Career opportunities include research, planning, marketing, and managerial positions across a wide range of firms and governmental agencies. Recent graduates hold positions in food industry management, environmental consulting, energy demand analysis, market research, financial analysis, and strategic planning.

3. Curriculum, Requirements.

Attach curriculum outline (Templates) and course descriptions (use provided template). Provide a complete description of the curriculum. Describe procedures and arrangements for independent work, internship or clinical placement arrangements, if applicable. Describe role and membership of external advisory committee, if any.

The curriculum is currently offered as an option to our *BS in Resource Economics*. We will continue to use the same curriculum and many core courses will serve both the new *BS in Managerial Economics* and the *BS in Resource Economics*. The curriculum core requires strong preparation in microeconomics, macroeconomics, and quantitative methods. We require two courses each in microeconomics and macroeconomics, five courses in quantitative methods (calculus, statistics (2), computing, and quantitative methods). We also require writing, breadth in the field, and an integrative experience seminar for our core totaling 12 courses (39 or 40 credits¹). Students then focus on the requirements specific to the managerial economics degree including accounting, finance, management, and three advanced microeconomics courses: industrial organization economics (IE course); public policy in private markets (IE course); and managerial economics (the capstone course). To complete the *BS in Managerial Economics* degree, students select a set of four required electives that comprise an additional focus for their degree. Students may focus on quantitative applied economics by taking additional quantitative methods courses (econometrics, survey methods, advanced computing and statistics courses) to strengthen their analytical skills, or they may focus on financial analysis, management or market

¹ The number of credits depends upon a student's choice of Math 127 (3 credits) or Math 131 (4 credits).

analysis. These four required elective courses allow students to tailor their BS degree to their interests. The total curriculum is 69 or 70 credits. (A complete outline of the curriculum is attached below.)

4. Students. For first year and transfer students, outline requirements for admission and graduation, expected time from admission to graduation, projected degree completion rates, and transferability of program participants' credits to other institutions. Describe the proposed program's alignment to students emerging from the K-12 system. How will the program be connected to public secondary education in the region? Are there dual enrollment or early college opportunities being planned for the proposed program?

In the past, the Department of Resource Economics has only recruited students from those admitted to the University. Thus, our requirements for admission are those of the University. Our degree requirements are rigorous. Despite rigorous requirements, we have maintained excellent graduation rates with our 4-year graduation rate currently greater than 80% and our 6-year graduation rates averaging 97% for the past 10 years. Students who have joined our current major early (freshmen and sophomores) can more easily satisfy all requirements within 4 years. We project similar graduation rates for our new Managerial Economics major, a 4-year graduation rate of 85% and a 6-year graduation rate of 97%. Moreover, we look forward to improving our 4-year graduation rates as our new major attracts students earlier in their UMass career.

Students emerging from the K-12 system with strong preparation in mathematics (algebra and calculus) are well prepared for our program. Students who have taken an economics course during their high school career, and students interested in applied mathematics or applied economics will find our program especially attractive. Our program focuses on the application of economic principles and quantitative methods to address consumer, firm, and government problems. Our students graduate with strong quantitative skills used to inform decision-making by consumers, firms, and the public sector.

Dual enrollment or early college opportunity programs are of interest to us. We have not participated, but a number of our introductory or principles courses would be well suited to such a program including: Introduction to Resource Economics (introductory microeconomics), Introduction to Statistics for the Social Sciences; and our introductory breadth courses (Hunger in a Global Economy; Consumer in Society; Environmental Economics; and Natural Resource Economics). We do have several of these courses that are currently offered online. An attractive option might be to construct a summer program for students that would introduce them to the major with college credits.

If entering students are well prepared and have college credits when they enroll, they could graduate within three years, or take advantage of a 4+1 program. We have recently restructured our Master of Science program so that students could complete that degree within one year and we have developed a 4+1 program in the Department.

5. Feasibility. Complete the Faculty Form that follows item C-7. Attach vitae for current faculty using vita form.

Describe faculty, staffing, library and information technologies, facility (including lab and equipment), fiscal and or other resources required to implement the proposed program. Distinguish between resources needed and on-hand. Display positions to be filled with qualifications.

Our current faculty contribute to the existing managerial economics option of our **BS in Resource Economics** program. Resources are available in the Department to begin offering the **BS in Managerial Economics**. The number of Resource Economics majors increased from 98 in 2005 to 449 at the start of fall semester 2017. The number of majors continued to increase throughout the 2017-18 academic year reaching 597 in spring 2018. We hired three tenure-track faculty who started fall 2017; two in industrial organization/managerial economics and one in environmental economics. Our recent hires are contributing to our microeconomics and quantitative methods instruction. By adding two lecturers over the past four years, we have allowed our tenure-track faculty to focus their teaching on important core courses and upper-level required courses. We have also added sections to try to keep these key courses at 40 students or fewer to improve the student/faculty ratios and the student experiences. A full time lecturer for our Junior Year writing program will join us fall 2018.

We currently have two tenure track searches on going that will replace expected retirements. These two faculty will contribute to undergraduate and graduate teaching in microeconomics. One position will be in health economics and will expand our research and teaching in this growing sector of our economy.

All our majors are required to meet with an academic advisor each semester. Our advising staff will be our current Chief Undergraduate Advisor and a full-time Undergraduate Advisor hired this summer. Our increase in advising staff will provide improved advising opportunities and experiences for all our majors. We have three full-time staff: a Department Administrator, an Academic Programs Coordinator, and an IT and Technical Support Specialist.

The Department operates and maintains the Cleve E. Willis Experimental Economics Laboratory. The lab is used as an important research facility for our faculty and graduate students, but also allows us to teach courses at the undergraduate and graduate level in experimental economics methods. The Willis Lab is also used for a limited number of our computing courses (computing foundations, statistics and econometrics).

6. Licensure and Accreditation. *Is this program intended to prepare students for licensure? If yes, name licensure organization and licensing exam. Project student passing rates. What professional or specialized accreditation will be pursued for the program? Project accreditation timelines.*

There is no licensure or accreditation.

7. Program Effectiveness Goals, Objectives, and Assessment.

Complete the Program Goals table. *(Please note that this section is intended to focus on overall effectiveness, not student learning, which is addressed elsewhere.)*

Linked to each goal should be measurable objectives – such as job placement rates, faculty additions, facility or programmatic enhancements, etc. – timetable, and, if applicable, strategies for achieving them.

PROGRAM GOALS

Goal	Measurable Objective	Strategy for Achievement	Timetable
Improve undergraduate advising by adding a full-time advisor to support our Chief Undergraduate Advisor.	Add undergraduate advisor reducing the advising load for the CUA and undergraduate advisor to 250-300 students.	We have received support for the position from the College of Social and Behavioral Sciences. We completed the hiring process this summer.	We have hired an Undergraduate Advisor to start August 1, 2018.
Add two faculty in applied microeconomics and health economics.	Two faculty in microeconomics and health economics join the Department Fall 2019.	Faculty searches have been approved by the College of Social and Behavioral Sciences and the University. Searches start summer 2018.	Fall 2019 for faculty arrival.
Integrate new Lecturer fully into the managerial economics curriculum.	Lecturer teaches 6 sections per year including core courses in computing, microeconomics and statistics.	Begin spring 2016 to integrate Lecturer into computing and microeconomic theory. Work during the spring 2016 semester and summer to develop additional courses to help reduce class sizes in the major.	Addition of new Lecturer Spring 2016. Complete course development by December 2016.
Track job placement rates and occupations	Complete list of Department graduates, their placements, and occupations.	Create an email contact list using Development Office resources, our LinkedIn connections, and the Resource Economics Society (RES). Develop contact list before students graduate and rely on student help (RES) to update lists after students graduate.	Complete lists for past 5 years by December 2018. Develop a list of job placements and occupations to share with current students Spring 2019.
Increase internship opportunities and job placement rates	Develop internship and career opportunities through contact with our alumni.	Maintain contact with alumni through student/alumni events. Contact alumni regularly to discuss internship and job opportunities. Department Chair, Chief Undergraduate Advisor and Undergraduate Program Director take the lead in contacting alumni and scheduling events.	Contact alumni during fall 2018. Schedule fall alumni event during July/August 2018.

Institution: UMass Amherst

Proposed Degree: BSci Managerial Economics

Describe program assessment strategies that will be used to ensure continuing quality, relevance and effectiveness. Include plans for program review including timetable, use of assessment outcomes, etc.

Develop survey instruments to track student success post-graduation. Use survey instruments to help identify areas for curriculum revision. Plan surveys for 1-year and 5-years post-graduation. Begin with the alumni lists developed during the coming year.

Use contacts with alumni for increased internships and work with students to ensure internships are valuable and complement their academic degree. Work with alumni and other private and public contacts to assess the correlation between required job market skills and those provided by the curriculum.

Faculty Form

Summary of Faculty who will teach in the proposed program.

Please list full-time faculty first, alphabetically by last name. Add additional rows as necessary.

Name of faculty member (Name, Degree and Field, Title)	Tenured Y/N	Courses Taught Put (C) to indicate core course. Put (OL) next to any course currently taught online. (E) indicates the course may fulfill a required elective.	# of sections	Division or College of Employment	Full- or Part-time in Program	Full- or part- time in other department or program (Please specify)	Sites where individual will teach program courses
Alhabeeb, M. J. PhD Family and Consumer Economics, Professor	Y	<ul style="list-style-type: none"> • Res Econ 314 Financial Analysis for Consumers and Firms (C) • Res Econ 324 Small Business Finance (C) • Res Econ 428 Managerial Economics (C) 	(1) (1) (1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Bauner, Christoph PhD Economics, Assistant Professor	N	<ul style="list-style-type: none"> • Res Econ 452 Industrial Organization in Resource Economics (C) 	(1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Bloomfield, Luke MA English, Lecturer	N	<ul style="list-style-type: none"> • Res Econ 303 Junior Year Writing 	(8)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Chan, Nathan PhD Economics, Assistant Professor	N	<ul style="list-style-type: none"> • Res Econ 472 (E) 	(1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Crago, Christine PhD Agricultural Economics, Assistant Professor	N	<ul style="list-style-type: none"> • Res Econ 4990 and 499N Implementing Sustainability and Social Responsibility in Today's Economy • Res Econ 471 Benefit Cost Analysis (E) 	(1) (1) (1)	College of Social and Behavioral Sciences	Full-time	Yes – Commonwealth Honors College	Amherst Campus
de Oliveira, Angela PhD Economics Associate Professor	Y	<ul style="list-style-type: none"> • Res Econ 202 Price Theory (C) • Res Econ 313 Quantitative Methods in Applied Economics (C) 	(1) (1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Gao, Xiaoxue Sherry PhD Economics, Assistant Professor	N	<ul style="list-style-type: none"> • Res Econ 313 Quantitative Methods in Applied Economics (C) 	(1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus

Gayle, Wayne Roy PhD Economics Lecturer	N	<ul style="list-style-type: none"> Res Econ 212 Introductory Statistics for the Social Sciences (C) 	(6)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Lass, Daniel PhD Agricultural Economics, Professor and Department Chair	Y	<ul style="list-style-type: none"> Res Econ 312 Introductory Econometrics (E) Res Econ 394LI Integrative Experience Seminar (C) 	(1) (4)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Lavoie, Nathalie PhD Agricultural and Resource Economics, Associate Professor	Y	<ul style="list-style-type: none"> Res Econ 102 Introductory Resource Economics (C) Res Econ 452 Industrial Organization in Resource Economics (C) 	(1) (2)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Mammen, Sheila PhD Family and Consumer Economics, Professor	Y	<ul style="list-style-type: none"> Res Econ 162 The Consumer in our Society (E) Res Econ 362 Consumer Protection and Legislation (E) Res Econ 460 Family in Economic Systems (E) Res Econ 470 Family Economic Policy: Issues and Implications (E) 	(1) (1) (1) (1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Mohapatra, Debi Prasad PhD Economics, Assistant Professor	N	<ul style="list-style-type: none"> Res Econ 453 Public Policy in Private Markets (C) Res Econ 121 Hunger in a Global Economy (C) 	(1) (1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Morzuch, Bernard PhD Agricultural Economics Professor	Y	<ul style="list-style-type: none"> Res Econ 213 Intermediate Statistics for Business and Economics (C) Res Econ 428 Managerial Economics (C) 	(1) (1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Mullins, Jamie PhD Economics Assistant Professor	N	<ul style="list-style-type: none"> Res Econ 213 Intermediate Statistics for Business and Economics (C) 	(1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Rojas, Christian PhD Economics Associate Professor	Y	<ul style="list-style-type: none"> Res Econ 453 Public Policy in Private Markets (C) 	(1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Rong, Rong PhD Economics Assistant Professor	N	<ul style="list-style-type: none"> Res Econ 102 Introductory Resource Economics (C) Res Econ 428 	(1) (1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus

		Managerial Economics (C)					
Sraggon, John PhD Economics Associate Professor	Y	<ul style="list-style-type: none"> • Res Econ 202 Price Theory (C) • Res Econ 462 Experimental Economics (E) 	(1) (1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Stranlund, John PhD Economics Professor	Y	<ul style="list-style-type: none"> • Res Econ 262 Environmental Economics (E) • Res Econ 263 Natural Resource Economics (E) 	(1) (1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Tran, Miah PhD Economics Lecturer	N	<ul style="list-style-type: none"> • Res Econ 112 Computing: Foundations to Frontiers (C) • Res Econ 202 Price Theory (C) • Res Econ 313 Quantitative Methods in Applied Economics (C) 	(2) (2) (2)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Wang, Emily Yucai PhD Economics Assistant Professor	N	<ul style="list-style-type: none"> • Res Econ 453 Public Policy in Private Markets (C) 	(1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Mary Taft PhD Resource Economics Lecturer	N	<ul style="list-style-type: none"> • Res Econ 397 Economics of Contemporary Information Technology (E) 	(1)	College of Social and Behavioral Sciences	Part-time	No	Amherst Campus

D. External Review.

The proposed program has been offered as an option to the BS in Resource Economics. We have not had an external review, with the exception of our recent AQAD review. The AQAD review team report is attached.

E. Market Analysis

Provide enrollment projections for Years 1-4.

PROGRAM ENROLLMENT PROJECTION – SAMPLE FORMAT

	# of Students Year 1	# of Students Year 2	# of Students Year 3	# of Students Year 4*
New Full Time	150	200	200	200
Continuing Full Time	500	500	525	525
New Part Time				
Continuing Part Time				
Totals	650	700	725	725

1. Need for graduates. What is the local/regional/state labor market outlook for graduates of the proposed program? What occupations are students being prepared for after graduation? Name the common entry-level job titles. Are there enough economic opportunities in these fields to support the scale of program you intend to build? At present, how many students graduate with this credential in the region you serve compared to the number of relevant job postings? Which local employers are hiring the most entry-level people in these fields? Use real time labor market information for the proposed program. How will you give students experience with the information technology tools in use in their field? Include data and data sources that form the basis for need assessment. Include data and data sources that form the basis for need assessment. e.g. Massachusetts Executive Office of Labor and Workforce Development (<http://www.mass.gov/lwd/economic-data/projections/>) or US Bureau of Labor Statistics (<http://www.bls.gov>)

The program will prepare students for professions that are currently in high demand nationally and are projected to have high demand into 2022. The Bureau of Labor Statistics (BLS) projects growth in market research analysis at 131,500 jobs by 2022, a growth of 31.6% over 2012.² Also included in the fastest growing occupations are general and operations managers (12.4%), accountants and auditors (13.1%), and management analysts (18.6%).

Major occupational groups where our current and future students would be employed and their projected growth rates include: management (7.2%); business and financial operators occupations (12.5%); computer and mathematical occupations (18.0%); and life, physical and social science occupations (10.1%). There are other major occupation groups with high growth rates where our students will find analytical and management positions including healthcare support occupations (28.1%) and sales and related occupations (7.3%).

² Economic News Release, December 2013. (<http://www.bls.gov/news.release/ecopro.toc.htm>)

Demand for economists at the Bachelor's degree level is projected to grow in Massachusetts from 845 jobs in 2012 to 1,031 jobs in 2022, an increase of 22% (Table 2 below).³ While our program is designed to train economists, a majority of our graduates take jobs in management and as analysts (See Table 2 below). Aggregate projected Massachusetts 2012-2022 growth for these jobs is nearly 36,000, an increase of 15%. Annual rates of growth are typically in the 1% to 3% range; the overall growth rate for all the jobs listed is about 1.4%. Mean annual 2015 salaries for these jobs range from a low of \$57,590 to a high of \$146,380; a weighted mean 2015 salary for these jobs is \$99,453. Massachusetts job growth and earnings potential in the positions typically taken by our graduates is projected to be strong over the next six years.

Projected growth in these occupations is similar for the national labor market (See Table 3 below).⁴ Most occupations are projected to grow between 2012 and 2022 with about 60% projected to grow by more than 10 percent. For these occupations, nearly 50% had 2015 median pay of \$75,000 or more. (See table 3 below.)

BLS also projects strong growth for occupations requiring Bachelor's (12.1%), Master's (18.4%) and Doctoral or Professional (16.0%) degrees. Our rigorous BS degree prepares students well for post baccalaureate degree programs. These graduates would then be well prepared to complete Master's degrees in economics (or resource economics), mathematics, or statistics. At the Master's level, the growth in economist positions is projected at 10 to 19% by 2022. Related fields like mathematics and statistics are projected to grow at 20 to 29% by 2022.

2. Student Demand / Target Market. What is the student market for the proposed program? Discuss demographics, location, proposed market share, etc. Provide data, e.g., survey results, etc., that form the basis for enrollment projections.

The program that we propose as a BS degree program has been offered at the University as an option in our *BS in Resource Economics*. Enrollments have been very strong as shown above. During fall 2017, Department majors were reported at 449 by the University. During the 2017-18 academic year, our number of majors grew to 597 prior to graduating our largest class ever!

3. Duplication. Identify existing public and private programs/institutions in the region or state that offer the same or similar programs. Discuss size / enrollment trends for these programs.

Bachelor Degree programs in Managerial Economics exist at Bentley University, UC Davis, Washington University, Santa Cruz, and a number of other universities. A "startclass" search for "Business/Managerial Economics Degrees" within 100 miles of Amherst, MA, gave 8 institutions: Harvard University, Brown University, Bentley University, Saint Anselm College, Green Mountain College, Suffolk University, Albertus Magnus College, and Nichols College. We do not have access to size or enrollment data for these programs. ***Perhaps the most interesting result from internet searches is that the University of Massachusetts does not appear in searches of Managerial Economics degree programs using some of the search sites that students might use. We are missing opportunities by not having our program in managerial economics listed as a degree.***

³ Labor and Workforce Development, Occupational Projections, from the website of the Executive Office of Labor and Workforce Development.

⁴ Occupational Outlook Handbook, from the website of the Bureau of Labor Statistics.

4. Competitive advantage. Apart from the obvious pricing advantage of public institutions, what will distinguish the proposed program in the academic marketplace?

Students in the proposed ***BS in Managerial Economics*** degree program would have access to Resource Economics faculty conducting research in industrial organization, behavioral economics, consumer economics, applied econometrics, and experimental economics. Students will also have access to a variety of courses and degree programs in the College of Social and Behavioral Sciences. Within the College are additional opportunities through the Computational Social Sciences Institute, the Institute for Social Science Research, and the School of Public Policy. Thus, just within the College of Social and Behavioral Sciences there are a broad range of opportunities that do not exist at smaller liberal arts colleges and smaller universities.

Students in the ***BS in Managerial Economics*** major would also have the advantage of access to other colleges and schools across the University. The University has strong programs in computer, engineering, natural, and health sciences. Students can gain access to much of the science and technology that drives industry and is important to firm decision-making. Our students have access to courses offered by the Isenberg School of Management including accounting, finance, management, marketing, and operations research courses. To support the strength in Resource Economics in data analysis for consumer and business decisions, students will also have access to courses offered in mathematics and statistics. The diversity of opportunities at a top research university make our proposed major attractive.

5. Marketing Plan. Describe the institution's marketing plan, including time lines, for the proposed program?

We have been growing rapidly and our growth has outstripped our advising capacity and increased instructional demand. Thus, we have not been concerned about marketing. Our growth has resulted in additional faculty for the Department and advising resources.

Our marketing plan will be to develop both online and print materials. The latter will be provided to high school advising personnel across Massachusetts and we will work closely with the College of Social and Behavioral Sciences and UMass Amherst Admissions to increase the visibility of the program. Our goal is to encourage entering freshmen to apply directly to our program. As mentioned above, our managerial economics option is invisible to student who are not at UMass. Our development of online promotion for the degree will improve our recognition through searches. We will also consider advertisements through social media.

Table 2: Occupational Projections for Massachusetts by Entry Education Level

Title	Employment Levels		Employment Change		Education Level	2015 Mean OES Salary
	2012	2022	Number	% Annual		
Advertising and Promotions Managers	934	1,020	86	0.90%	Bachelor's degree	\$129,440
Marketing Managers	7,627	8,476	849	1.10%	Bachelor's degree	\$139,170
Sales Managers	11,951	12,978	1,027	0.80%	Bachelor's degree	\$146,380
Public Relations and Fundraising Managers	2,615	3,004	389	1.40%	Bachelor's degree	\$120,660
Financial Managers	21,964	24,166	2,202	1.00%	Bachelor's degree	\$132,100
Industrial Production Managers	3,878	3,700	-178	-0.50%	Bachelor's degree	\$113,430
Purchasing Managers	2,304	2,362	58	0.20%	Bachelor's degree	\$116,250
Compensation and Benefits Managers	1,113	1,163	50	0.40%	Bachelor's degree	\$132,720
Human Resources Managers	3,320	3,769	449	1.30%	Bachelor's degree	\$119,690
Training and Development Managers	1,159	1,306	147	1.20%	Bachelor's degree	\$131,600
Social and Community Service Managers	5,724	6,996	1,272	2.00%	Bachelor's degree	\$67,580
Agents and Business Managers of Artists, Performers, and Athletes	312	363	51	1.50%	Bachelor's degree	\$97,590
Compliance Officers	6,218	6,801	583	0.90%	Bachelor's degree	\$82,020
Cost Estimators	5,082	6,286	1,204	2.10%	Bachelor's degree	\$70,980
Logisticians	2,080	2,562	482	2.10%	Bachelor's degree	\$79,970
Management Analysts	27,103	33,070	5,967	2.00%	Bachelor's degree	\$101,950
Meeting, Convention, and Event Planners	2,296	3,099	803	3.00%	Bachelor's degree	\$60,860
Compensation, Benefits, and Job Analysis Specialists	3,724	4,006	282	0.70%	Bachelor's degree	\$67,900
Training and Development Specialists	5,353	6,205	852	1.50%	Bachelor's degree	\$73,830
Market Research Analysts and Marketing Specialists	15,071	19,850	4,779	2.80%	Bachelor's degree	\$76,140
Accountants and Auditors	37,131	41,587	4,456	1.10%	Bachelor's degree	\$82,540
Budget Analysts	1,897	2,016	119	0.60%	Bachelor's degree	\$74,650
Credit Analysts	1,725	1,985	260	1.40%	Bachelor's degree	\$79,750
Financial Analysts	15,160	17,464	2,304	1.40%	Bachelor's degree	\$105,130
Personal Financial Advisors	8,122	9,863	1,741	2.00%	Bachelor's degree	\$130,200
Insurance Underwriters	3,497	3,228	-269	-0.80%	Bachelor's degree	\$82,550

Table 2 (cont.): Occupational Projections for Massachusetts by Entry Education Level

Title	Employment Levels		Employment Change		Education Level	2015 Mean OES Salary
	2012	2022	Number	% Annual		
Financial Examiners	1,200	1,308	108	0.90%	Bachelor's degree	\$101,290
Credit Counselors	724	876	152	1.90%	Bachelor's degree	\$66,010
Financial Specialists, All Other	2,238	2,431	193	0.80%	Bachelor's degree	\$83,000
Actuaries	968	1,206	238	2.20%	Bachelor's degree	\$111,780
Operations Research Analysts	2,605	3,435	830	2.80%	Bachelor's degree	\$82,050
Economists	845	1,031	186	2.00%	Bachelor's degree	\$93,610
Survey Researchers	520	616	96	1.70%	Bachelor's degree	\$57,590
Social Scientists and Related Workers, All Other	719	807	88	1.20%	Bachelor's degree	\$76,140
Securities, Commodities, and Financial Services Sales Agents	8,455	9,004	549	0.60%	Bachelor's degree	\$125,870
Sales Rep., Wholesale and Manufacturing, Tech. and Scientific Products	15,101	16,834	1,733	1.10%	Bachelor's degree	\$101,420
Human Resources Specialists	10,976	11,794	818	0.70%	NA	\$72,410
Labor Relations Specialists	2,269	2,558	289	1.20%	NA	\$64,310
Fundraisers	2,856	3,487	631	2.00%	NA	\$63,240
Totals and Weighted Mean Salary	246,836	282,712	35,876	1.45%		\$99,453

Source: http://lmi2.detma.org/Lmi/Occupation_Projection_ED_Rank.asp?Area=01000025long

Table 3: National Occupational Outlook 2012-2022 - Occupations for Managerial Economics Degree Recipients

Occupation	Entry Level Education	Projected Number of New Jobs	Projected Growth (2012 - 2022)	Median Pay
Accountants and auditors	Bachelor's degree	50,000 or more	10 to 19 percent	\$55,000 to \$74,999
Actuaries	Bachelor's degree	5,000 to 9,999	20 to 29 percent	\$75,000 or more
Administrative services managers	Bachelor's degree	10,000 to 49,999	10 to 19 percent	\$75,000 or more
Advertising and promotions managers	Bachelor's degree	1,000 to 4,999	0 to 9 percent	\$75,000 or more
Appraisers and assessors of real estate	Bachelor's degree	1,000 to 4,999	0 to 9 percent	\$35,000 to \$54,999
Broadcast news analysts	Bachelor's degree	Declining	Declining	\$55,000 to \$74,999
Budget analysts	Bachelor's degree	1,000 to 4,999	0 to 9 percent	\$55,000 to \$74,999
Chief executives	Bachelor's degree	10,000 to 49,999	0 to 9 percent	\$75,000 or more
Compensation and benefits managers	Bachelor's degree	0 to 999	0 to 9 percent	\$75,000 or more
Compensation, benefits, and job analysis specialists	Bachelor's degree	5,000 to 9,999	0 to 9 percent	\$55,000 to \$74,999
Construction managers	Bachelor's degree	50,000 or more	10 to 19 percent	\$75,000 or more
Cost estimators	Bachelor's degree	50,000 or more	20 to 29 percent	\$55,000 to \$74,999
Database administrators	Bachelor's degree	10,000 to 49,999	10 to 19 percent	\$75,000 or more
Emergency management directors	Bachelor's degree	0 to 999	0 to 9 percent	\$55,000 to \$74,999
Financial analysts	Bachelor's degree	10,000 to 49,999	10 to 19 percent	\$75,000 or more
Financial examiners	Bachelor's degree	1,000 to 4,999	0 to 9 percent	\$75,000 or more
Financial managers	Bachelor's degree	10,000 to 49,999	0 to 9 percent	\$75,000 or more
Fundraisers	Bachelor's degree	10,000 to 49,999	10 to 19 percent	\$35,000 to \$54,999
General and operations managers	Bachelor's degree	50,000 or more	10 to 19 percent	\$75,000 or more
Human resources managers	Bachelor's degree	10,000 to 49,999	10 to 19 percent	\$75,000 or more
Human resources specialists	Bachelor's degree	10,000 to 49,999	0 to 9 percent	\$55,000 to \$74,999
Industrial production managers	Bachelor's degree	Declining	Declining	\$75,000 or more
Insurance underwriters	Bachelor's degree	Declining	Declining	\$55,000 to \$74,999
Loan officers	Bachelor's degree	10,000 to 49,999	0 to 9 percent	\$55,000 to \$74,999
Logisticians	Bachelor's degree	10,000 to 49,999	20 to 29 percent	\$55,000 to \$74,999
Management analysts	Bachelor's degree	50,000 or more	10 to 19 percent	\$75,000 or more

Table 3 (cont.): National Occupational Outlook 2012-2022 - Occupations for Managerial Economics Degree Recipients

Occupation	Entry Level Education	Projected Number of New Jobs	Projected Growth (2012 - 2022)	Median Pay
Market research analysts and marketing specialists	Bachelor's degree	50,000 or more	30 percent or faster	\$55,000 to \$74,999
Marketing managers	Bachelor's degree	10,000 to 49,999	10 to 19 percent	\$75,000 or more
Medical and health services managers	Bachelor's degree	50,000 or more	20 to 29 percent	\$75,000 or more
Meeting, convention, and event planners	Bachelor's degree	10,000 to 49,999	30 percent or faster	\$35,000 to \$54,999
Mental health and substance abuse social workers	Bachelor's degree	10,000 to 49,999	20 to 29 percent	\$35,000 to \$54,999
Operations research analysts	Bachelor's degree	10,000 to 49,999	20 to 29 percent	\$55,000 to \$74,999
Personal financial advisors	Bachelor's degree	50,000 or more	20 to 29 percent	\$55,000 to \$74,999
Public relations and fundraising managers	Bachelor's degree	5,000 to 9,999	10 to 19 percent	\$75,000 or more
Purchasing managers	Bachelor's degree	1,000 to 4,999	0 to 9 percent	\$75,000 or more
Sales managers	Bachelor's degree	10,000 to 49,999	0 to 9 percent	\$75,000 or more
Sales rep., wholesale and manufacturing, tech. and scientific products	Bachelor's degree	10,000 to 49,999	10 to 19 percent	\$55,000 to \$74,999
Securities, commodities, and financial services sales agents	Bachelor's degree	10,000 to 49,999	10 to 19 percent	\$55,000 to \$74,999
Social and community service managers	Bachelor's degree	10,000 to 49,999	20 to 29 percent	\$55,000 to \$74,999

Source: <http://www.bls.gov/ooh/occupation-finder.htm?pay=&education=Bachelor%27s+degree&training=&newjobs=&growth=&submit=GO>

F. Budget Projection

a. Budget Narrative. Explain assumptions underlying expense and income projections, e.g., instructor status, enrollment projections, field and clinical resources, etc. Describe additional cost/revenue impacts within the broader departmental/institutional budget.

We propose changing a current managerial economics option within our BS in Resource Economics program to a new major, the BS in Managerial Economics. We will make this change within our current budget.

b. Program Budget. Complete and attach the line item budget for the proposed program for the first four years.

(use “UMass New Program Budget Template- BOT and DHE Approval Final.xlsx” and fill out both *income and expense* sheets)

Budget categories include facilities, library, faculty, staff, field/clinical experiences, revenues from grants, tuition or other sources, etc. Reallocated funds should specify reallocations from existing campus resources to support the proposed program, including funds reallocated from discontinued or downsized programs. Indicate one-time/start-up costs and revenues.

Please include the following as Attachments :

(please send .docx files not pdfs)

UMass New Program Budget Template- BOT and DHE Approval Final.xlsx

Curriculum outline (templates below)

2-5 page course descriptions (use template)

External review team report

Institutional response to external review

2-4 page *Vitae* for current faculty (use template)

Please do not attach additional appendices.

Undergraduate Program Curriculum Outline

(Insert additional rows as necessary.)

Required (Core) Courses in the Major (Total # courses required = (18)		
<i>Course Number</i>	<i>Course Title</i>	<i>Credit Hours</i>
RES-ECON 102 or ECON 103	Introduction to Resource Economics or Introduction to Microeconomics	4
RES-ECON 202 or ECON 203	Price Theory or Intermediate Microeconomic Theory	4 or 3
ECON 104	Introduction to Macroeconomics	4
ECON 204	Intermediate Macroeconomic Theory	3
MATH 127 or MATH 131	Calculus for the Life and Social Sciences or Calculus I	3 or 4
RES-ECON 212 or STATISTC 240	Introductory Statistics for the Social Sciences Introduction to Statistics	4 or 3
RES-ECON 213	Intermediate Statistics for Business and Economics	3
RES-ECON 112	Computing: Foundations to Frontiers	3
RES-ECON 313	Quantitative Methods in Applied Economics	3
RES-ECON 303	Writing in Resource Economics (JR Year Writing)	3
RES-ECON 121 or RES-ECON 162 or RES-ECON 262 or RES-ECON 263	Hunger in Global Economy or Consumer in Society or Environmental Economics or Natural Resource Economics	4
RES-ECON 394LI	Life is Full of Choices: RES-ECON Integrative Seminar (IE course)	1
ACCOUNTG 221	Principles of Financial Accounting	3
RES-ECON 314 or FINANCE 301	Financial Analysis for Consumers and Firms or Corporation Finance	3
MANAGMNT 301	Principles of Management	3
RES-ECON 452	Industrial Organization (IE course)	3
RES-ECON 453	Public Policy in Private Markets (IE course)	3
RES-ECON 428	Managerial Economics (Capstone Course)	3
	Sub Total Required Credits	55 - 58
Elective Courses (Total # courses required = 4)		
Selected Course	Students are required to select 4 additional courses to complete their Managerial Economics requirements. These include additional Resource Economics, Economics, Finance, Management, Marketing, etc. courses that help define a concentration for the student.	3
Selected Course		3
Selected Course		3
Selected Course		3
	Sub Total Elective Credits	12
Distribution of General Education Requirements Attach List of General Education Offerings (Course Numbers, Titles, and Credits)		# of Gen Ed Credits
Arts and Humanities, including Literature and Foreign Languages		3
RES-ECON 303 Writing in Resource Economics (Jr Yr Writing)		3

Mathematics and the Natural and Physical Sciences		4
RES-ECON 212 Introduction to Statistics/Social Sciences (R2)		4
Social Sciences		27
RES-ECON 102 Introduction to Resource Economics (SB)		4
RES-ECON 121 Hunger in Global Economy (SBG)		4
RES-ECON 162 Consumer in Society (SB)		4
RES-ECON 262 Environmental Economics (SB)		4
RES-ECON 263 Natural Resource Economics (SB)		4
RES-ECON 394LI Life is Full of Choices: RES-ECON Integrative Seminar (IE)		1
RES-ECON 452 Industrial Organization (IE)		3
RES-ECON 453 Public Policy in Private Markets (IE)		3
Sub Total General Education Credits		34
Curriculum Summary		
Total number of courses required for the degree		22
Total credit hours required for degree		67 - 70
Prerequisite, Concentration or Other Requirements:		



MEMORANDUM

DATE: 6 December, 2016
TO: Katherine Newman, Provost
FROM: Robert Gamache, Senior Advisor, AASAIR
SUBJECT: B.S. degree in Managerial Economics

On behalf of the President, I am pleased to authorize the University of Massachusetts Amherst to proceed with the development of Final Application for a B.S. degree in Managerial Economics as described in the Preliminary Application submitted in October.

In preparing the final proposal, please provide information as to how the particular program aligns with the long-term strategic academic program plans of the University. Providing details about the campus' long-term academic program planning will assist in supporting any intended request for additional resources. There must be a strong case built for the need for the program, from the perspective of the needs of the Commonwealth and the benefits it will derive, as well as the needs of a prospective student body. Many find the data from the Massachusetts Executive Office of Labor and Workforce Development (<http://www.mass.gov/lwd/economic-data/projections/>) or US Bureau of Labor Statistics (<http://www.bls.gov>) useful to make the argument for need. Lastly, the proposal should include a detailed budget indicating current resource levels of the department, proposed new resources required for the program and the revenue stream that will support the expenditures.

Please prepare the final proposals using the attached templates (instructions are in blue in the templates). Please submit files only in MS Word format. **Would you also please ask the department to send to me a list of suggested external reviewers.**

Please feel free to contact me at any time if you have questions regarding the final proposal.

Cc: Betsy Dumont, Associate Provost

Attachments:

2016_BOT_&_BHE_Program_Template.doc
2014_Program_Budget_Template.xlsx
BHE Undergraduate Program Curriculum Outline.docx
2014_Resume_Template.doc
2014_Course_Summary_Template.docx
External evaluator invitation template on site.docx

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 102

Number of Credits: 4

Course Name: Introduction to Resource Economics

Online: No

Course Description:

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.

Objectives/Learning Outcomes/Course Expectations:

This course introduces microeconomic theories and models, which describe and explain the behavior of consumers, producers, and markets. Students must master the concepts of demand, supply and their interactions to determine the market price and quantity. In the context of consumer behavior, we study the concepts of utility maximization given a budget constraint, and consumer surplus. In the context of producer behavior, we study production costs and profit maximization. Students are expected to understand and be able to apply the concept of elasticity to determine the effect of public policies. The course provides a solid introduction to market structures: perfect competition, monopoly, monopolistic competition and oligopoly. Game theory is also introduced to analyze the behavior of agents in a strategic context. We examine some of the shortcomings and weaknesses of economic markets. This brings us to a discussion of economic policy in which we will use economic concepts to examine some of the problems facing today's society; for example, how much government regulation of business is "best" and how much should we spend on pollution control?

Pre-requisites: None

Relationship of course to program context and effectiveness:

This course presents the microeconomic theory foundation necessary for many other courses required for the managerial economist. Generally, the concepts covered in this course are the first introduction to concepts necessary for decision making at the firm level and policy analysis.

Grading:

Evaluation method	Number	Percentage of final grade
Written assignments	4	10%
Homework assignments	weekly	25%
Hour exams	2	35%
Final exam	1	25%
iClicker participation	every lecture	5%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 112

Number of Credits: 3

Course Name: Computing: Foundations to Frontiers

Online: No

Course Description:

Students work in a team-based learning environment to develop understanding of contemporary computing tools and concepts and the higher-order skills necessary to design and develop information systems that serve the interests of an organization. Topics include data analysis and modeling using MS Excel spreadsheets and relational data management using MS Access and SAS. Students are evaluated through a variety of means: projects, homework, peer evaluations, and an e-portfolio.

Objectives/Learning Outcomes/Course Expectations:

This course focuses on important computing concepts and techniques, including data analysis and modeling using MS Excel spreadsheets, relational data management using MS Access and data management and analysis using SAS. Students are also asked to create a professional reflective e-portfolio. On top of the IT learning outcomes, this course helps develop critical thinking, strengthen abilities to troubleshoot problems, and efficiently work in groups of diverse students. These capabilities will give students a competitive edge in job seeking or pursuing advanced degrees.

Pre-requisites: None

Relationship of course to program context and effectiveness:

The course contributes to the program by providing students necessary computing skills and higher-order capabilities such as critical thinking, trouble-shooting and the ability to work in teams.

Grading:

Evaluation method	Number	Percentage of final grade
Homework assignments	8	20%
E-Portfolio	1	15%
Group Projects	2	20%
Exams	3	45%

Course Summary

Course number: RES-ECON 121

Number of Credits: 4

Course Name: Hunger in Global Economy

Online: No

Course Description:

Explores 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.

Objectives/Learning Outcomes/Course Expectations:

The objectives of this course are to explore the causes of hunger (chronic undernutrition) from an economic perspective and to understand how population growth and economic development are increasing demand for food. Students will assess the prospects for food supply to meet needs at affordable prices, while sustaining the environment and responding to climate change. They will also evaluate how our global economy, where increased trade links even the poorest urban and rural residents in developing countries to market forces, affects hunger. Lastly, students will discuss policy choices. What policies are effective and which would you choose in order to improve food security for poor families around the world?

Pre-requisites: None

Relationship of course to program context and effectiveness:

This course provides breadth to the program illustrating the application of economic analyses to a global problem. This course also emphasizes the increasing globalization of the economies of the US and other countries and broadens future decision-makers' perspectives about economic issues, choices, and solutions. It is important that our graduates have a greater appreciation for international issues/problems and for how economics can offer analyses and solutions.

Grading:

Evaluation method	Number	Percentage of final grade
Case Studies	6	25%
Group Work	6	5%
World Now Discussion	5	4%
iClicker	weekly	5%
Exams	3	61%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 162

Number of Credits: 4

Course Name: Consumer in Society

Online: No

Course Description:

An introduction to Consumer Economics and the role that consumers play including their decision-making, and market and non-market consumption activities. Focus on contemporary consumer economic issues in addition to topics such as consumer rights and responsibilities, the impact of advertising, use of consumer credit, product safety, consumer fraud, and legal protections available to consumers.

Objectives/Learning Outcomes/Course Expectations:

RES-ECON 162 provides an analysis of the crucial role that consumers play in society including their market and non-market consumption activities as well as their decision-making. An interdisciplinary perspective is applied on human and social as well as cognitive and emotional factors to better understand consumers' economic decisions. A variety of contemporary consumer economic issues are examined in addition to topics such as consumer rights and responsibilities, impact of advertising, use of consumer credit, product safety, consumer fraud, and legal protections available to consumers.

Pre-requisites: None

Relationship of course to program context and effectiveness:

This course provides breadth to the training of the managerial economist by providing students an appreciation of the complexities of the American economic system and an understanding of how the consumer functions in the marketplace. Students are also provided the opportunity to analyze current economic issues as they affect individual consumers and households as well as the economy at large. Concepts discussed in this course will contribute to better decision-making among managerial economists.

Grading:

Evaluation method	Number	Percentage of final grade
Hour exams	2	40%
Final exam	1	20%
Group project	1	25%
Group/Individual assignments	weekly	15%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 202

Number of Credits: 4

Course Name: Price Theory

Online: No

Course Description:

The purpose of this course is to present intermediate level microeconomic theory. Primarily we will focus on consumer demand theory, economics of production and market structures. Both geometric and mathematical approaches will be presented. This course provides the background necessary for more advanced courses in the department.

Objectives/Learning Outcomes/Course Expectations:

This course will extend students' understanding of crucial economic theories and topics such as consumer utility maximization problem, profit maximization problem, market structures, preferences, indifference curves, and equilibrium. Students would also be able to derive the demand curve from consumers' underlying indifference curves as well as the supply curve from the cost function. Completion of this course will enable a student to become a better economic naturalist, a valuable team player, and prepare him or her with economic backgrounds that are necessary for more advanced courses.

Pre-requisites: RES-ECON 102 or ECON 103, and MATH 127 or MATH 131

Relationship of course to program context and effectiveness:

This course strengthens students' understanding of fundamental economic concepts and improves students' ability to use calculus in interpreting economic information.

Grading:

Evaluation method	Number	Percentage of final grade
Written assignments		
Homework assignments		
Hour exams	3	60%
Final exam (optional/to replace the lowest hour exam score)	1	20%
Presentations or YouTube videos	1	10%
Quizzes	10	25%
iClicker participation		5%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 212

Number of Credits: 4

Course Name: Introduction to Statistics/Social Sciences Online: No

Course Description:

Designed for students in the social science and business related fields of study. Introduction to basic statistical methods used to collect, summarize, and analyze numerical data and draw conclusions about a population using sample data. Emphasis on application to decision making; examples from the social sciences and business. Topics include: common statistical notation, elementary probability theory, sampling, descriptive statistics, statistical estimation and hypothesis testing. Basic algebra and familiarity with computers and the internet are necessary.

Objectives/Learning Outcomes/Course Expectations:

Statistics is a field of study, or science, in which we make inferences about populations based on a sample of data. This is the first course in a two-course sequence for Resource Economics majors in which students learn how to organize and summarize data, how random data can affect our best guesses about parameters that describe a population, and how to incorporate that information into estimates of those population parameters. The focus on this course is on a single population and on the application of statistical methods to topics in the Social Sciences and Business. Completion of this course provides students will a working knowledge of the methods and skills needed to organize data, conduct meaningful analysis, and draw inferences from sample data about a population. Knowledge of statistics learned in this course provides students the skills to view the world in a different light, skills that can be used in everyday decision-making and communication. Our broad goal is that students become active consumers of statistics and practitioners of statistical analysis.

The structure of RES-ECON 212 provides students the opportunity to develop and refine skills considered most relevant for the modern job market. A list of key skills employers consider most important for potential employees include (*Job Outlook 2014*, National Association of Colleges and Employers): quantitative data analysis; work in a team structure; make decisions and solve problems; plan, organize, and prioritize work; and verbally communicate with persons inside and outside the organization. The blended online/TBL structure requires that students develop or improve on these skills throughout the course. An important part of the course is the development and completion of a team term project where they gather data, summarize and present the data, and draw inferences from those sample data about the population. Students work as a team on their projects during part of each TBL session, organize their efforts outside the classroom, and provide a final written report by semester's end. The project gives students the opportunity to apply the tools learned to real world data and communicate their results.

Pre-requisites: None

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Relationship of course to program context and effectiveness:

RES-ECON 212 adds to the program by providing students with the essential analytical and problem solving skills relevant to a future in managerial economics. Decision-making requires the ability to analyze data and draw conclusions about the possible outcomes of decisions. Applications each week during the TBL sessions and examples used in online lectures illustrate how data can inform decisions. This course is also the prerequisite to our second intermediate statistics course (RES-ECON 213) and quantitative methods (RES-ECON 313). Students gain an appreciation for the process of estimation in RES-ECON 212 and learn to apply the process of estimation to more advanced methods such as regression in RES-ECON 213. These methods are applied to business decision-making in the capstone managerial economics course (RES-ECON 428) as well as the two upper-level on industrial organization (RES-ECON 452) and public policy in private markets (RES-ECON 453).

Grading:

Evaluation method	Number	Percentage of final grade
Homework assignments	weekly	20%
Hour exams	3	20%
Final project	1	40%
In-Class work	weekly	5%
In-class Individual Readiness Assessment Tests	weekly	15%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 213

Number of Credits: 3

Course Name: Intermediate Statistics for Business & Economics Online: No

Course Description:

Topics include hypothesis testing for two populations, analysis of variance for comparing three or more populations, simple linear regression, topics in multiple regression, and univariate time-series techniques like moving averages and exponential smoothing. Statistical software is used for all computations. Basic algebra required.

Objectives/Learning Outcomes/Course Expectations:

This is the second course in a two-course sequence for Resource Economics majors. In the first course (RES-ECON 212), students learned to organize and summarize data, create confidence-interval estimates, and complete hypothesis tests for a single population. In this second course, students will learn how to compare different populations through hypothesis testing. Students will also learn to estimate relationships among variables through regression analysis. Hopefully, they will develop a greater appreciation for the kinds of information presented daily in the press and the ability to use statistics to interpret and judge survey results and statistics presented in the media. Knowledge of statistics is becoming increasingly important in this information age. Statistics can be viewed as discovery through data.

Pre-requisites: RES-ECON 212 or STATISTC 240

Relationship of course to program context and effectiveness:

Important areas of concentration in managerial economics include, but are not limited to, demand analysis, production and cost analysis, government policy, investment analysis, market structure, and pricing strategies. Informed decision making in each of these areas benefits from rigorous quantitative assessment. Statistical tools like analysis of variance and regression have proven to be indispensable when it comes to testing relevant hypotheses or making forecasts in these different areas. In this age of information and data explosion, proper training in both the use of these techniques and accompanying statistical software is mandatory to ensure the validity of any economic argument being proposed.

Grading:

Evaluation method	Number	Percentage of final grade
On-line assignments	15-20	5%
Hour exams	3	50%
Final exam	1	30%
iClicker participation	Daily	5%
Quizzes	5	10%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 262

Number of Credits: 4

Course Name: Environmental Economics

Online: No

Course Description:

Economic analysis of environmental problems focusing on air, water, and land pollution. Emphasis is on analyzing the individual incentives that lead to pollution, the valuation of environmental quality amenities, and the design and evaluation of regulations that seek to improve environmental quality. Includes the economic analysis of global climate change.

Objectives/Learning Outcomes/Course Expectations:

The objective of this course is to introduce students to fundamental ideas and methods of analysis in economics and apply them to the study of how our actions affect the environment we depend on and how we can use individual incentives to improve environmental quality. Students are expected to gain an understanding of how economic analysis is used to understand the causes of environmental degradation and to make efficient decisions about protecting the environment.

Pre-requisites: None

Relationship of course to program context and effectiveness:

This course provides breadth to the training of the managerial economist. The course provides students with the economic framework for analyzing how individual and firm incentives can lead to environmental problems, methods for valuing environmental quality, the design of policy and regulations, and methods for valuing environmental improvement. These concepts are important for improving private and public managerial decision-making.

Grading:

Evaluation method	Number	Percentage of final grade
Homework assignments	8	25%
Hour exams	2	50%
Final exam	1	25%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 263

Number of Credits: 4

Course Name: Natural Resource Economics

Online: No

Course Description:

Economic analysis of natural resource use and conservation. Includes analyses of the use of fuel, forest, marine and biodiversity resources. Focuses on evaluating natural resource use in terms of efficiency and sustainability, and designing regulations for correcting inefficient and unsustainable resource markets.

Objectives/Learning Outcomes/Course Expectations:

The objective of this course is to introduce students to fundamental ideas and methods of analysis in economics and apply them to the problems of natural resource management. Students are expected to gain an understanding of how economic analysis is used to understand problems associated with nonrenewable resources, energy, forests, fisheries, and biodiversity, and to make efficient private and public decisions regarding their use.

Pre-requisites: None

Relationship of course to program context and effectiveness:

This course provides breadth to the training of the managerial economist. The course provides students with the economic framework for analyzing the problems of natural resource management, methods for valuing natural resources, and the efficient design of resource policies and regulations. These concepts are important for improving private and public managerial decision-making regarding natural resources and the environment.

Grading:

Evaluation method	Number	Percentage of final grade
Homework assignments	8	25%
Hour exams	2	50%
Final exam	1	25%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 303

Number of Credits: 3

Course Name: Writing in Resource Economics

Online: No

Course Description:

This course satisfies the Junior Year Writing requirement for students in RES-ECON. The emphasis is on developing students' skills in critical thinking, writing, and effective communication.

Objectives/Learning Outcomes/Course Expectations:

Students in RES-ECON 303 are expected to commit time and energy toward improving their writing through repetition and reflection. The main objective of the course is for students to acquire a sturdy understanding of how deliberate stylistic choices in writing affect the rhetorical outcome of the product. Students are expected to write with their audience always in mind. Students review the fundamental mechanics of writing through micro lectures, lessons, and exercises; they develop an awareness of the logic of persuasion through an attention to structural concerns; and they undertake rigorous research practices and appropriately apply it to their own endeavors. By the end of the course, students should gain confidence in writing formally in their own voice, an awareness of rhetorical conventions in any context while expressing an informed perspective, and the ability to coherently flow propositional statements with evidence and analysis.

Pre-requisites: ENGLWRIT 112

Relationship of course to program context and effectiveness:

RES-ECON 303 prepares students for the next stage of their career--be it an internship, job, or graduate school--by ensuring they can clearly express themselves in a successful manner for the audience for which they are writing. Further, this course invites students to polish their résumé, construct a strong cover letter, and effectively and efficiently summarize content.

Grading:

Evaluation method	Number	Percentage of final grade
Written assignments		60%
Class participation		15%
Reflective essays		15%
Portfolio		10%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 313

Number of Credits: 3

Course Name: Quantitative Methods in Applied Economics

Online: No

Course Description:

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.

Objectives/Learning Outcomes/Course Expectations:

No matter what type of job you get when you leave the RES-ECON family, you will need to be able to make good decisions using numbers. Some of you will get jobs performing analysis, while some of you will need to judge the credibility of the analysis done by others. The goal of this class is to introduce you to decision analysis which covers how to best make decisions in an uncertain world.

Pre-requisites: RES-ECON 211 or 212 or STATISTC 240

Relationship of course to program context and effectiveness:

This course contributes to the quantitative sequence by further reinforcing how numbers can help us to make good decisions and by improving the students' technical skills related to probabilities. The course contributes to the theoretical sequence by focusing on logical and consistent decision making and an understanding of behavioral biases that can adversely affect decision-making.

Grading:

Evaluation method	Number	Percentage of final grade
Homework assignments	8	30%
Hour exams	3	60%
Final exam	Optional	20% to replace 1 exam
Quizzes	Weekly	10%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 314

Number of Credits: 3

Course Name: Financial Analysis for Consumers and Firms

Online: No

Course Description:

Foundations of interest rate theory and fundamentals of finance. A problem-solving approach to selected financial applications as they affect microeconomic units such as the individuals, households, and small businesses. Financial planning, spending, credit and saving, investing, taxes, insurance, retirement, and estate planning are examples of the topics that will be examined.

Objectives/Learning Outcomes/Course Expectations:

The objectives of the course are to develop an understanding of the terms, concepts, and theories involved in personal and family finance, and to identify and clarify the variety of factors that may influence individual and family financial management. Students will explore the economic concerns of individuals and families, and their awareness of the need of financial planning in the context of the household's economic security. They will develop financial decision-making skills and the course will enhance students' ability to apply theoretical knowledge in making the best educated choices in their personal and business finance. The last, but not least, course objective is to enable students to solve a variety of problems by hand, away from the blind dependence on calculators and computers' ready answers.

Pre-requisites: RES-ECON 102 or ECON 103, and MATH 127 or MATH 131

Relationship of course to program context and effectiveness:

This is the first of the 2-course Finance sequence. It provides a quantitative approach to the basic financial issues facing both the small firms and consumers. The focus is on problem-solving and analysis.

Grading:

Evaluation method	Number	Percentage of final grade
Written assignments		
Homework assignments	4	33.33 %
Hour exams	1	33.33%
Final exam	1	33.33%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 394LI

Number of Credits: 1

Course Name: Life is Full of Choices: Res Econ Integrative Seminar

Online: No

Course Description:

Students will reflect on and integrate their learning and experience through the following activities: 1) Update a personal Reflective Portfolio and complete a series of activities in which they inventory and map courses taken, work experience, and extracurricular activities and identify skills they have attained through this experience; develop an updated resume, a networking website profile, and presentations of themselves as Resource Economists; and explore careers in Resource Economics and identify the skills needed to succeed in those career paths, and 2) Participate in weekly team activities comparing personal portfolios; honing communications about what Resource Economists know and can do, and identifying Resource Economics projects and making presentations seeking funding. This 1-credit course, plus one pair of 3-credit courses identified in the Academic Requirements Report, satisfies the Integrative Experience requirement for BS-ResEc majors.

Objectives/Learning Outcomes/Course Expectations:

This course leads students to reflect on and integrate their learning and experiences from their General Education courses, major courses, work history, and other activities and to develop their professional presentations of themselves. Students develop team-based and networking skills through Mutual Mentoring activities based on professional development. They also develop their use of information and information technology, as well as their ability to communicate orally and across several job and graduate school presentation and search web tools.

Pre-requisites: RES-ECON 112

Relationship of course to program context and effectiveness:

This course fulfills part of the Integrated Experience requirement for students in the department. It provides an opportunity at the junior year to inventory experiences, reflect on them, and present them in professional settings including resumes, elevator speeches, LinkedIn, ePortfolios, career fairs, and live presentations. The course provides professional development for students and aids them in planning for internships, jobs, and graduate school.

Grading:

Evaluation method	Number	Percentage of final grade
Written assignments	16	72%
Team Based in Class Work	9	18%
Professional ePortfolio	1	10%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 428

Number of Credits: 3

Course Name: Managerial Economics

Online: No

Course Description:

Application of economic theory and quantitative analysis to the managerial decision-making process. Topics include: cost and production economics, demand analysis, business forecasting, investment project evaluation, and pricing and promotional strategies.

Objectives/Learning Outcomes/Course Expectations:

There are three main objectives for this course. The first is to review and integrate what students already know from previous courses. The second, to offer a different perspective to what was learned in microeconomics and provide an analytical foundation for dealing with decision-making. Lastly, to encourage development of the neutral pathways needed for further study in modern economic analysis for managerial problems.

Pre-requisites: ACCOUNTG 221, FINOPTMGT/FINANCE 301 or RES-ECON 314 and RES-ECON 202 or ECON 203 and RES-ECON 213 & 313

Relationship of course to program context and effectiveness:

This is the capstone course for the major. It pulls all the necessary analytical elements from microeconomic theory, finance, management, math, and statistics and employs them in the decision-making strategies.

Grading:

Evaluation method	Number	Percentage of final grade
Homework assignments	2	20%
Hour exams	2	50%
Final exam	1	30%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 452

Number of Credits: 3

Course Name: Industrial Organization

Online: No

Course Description:

Market structure models with application to various industries. Firm behavioral strategies under different market structures. The role of product differentiation, advertising, market power, mergers, barriers to entry, price and non-price rivalry. Market performance including prices, costs, profits, labor issues, and progressiveness.

Objectives/Learning Outcomes/Course Expectations:

In this course, students learn and apply industrial organization models and theories. These models and theories help understand how the market environment (demand and supply conditions) affect the structure of the market, which affects the conduct of the firms in this market, which in turn affects the market and firm performance. Students in this course must understand and correctly use the Structure-Conduct-Performance (SCP) paradigm to analyze market/industry real life events and situations. They must also be able to understand and apply industrial organization models and theories verbally, graphically and algebraically. A good portion of the course is devoted to studying firms and consumers in a market characterized by oligopoly (i.e., few competitors). In this context, game theory is used to study the strategies used by strategic firms.

Pre-requisites: RES-ECON 202 or ECON 203

Relationship of course to program context and effectiveness:

This course integrates learning from prior microeconomic courses to focus on firm behavior in market structures observed in the real world. This course provides managerial economists with economic theories, models and a framework to understand and study the economic effects of firm decisions, public policies and their welfare implications.

Grading:

Evaluation method	Number	Percentage of final grade
Homework assignments	6	18%
Reflections	4	2%
Hour exams	1	20%
Final exam	1	25%
In-class discussion/projects	weekly	10%
Team case study/project	1	20%
iClicker participation	every lecture	5%

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Course Summary

Course number: RES-ECON 453

Number of Credits: 3

Course Name: Public Policy in Private Markets

Online: No

Course Description:

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).

Objectives/Learning Outcomes/Course Expectations:

The objective is to explore the economic rationale behind competition policy, the agencies that enforce them, and an overview of some of the most important antitrust cases. In this course, students will obtain an economic framework for analyzing government regulation of industry, both from the perspective of a participant in industry and as a citizen.

Pre-requisites: RES-ECON 452

Relationship of course to program context and effectiveness:

This is a capstone course in the Resource Economics major that combines students' knowledge on several prior courses, including Microeconomics, Game Theory, Econometrics and Industrial Organization. Importantly, the practical nature of the course (hands-on experience and analysis of current and past antitrust cases) provides students with the opportunity to connect a variety of concepts learned throughout their undergraduate studies to real-world economic problems.

Students participate in a group policy analysis project, which offers a shared learning experience with project teammates for applying prior learning at UMass Amherst to a real-world issue related to government regulation of markets.

More generally, students have the opportunity to practice Gen Ed learning objectives of critical thinking, collaboration, and interdisciplinary perspective-taking by completing research on a problem with teammates and presenting the resulting analysis to the entire class to stimulate discussion.

Institution: UMass Amherst

Proposed Degree: BS Managerial Economics

Grading:

Evaluation method	Number	Percentage of final grade
Homework assignments	6-8	20%
Hour exams	2	50-65% combined (depending on in-class work/iClickers)
Final exam	1	
In-Class work/iClickers	every lecture	15% (optional)
Casework/groupwork	2	15%

REVENUE ESTIMATES										
	Year 1 2019/20		Year 2 2020/21		Year 3 2021/22		Year 4 2022/23		Year 5 2023/24	
<i>Full-Time Tuition Rate: In-State</i>	\$7,934.09		\$8,172.11		\$8,417.28		\$8,669.79		\$8,929.89	
<i>Full-Time Tuition Rate: Out-State</i>	\$17,555.84		\$18,082.51		\$18,624.99		\$19,183.73		\$19,759.25	
<i>Mandatory Fees per Student (In-state)</i>	\$240.00		\$240.00		\$240.00		\$240.00		\$240.00	
<i>Mandatory Fees per Student (out-state)</i>	\$240.00		\$240.00		\$240.00		\$240.00		\$240.00	
<i>FTE # of New Students: In-State</i>	75		75		100		100		100	
<i>FTE # of New Students: Out-State</i>	25		25		30		30		30	
<i># of In-State FTE Students transferring in from the institution's existing programs</i>		360		35		35		35		35
<i># of Out-State FTE Students transferring in from the institution's existing programs</i>		115		15		15		15		15
Tuition and Fees	Newly Generated Revenue	Revenue from existing programs	Newly Generated Revenue	Revenue from existing programs	Newly Generated Revenue	Revenue from existing programs	Newly Generated Revenue	Revenue from existing programs	Newly Generated Revenue	Revenue from existing programs
First Year Students										
Tuition										
In-State	\$595,057	\$2,856,272	\$612,908	\$286,024	\$841,728	\$294,605	\$866,979	\$303,443	\$892,989	\$312,546
Out-of-State	\$438,896	\$2,018,921	\$452,063	\$271,238	\$558,750	\$279,375	\$575,512	\$287,756	\$592,777	\$296,389
Mandatory Fees	\$24,000	\$114,000	\$24,000	\$12,000	\$31,200	\$12,000	\$31,200	\$12,000	\$31,200	\$12,000
Second Year Students										
Tuition										
In-State			\$612,908	\$2,941,961	\$631,296	\$294,605	\$866,979	\$303,443	\$892,989	\$312,546
Out-of-State			\$452,063	\$2,079,489	\$465,625	\$279,375	\$575,512	\$287,756	\$592,777	\$296,389
Mandatory Fees			\$24,000	\$114,000	\$24,000	\$12,000	\$31,200	\$12,000	\$31,200	\$12,000
Third Year Students										
Tuition										
In-State					\$631,296	\$3,030,219	\$650,235	\$303,443	\$892,989	\$312,546
Out-of-State					\$465,625	\$2,141,873	\$479,593	\$287,756	\$592,777	\$296,389
Mandatory Fees					\$24,000	\$114,000	\$24,000	\$12,000	\$31,200	\$12,000
Fourth Year Students										
Tuition										
In-State							\$650,235	\$3,121,126	\$669,742	\$312,546
Out-of-State							\$479,593	\$2,206,130	\$493,981	\$296,389
Mandatory Fees							\$24,000	\$114,000	\$24,000	\$12,000
Fifth Year Students										
Tuition										
In-State									\$669,742	\$3,214,760
Out-of-State									\$493,981	\$2,272,313
Mandatory Fees									\$24,000	\$114,000
Gross Tuition and Fees	\$1,057,953	\$4,989,193	\$2,177,942	\$5,704,711	\$3,673,518	\$6,458,052	\$5,255,039	\$7,250,852	\$6,926,344	\$8,084,812
Grants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contracts	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Campus budget allocation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Revenues (specify in cell 54)	\$0	\$31,800	\$0	\$35,000	\$0	\$40,000	\$0	\$45,000	\$0	\$50,000
Total	\$1,057,953	\$5,020,993	\$2,177,942	\$5,739,711	\$3,673,518	\$6,498,052	\$5,255,039	\$7,295,852	\$6,926,344	\$8,134,812

Row Notes

Not all of these transferring students will be first-year students. About 425 are current students who are sophomores, juniors and seniors in the BS in Resource Economics major.

cells will update automatically
 Online program revenues with modest increases.

cells will update automatically

Note: These Revenues reflect the transfer of our current BS in Resource Economics managerial economics option students to the new BS in Managerial Economics major. These students are currently sophomores, juniors and seniors and are assumed to graduate over the next three years. (We have excellent graduation rates!)

REVENUE ESTIMATES

Row Notes

	Year 1 2019/20		Year 2 2020/21		Year 3 2021/22		Year 4 2022/23		Year 5 2023/24	
Full-Time Tuition Rate: In-State	\$7,934.09		\$8,172.11		\$8,417.28		\$8,669.79		\$8,929.89	
Full-Time Tuition Rate: Out-State	\$17,555.84		\$18,082.51		\$18,624.99		\$19,183.73		\$19,759.25	
Mandatory Fees per Student (In-state)	\$240.00		\$240.00		\$240.00		\$240.00		\$240.00	
Mandatory Fees per Student (out-state)	\$240.00		\$240.00		\$240.00		\$240.00		\$240.00	
FTE # of New Students: In-State	75		75		100		100		100	
FTE # of New Students: Out-State	25		25		30		30		30	
# of In-State FTE Students transferring in from the institution's existing programs		35		35		35		35		35
# of Out-State FTE Students transferring in from the institution's existing programs		15		15		15		15		15
# of In-State FTE Students returning (did not graduate)		325		225		105		120		0
# of Out-of-State FTE Students returning (did not graduate)		100		30		70		35		35
		425		130		295		140		155
	Newly Generated Revenue	Revenue from existing programs	Newly Generated Revenue	Revenue from existing programs	Newly Generated Revenue	Revenue from existing programs	Newly Generated Revenue	Revenue from existing programs	Newly Generated Revenue	Revenue from existing programs
Tuition and Fees										
First Year Students										
Tuition										
In-State	\$595,057	\$277,693	\$612,908	\$286,024	\$841,728	\$294,605	\$866,979	\$303,443	\$892,989	\$312,546
Out-of-State	\$438,896	\$263,338	\$452,063	\$271,238	\$558,750	\$279,375	\$575,512	\$287,756	\$592,777	\$296,389
Mandatory Fees	\$24,000	\$12,000	\$24,000	\$12,000	\$31,200	\$12,000	\$31,200	\$12,000	\$31,200	\$12,000
Second Year Students										
Tuition										
In-State		\$952,091	\$612,908	\$2,655,937	\$631,296	\$294,605	\$866,979	\$303,443	\$892,989	\$312,546
Out-of-State		\$614,454	\$452,063	\$1,808,251	\$465,625	\$279,375	\$575,512	\$287,756	\$592,777	\$296,389
Mandatory Fees		\$102,000	\$24,000	\$102,000	\$24,000	\$12,000	\$31,200	\$12,000	\$31,200	\$12,000
Third Year Students										
Tuition										
In-State		\$833,079		\$980,654	\$631,296	\$2,735,615	\$650,235	\$303,443	\$892,989	\$312,546
Out-of-State		\$614,454		\$632,888	\$465,625	\$1,862,499	\$479,593	\$287,756	\$592,777	\$296,389
Mandatory Fees		\$33,600		\$102,000	\$24,000	\$102,000	\$24,000	\$12,000	\$31,200	\$12,000
Fourth Year Students										
Tuition										
In-State		\$793,409		\$858,072		\$1,010,073	\$650,235	\$2,817,683	\$669,742	\$312,546
Out-of-State		\$526,675		\$632,888		\$651,874	\$479,593	\$1,918,373	\$493,981	\$296,389
Mandatory Fees		\$31,200		\$33,600		\$102,000	\$24,000	\$102,000	\$24,000	\$12,000
Fifth Year Students										
Tuition										
In-State									\$669,742	\$2,902,214
Out-of-State									\$493,981	\$1,975,925
Mandatory Fees									\$24,000	\$102,000
Gross Tuition and Fees	\$1,057,953	\$5,053,993	\$2,177,942	\$8,375,550	\$3,673,518	\$7,636,020	\$5,255,039	\$6,647,653	\$6,926,344	\$7,463,878
Grants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contracts	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Campus budget allocation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Revenues (specify in cell 54)	\$0	\$31,800	\$0	\$35,000	\$0	\$40,000	\$0	\$45,000	\$0	\$50,000
Total	\$1,057,953	\$5,085,793	\$2,177,942	\$8,410,550	\$3,673,518	\$7,676,020	\$5,255,039	\$6,692,653	\$6,926,344	\$7,513,878

Managerial economics will be a recognizable and desired major increasing the number of new students each year.
 Students transferring from other on-campus programs: engineering, undeclared, etc.
 Students transferring from other on-campus programs: engineering, undeclared, etc.
 Students who are currently in our BS in Resource Economics managerial track, sophomores, juniors and seniors.

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revenues from online teaching with modest increases - we hope for greater increases!

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EXPENDITURE ESTIMATES

	Year 1 2019 - 2020		Year 2 2020 - 2021		Year 3 2021 - 2022		Year 4 2022 - 2023		Year 5 2023 - 2024	
	New Expenditures required for Program	Expenditures from current resources	New Expenditures required for Program	Expenditures from current resources	New Expenditures required for Program	Expenditures from current resources	New Expenditures required for Program	Expenditures from current resources	New Expenditures required for Program	Expenditures from current resources
Personnel Services										
Faculty	\$0	\$1,623,831	\$120,000	\$1,672,546	\$120,000	\$1,846,322	\$0	\$2,025,312	\$0	\$2,086,071
Administrators	\$0	\$9,375	\$0	\$9,375	\$0	\$9,375	\$0	\$9,375	\$0	\$9,375
Support Staff	\$0	\$234,887	\$48,000	\$241,934	\$0	\$298,632	\$0	\$307,591	\$0	\$316,819
Others (15 GEO TA lines)	\$0	\$350,128	\$24,042	\$360,631	\$24,763	\$396,214	\$0	\$433,606	\$0	\$446,615
Fringe Benefits ____%	\$0	\$39,962	\$1,032	\$41,161	\$0	\$43,459	\$0	\$44,763	\$0	\$46,106
Total Personnel	\$0	\$2,258,183	\$193,074	\$2,325,648	\$144,763	\$2,594,002	\$0	\$2,820,647	\$0	\$2,904,985
Operating Expenses										
Supplies	\$0	\$15,000	\$0	\$15,450	\$0	\$15,914	\$0	\$16,391	\$0	\$16,883
Library Resources	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Marketing/Promotional Expenses	\$4,000	\$0	\$4,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Laboratory Expenses (computer replacement)	\$0	\$8,000	\$0	\$8,240	\$0	\$8,487	\$0	\$8,742	\$0	\$9,004
General Administrative Overhead	\$0	\$21,000	\$0	\$21,630	\$0	\$22,279	\$0	\$22,947	\$0	\$23,636
Other- undergraduate teaching assistants	\$0	\$7,000	\$0	\$7,210	\$0	\$7,426	\$0	\$7,649	\$0	\$7,879
Total Operating Expenses	\$4,000	\$51,000	\$4,000	\$52,530	\$0	\$54,106	\$0	\$55,729	\$0	\$57,401
Net Student Assistance										
Assistantships	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fellowships	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Stipends/Scholarships	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Student Assistance	\$0	\$0								
Capital										
Facilities / Campus recharges	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Capital	\$0	\$0								
Total Expenditures	\$4,000	\$2,309,183	\$197,074	\$2,378,178	\$144,763	\$2,648,108	\$0	\$2,876,376	\$0	\$2,962,386

Notes

Assumes 75% of FY 19 faculty salary is devoted to managerial economics and 3% annual increase.
 Chair stipend - also at 75%.
 FY 19 Staff - also at 75%. Given expected growth, we will need one additional advisor in 2020.
 GEO TA lines. Add one TA in 2020-21 and one in 2021-22.
 FY 2019 Fringe at 75%

Promotion of the new program at high schools throughout Massachusetts for the first two years.
 Faculty and computer lab replacements

additional office space given the expectation of future growth.

BUDGET SUMMARY OF NEW PROGRAM ONLY

	Year 1 2019-2020	Year 2 2020-2021	Year 3 2021-2022	Year 4 2022-2023	Year 5 2023-2024
Total of newly generated revenue	\$1,057,953	\$2,177,942	\$3,673,518	\$5,255,039	\$6,926,344
Total of additional resources required for program	\$4,000	\$197,074	\$144,763	\$0	\$0
Excess/ (Deficiency)	\$1,053,953	\$1,980,868	\$3,528,754	\$5,255,039	\$6,926,344



TO: Faculty Senate and Relevant Councils thereof

FROM: Thomas P. Moliterno, Interim Dean

A handwritten signature in black ink, appearing to read 'T. Moliterno', written over the printed name.

Subject: Proposal for a New Degree Program in Managerial Economics

Date: November 15, 2018

Impact on AACSB Accreditation: The proposed Bachelor of Science degree program in Managerial Economics does not present any AACSB accreditation-related issues for the Isenberg School of Management as currently structured. Since the business content is below the 25% threshold and because the degree is clearly structured as an economics degree program, it does not trigger any additional scrutiny by the business school's accreditor.

Should the program increase its business content above the 25% threshold, Isenberg would have to request an exclusion for the program, which would likely be granted.

Access to Isenberg Courses: The Isenberg School of Management is fully supportive of the current degree proposal under consideration. Isenberg will coordinate closely with the Department of Resource Economics to monitor growth in enrollments in the program and to request additional instructional resources from the provost's office should program growth and enrollments warrant. To the extent that students matriculate into the degree program as freshman, any additional resource requirements will occur with a 1-year lag from the time of students matriculating into the degree. This should provide ample opportunity for Isenberg and Resource Economics to coordinate and ensure ample capacity in the required courses.

The Isenberg School of Management currently provides students in Resource Economics access to certain courses as a contracting department. The new proposal for a Bachelor of Science degree in Managerial Economics does not create an immediate need to increase the number of seats available to Resource Economics students in either Accounting 221 or Management 301 –the two required Isenberg courses in the degree proposal. Currently, there is some small slack capacity in Management 301 where no excess capacity exists in Accounting 221. Any growth in the numbers of Resource Economics students enrolling in these courses will (may) require additional instructional resources in Accounting (Management) in the future.

The access that Resource Economics students enjoy to other Isenberg courses as a contracting department remains unchanged.

UMassAmherst
Office of the Dean