

**BOARD OF HIGHER EDUCATION**

**REQUEST FOR COMMITTEE AND BOARD ACTION**

**COMMITTEE:** Academic Affairs

**NO:** AAC 20-05

**COMMITTEE DATE:** October 15, 2019

**BOARD DATE:** October 22, 2019

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**APPLICATION OF THE UNIVERSITY OF MASSACHUSETTS AMHERST TO  
AWARD THE BACHELOR OF SCIENCE IN MANAGERIAL ECONOMICS**

**MOVED:** The Board of Higher Education hereby approves the application of the **University of Massachusetts Amherst** to award the **Bachelor of Science in Managerial Economics**

Upon graduating the first class for this program, the University shall submit to the Board a status report addressing its success in reaching program goals as stated in the application and in the areas of enrollment, curriculum, faculty resources, and program effectiveness.

**VOTED:** Motion adopted by AAC 10/15/2019; adopted by BHE 10/22/2019.

**Authority:** Massachusetts General Laws Chapter 15A, Section 9(b)

**Contact:** Winifred M. Hagan, Ed.D., Senior Associate Commissioner for Strategic Planning and Public Program Approval

**BOARD OF HIGHER EDUCATION**  
**October 2019**  
**University of Massachusetts Amherst**  
**Bachelor of Science in Managerial Economics**

**INTENT AND MISSION**

The University of Massachusetts Amherst (UMA) mission is to provide affordable and accessible education and to conduct programs of research and public service that advance knowledge and improve lives. It is planned that the proposed program will contribute to that mission by providing a BS degree that is sought by private and public employers.

The existing BS degrees in Resource Economics at UMA emphasize modeling consumer, corporate and government choices, and associated markets, applying quantitative methods to analyze choices and results. The proposed program in Managerial Economics degree is expected to concentrate on the application of economic principles to decision-making processes. UMA intends that students will develop expertise in microeconomics and quantitative analysis, as well as develop skills in accounting, finance, business strategies, and market demand analysis. UMA intends that the proposed BS degree will prepare students for post baccalaureate degree programs in economics, mathematics, or statistics, and anticipates that graduates will have career opportunities in research, planning, marketing, and managerial positions. UMA intends that the proposed program will prepare students for professions that are currently in high demand nationally and are projected to have high demand into 2022.

The proposed program has obtained all necessary governance approvals and was unanimously approved by the University of Massachusetts' Board of Trustees on September 5, 2019. The required letter of intent was circulated on May 29, 2019. No comments were received.

**NEED AND DEMAND**

*National and State Labor Market Outlook*

UMA reports that the overall Bureau of Labor Statistics (BLS) projected growth between 2014 and 2024 for resource and managerial economics occupational groups is 7.9 percent. Specific projected growths are reported to include management (5.5%), and business and financial operations (8.4%). UMA holds that these are the two primary occupational groups where UMA graduates are employed. Other projected growth areas where UMA graduates are prepared to be 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, UMA reports that graduates typically find analytical and management positions. UMA notes that students will also be prepared for graduate programs and that at the master's level, the growth in economist positions is projected at 10 to 19% by 2022. UMA further cites that BLS projects growth in market research analysis at 131,500 jobs by 2022, a growth of 31.6% over 2012.<sup>1</sup> Also included in the fastest growing occupations are general and operations managers (12.4%), accountants and auditors (13.1%), and management analysts (18.6%). 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%.<sup>2</sup> Aggregate projected Massachusetts 2012-2022 growth for jobs in economics is nearly 36,000, an increase of 15%.

### *Student Demand*

The proposed program has been offered as a concentration in the existing BS in Resource Economics program. During fall 2017, concentrations were reported at 449 and during the 2017-18 academic year the number of majors grew to 597, graduating the largest class on record.

## **OVERVIEW OF PROPOSED PROGRAM**

As noted above, 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. UMA proposed to offer the BS in Resource Economics with two options: Consumer and family economics; and Environmental and natural resource economics. The proposed BS in Managerial Economics is planned to be administered by the Department of Resource Economics and 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 the BS in Resource Economics program. UMA plans to manage the program with existing resources and with new faculty hired from two tenure track searches.

### *Duplication*

UMA found that bachelor degree programs in managerial economics exist at Bentley University, University of California at Davis and at Santa Cruz, Washington University in St Louis, and several other universities. UMA noted that a recent search for

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<sup>1</sup> *Economic News Release, December 2013. (retrieved June 2019, <http://www.bls.gov/news.release/ecopro.toc.htm> )*

<sup>2</sup> *Labor and Workforce Development, Occupational Projections, from the website of the Executive Office of Labor and Workforce Development.*

“Business/Managerial Economics Degrees” within 100 miles of Amherst, Massachusetts indicated that Bentley, Brown, Harvard and Suffolk Universities offer programs as well as Albertus Magnus, Green Mountain, Nichols and Saint Anselm Colleges. No University of Massachusetts institution appeared in UMA searches of managerial economics degree programs, when using some of the search sites that students might use. UMA found this evidence that there are missed opportunities in not having a managerial economics degree program.

## ACADEMIC AND RELATED MATTERS

### *Admission*

The UMA Department of Resource Economics recruits’ students from those admitted to the institution. Students emerging from PK-12 systems with strong preparation in mathematics are considered by UMA to be well-prepared. Students who have taken an economics course during their high school career, and students interested in applied mathematics or applied economics are expected to be strong candidates for the proposed program. It is expected that students who have participated in dual enrollment or early college opportunities programs will also be strong candidates. UMA plans that entering students who are well prepared and have college credits when they enroll, may graduate within three years, or take advantage of a 4+1 program toward a graduate degree.

### Program Enrollment Projection

	Year 1	Year 2	Year 3	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

### *Curriculum (Attachment A)*

As previously noted, the proposed curriculum is currently offered as an option to the existing BS in Resource Economics. It is planned that 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, in addition to writing,

breadth in the field, and an integrative experience seminar for the core totaling 12 courses (39 or 40 credits<sup>3</sup>).

### *Internships or Field Studies*

UMA plans to 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.

### *Partnerships*

UMA reports that the plans for developing partnerships can begin once a fulltime staff person is hired to manage online and internship programs. The new staff member will be expected to build strategic partnerships with alumni and the broader business community to improve the number of internships available to undergraduates. The department reportedly has nine specific contacts in place though no formal agreements exist at this time. A list of these organizations was provided with the full proposal. UMA underscores that one of the action steps articulated in the University's Strategic Plan is the "integration of classroom and co-curricular high-impact practices such as internships, study abroad, research opportunities, community service, ..." UMA expects to provide more experiential learning opportunities for students and is actively engaged in creating formal relationships with firms that would offer internship, co-ops, job-shadowing, and other professional development and experiential learning opportunities. In addition, companies where UMA alumni are currently employed are targeted for further development of internship opportunities.

## **RESOURCES AND BUDGET**

### *Fiscal (Attachment B)*

UMA proposes changing a current managerial economics concentration within the existing BS in Resource Economics program to a become a new BS degree program in Managerial Economics. UMA expects to make this change within the current, existing budget.

### *Faculty and Administration (Attachment C)*

The department completed tenure track searches during 2015-2017, and it is planned that five of the six new tenure track hires will teach course requirements in the department's proposed program. The Department completed two tenure track searches during the 2018-19 academic year and these additional faculty are also expected to teach required courses in the BS in Managerial Economics program. Additional faculty

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

also contribute to the existing managerial economics option of our BS in Resource Economics program. Resources are available to begin offering the BS in Managerial Economics due to the increase in the number of Resource Economics majors to 449 students at the start of fall semester 2017. UMA also added sections to try to keep the key courses at 40 students or for optimal student/faculty ratios and learning experiences.

It is planned that all majors will be required to meet with an academic advisor each semester as is currently the department's practice. Advising staff will include the current Chief Undergraduate Advisor and a new, full-time undergraduate advisor. It is anticipated that an increase in advising staff will provide students with better opportunities and experiences. Three full-time staff in the department include an Administrator, Academic Programs Coordinator, and an IT and Technical Support Specialist.

*Facilities, Library and Information Technologies*

Current classroom and office space are adequate to house the proposed degree program. The department operates and maintains the Cleve E. Willis Experimental Economics Laboratory. The lab is used as an important research facility for faculty and graduate students, but also allows UMA to teach courses at the undergraduate and graduate level in experimental economics methods. The Willis Lab is also used for a limited number of computing courses.

**PROGRAM EFFECTIVENESS**

<b>Goal</b>	<b>Measurable Objective</b>	<b>Strategy for Achievement</b>	<b>Timetable</b>
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.

**EXTERNAL REVIEW AND INSTITUTIONAL RESPONSE**

The proposed program was reviewed by Dr. Todd Gabe Professor and Interim Director of the School of Economics at the University of Maine and Dr. Hirotugu Uchida, Associate Professor and Chair of the Department of Environmental and Natural Resource Economics at the

University of Rhode Island. The review team found the proposed program to have well-delineated goals and means of measuring success, and that the curriculum is congruent with program goals. The content and sequencing were noted as appropriate. The reviewers found admission requirements to be of sufficient rigor and noted several recent and current new faculty hires, will be likely to keep the proposed program sustainable into the future. The team found no major omissions or problems but suggested that including a course on managerial accounting as a requirement rather than as an elective may be a good idea. The review team also underscored that the proposal documents provided evidence of a strong need for and interest in the proposed program. Noting the fact that 86 percent of the department's current majors have a concentration in Managerial Economics as clear evidence of student interest. The also surmised that occupational employment projections presented in the proposal provide strong evidence of the need and demand for graduates with a background in Managerial Economics.

In response, UMass Amherst was appreciative of the teams' agreement with evidence for the need and demand for such a program and that graduates will be employable. They declined the suggestion that Managerial Accounting be included in the curriculum as a required course. While in agreement that this course is relevant and useful for the majority of students UMass Amherst found it appropriate not to make the course an absolute requirement for every student but prefers to work with individual students through the advising process to determine their need for taking the course.

## **STAFF ANALYSIS AND RECOMMENDATION**

Staff thoroughly reviewed all documentation submitted by the **University of Massachusetts Amherst** and external reviewers. Staff recommendation is for approval of the proposed **Bachelor of Science in Managerial Economics** program.



**Attachment A: Curriculum**

BS Managerial Economics

<b><i>Required (Core) Courses in the Major (Total # courses required = (22))</i></b>		
<b><i>Course Number</i></b>	<b><i>Course Title</i></b>	<b><i>Credit Hours</i></b>
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 STATISTIC 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
Selected Course	Students are required to select four additional courses from a list of options curated by the department 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. (Attached)	3
Selected Course		3
Selected Course		3
Selected Course		3
<b><i>Sub Total Required Credits</i></b>		<b>67 - 70</b>

<b>Elective Courses (Total # courses required =7-10)</b>	
General Elective	3
General Elective	3
General Elective	3
General Elective	3
General Elective	3
General Elective	4
General Elective	4
General Elective (if needed)	4
General Elective (if needed)	4
General Elective (if needed)	3
<b>Sub Total Elective Credits</b>	23-34
<b><i>Distribution of General Education Requirements</i></b> Attach List of General Education Offerings (Course Numbers, Titles, and Credits)	# of Gen Ed Credits
College Writing: ENGLWRIT 112	3
A course satisfying the Biological Science General Education requirement	4
A course satisfying the Physical Science General Education requirement	4
A course satisfying the Literature or Arts General Education requirement	4
A course satisfying the Historical Studies General Education requirement	4
A course satisfying the United States Diversity General Education requirement (if not double dipping with another Gen Ed category)	4
A course satisfying the Global Diversity General Education requirement (if not double dipping with another Gen Ed category)	4
<b><i>Sub Total General Education Credits</i></b>	19-27
<b><i>Curriculum Summary</i></b>	
Total number of courses required for the degree	34-39
Total credit hours required for degree	120

List of possible *Selected 3-Credit Core Courses*

<b>Course</b>	<b>Title</b>
Accounting 222	Introduction to Accounting II
Accounting 311	Accounting Information Systems
Accounting 321	Intermediate Financial Accounting I
Accounting 322	Intermediate Financial Accounting II
Accounting 331	Cost Accounting
Accounting 371	Individual Taxation
Accounting 423	Advanced Financial Accounting
BCT 353	Business of Building
BCT 550	Construction Project Management
Comm 287	Advertising as Social Communication
Comm 289	Media, Public Relations, Propaganda
Comm 497T	Advanced Issues in Info Tech and Society
Econ 305	Marxian Economics
Econ 307	Applied Economic Topics
Econ 308	Political Theory of the Environment
Econ 309	Game Theory
Econ 311	Money and Banking
Econ 313	Public Finance
Econ 314	State and Local Public Finance
Econ 321	International Monetary Theory
Econ 322	International Trade
Econ 330	Labor in the American Economy
Econ 340	Economics of Health
Econ 341	Labor Economics
Econ 348	Political Economy of Women
Econ 361	European Economic History
Econ 362	American Economic History
Econ 366	Economic Development
Econ 367	Post-Independence African Development
Econ 371	Comparative Economic Systems
Econ 373	Socialist Economics
Econ 374	Capitalism, Socialism, Democracy
Econ 394CI	Economics of Cooperative Enterprise
Econ 394EI	Economics and Ethics
Econ 394LI	Law and Economics
Econ 397BB	Economics of Risk and Uncertainty
Econ 397CP	Critical Perspectives in Law and Econ
Econ 397D	Latin American Economic Development

Econ 397EP	Economics of Piracy
Econ 397EV	Environmental Economics
Econ 397FA	Political Economy of Food and Agriculture
Econ 397FC	History of Financial Crisis
Econ 397FS	The Financial Sector
Econ 397LG	Policy and Economics of LGBT Issues
Econ 397MI	City, Industry, Labor in Modern India
Econ 397N	Compensation, Incentives, Productivity
Econ 397PE	Political Economy of War, Civil Conflict, Peace

<b>Course</b>	<b>Title</b>
Econ 397RW	Real World Economics
Econ 397T	Education and Economics
Econ 397WP	Wellbeing, Inequality, Poverty
Econ 452	Econometrics (Res Ec 312)
Finance 304	Financial Modeling
Finance 305	Investments
Finance 402	Advanced Corporate Finance
Finance 403	Capital Markets and Institutions
Finance 404	Bank Management
Finance 405	International Finance
Finance 422	Financial Engineering
Finance 497N	ST-Nonprofit Financial Management
Management 260	Introduction to Law
Management 314	Human Resource Management
Management 330	Organizational Behavior
Management 331	Organization Design and Change
Management 334	Compensation Administration
Management 341	New Ventures
Management 342	New Venture Financing
Management 343	New Venture Organizing and Growth
Management 361	Contracts in Business Relationships
Management 362	Law of Enterprise Organization
Management 365	Business and its Environment
Management 366	Foundations of Sustainable Enterprise
Management 444	Management/Union Relations
Management 448	International Management
Management 462	Social Entrepreneurship
Management 482	Current Issues in Human Resource Mgmt
Management 488	Strategic Mgmt for a Sustainable World



ResEcon 324	Small Business Finance
ResEcon 397A	Econ of Contemporary Info Technology
ResEcon 397E	Economic Development of the Environment
ResEcon 462	Experimental Economics
ResEcon 471	Cost/Benefit Analysis of Nat. Res. Programs
ResEcon 472	Adv. Topics in Resource and Envir. Econ
ResEcon 497T	Topics in Time Series and Forecasting
Sch-Mgmt 350	Professional Ethics in Contemp. Society
Sociol 327	Social Change
Sociol 386	Complex Organizations
Statistic 511	Multivariate Statistical Methods
Statistic 515	Statistics I
Statistic 516	Statistics II
Statistic 525	Regression of Analysis of Variance
Statistic 526	Design of Experiments
Statistic 597L	Special Topics-Dynamic Linear Models
Statistic 597P	Programming Data Analytics & Visualization
Statistic 597TS	ST-Time Series
Sustcomm 577	Urban Policies

Attachment B: Budget

<b>REVENUE ESTIMATES</b>										
	<b>Year 1</b>		<b>Year 2</b>		<b>Year 3</b>		<b>Year 4</b>		<b>Year 5</b>	
	<b>2019/20</b>		<b>2020/21</b>		<b>2021/22</b>		<b>2022/23</b>		<b>2023/24</b>	
<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>		35		35		35		35		35
<i># of Out-State FTE Students transferring in from the institution's existing programs</i>		15		15		15		15		15
<i># of In-State FTE Students returning (did not graduate)</i>		325	100	225	105	120		0		0
<i># of Out-of-State FTE Students returning (did not graduate)</i>		100	30	70	35	35		0		0
		425	130	295	140	155				
<b>Tuition and Fees</b>	<b>Newly Generated Revenue</b>	<b>Revenue from existing programs</b>	<b>Newly Generated Revenue</b>	<b>Revenue from existing programs</b>	<b>Newly Generated Revenue</b>	<b>Revenue from existing programs</b>	<b>Newly Generated Revenue</b>	<b>Revenue from existing programs</b>	<b>Newly Generated Revenue</b>	<b>Revenue from existing programs</b>

<b><u>First Year Students</u></b>										
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
<b><u>Second Year Students</u></b>										
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
<b><u>Third Year Students</u></b>										
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
<b><u>Fourth Year Students</u></b>										
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
<b><u>Fifth Year Students</u></b>										
Tuition										
In-State									\$669,742	\$2,902,214
Out-of-State									\$493,981	\$1,975,925



Mandatory Fees									\$24,000	\$102,000
<b>Gross Tuition and Fees</b>	\$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
<b>Grants</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Contracts</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Campus budget allocation</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	online program revenues									
<b>Other Revenues (specify in cell 54)</b>	\$0	\$31,800	\$0	\$35,000	\$0	\$40,000	\$0	\$45,000	\$0	\$50,000
<b>Total</b>	\$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

<b>EXPENDITURE ESTIMATES</b>										
	<b>Year 1 2019 - 2020</b>		<b>Year 2 2020 - 2021</b>		<b>Year 3 2021 - 2022</b>		<b>Year 4 2022 - 2023</b>		<b>Year 5 2023 - 2024</b>	
	<b>New Expenditures required for Program</b>	<b>Expenditures from current resources</b>	<b>New Expenditures required for Program</b>	<b>Expenditures from current resources</b>	<b>New Expenditures required for Program</b>	<b>Expenditures from current resources</b>	<b>New Expenditures required for Program</b>	<b>Expenditures from current resources</b>	<b>New Expenditures required for Program</b>	<b>Expenditures from current resources</b>
<b>Personnel Services</b>										
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
<b>Total Personnel</b>	<b>\$0</b>	<b>\$2,258,183</b>	<b>\$193,074</b>	<b>\$2,325,648</b>	<b>\$144,763</b>	<b>\$2,594,002</b>	<b>\$0</b>	<b>\$2,820,647</b>	<b>\$0</b>	<b>\$2,904,985</b>
<b>Operating Expenses</b>										
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
<b>Total Operating Expenses</b>	<b>\$4,000</b>	<b>\$51,000</b>	<b>\$4,000</b>	<b>\$52,530</b>	<b>\$0</b>	<b>\$54,106</b>	<b>\$0</b>	<b>\$55,729</b>	<b>\$0</b>	<b>\$57,401</b>
<b>Net Student Assistance</b>										
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
<b>Total Student Assistance</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Capital</b>										
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
<b>Total Capital</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

<b>Total Expenditures</b>	\$4,000	\$2,309,183	\$197,074	\$2,378,178	\$144,763	\$2,648,108	\$0	\$2,876,376	\$0	\$2,962,386
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**BUDGET SUMMARY OF NEW PROGRAM ONLY**

	Year 1 2019	Year 2 2020	Year 3 2021	Year 4 2022	Year 5 2023
	-	-	-	-	-
	2020	2021	2022	2023	2024
	\$1,053	\$2,142	\$3,618	\$5,239	\$6,944
<b>Total of newly generated revenue</b>	57,953	77,942	73,518	55,039	26,344
<b>Total of additional resources required for program</b>	\$4,000	\$197,074	\$144,763	\$0	\$0
<b>Excess/ (Deficiency)</b>	\$1,053,953	\$1,980,868	\$3,528,754	\$5,255,039	\$6,926,344

**ATTACHMENT C: FACULTY**

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"> <li>• Res Econ 314 Financial Analysis for Consumers and Firms (C)</li> <li>• Res Econ 324 Small Business Finance (C)</li> <li>• Res Econ 428 Managerial Economics (C)</li> </ul>	(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"> <li>• Res Econ 452 Industrial Organization in Resource Economics (C)</li> </ul>	(1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Bloomfield, Luke MA English, Lecturer	N	<ul style="list-style-type: none"> <li>• Res Econ 303 Junior Year Writing</li> </ul>	(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"> <li>• Res Econ 472 (E)</li> </ul>	(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"> <li>• Res Econ 499O and 499N Implementing Sustainability and Social Responsibility in Today's Economy</li> <li>• Res Econ 471 Benefit Cost Analysis (E)</li> </ul>	(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"> <li>• Res Econ 202 Price Theory (C)</li> <li>• Res Econ 313 Quantitative Methods in Applied Economics (C)</li> </ul>	(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"> <li>• Res Econ 313 Quantitative Methods in Applied Economics (C)</li> </ul>	(1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus
Gayle, Wayne Roy PhD Economics	N	<ul style="list-style-type: none"> <li>• Res Econ 212 Introductory Statistics</li> </ul>	(6)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus

Lecturer		for the Social Sciences (C)		Behavioral Sciences			
Lass, Daniel PhD Agricultural Economics, Professor and Department Chair	Y	<ul style="list-style-type: none"> <li>• Res Econ 312 Introductory Econometrics (E)</li> <li>• Res Econ 394LI Integrative Experience Seminar (C)</li> </ul>	(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"> <li>• Res Econ 102 Introductory Resource Economics (C)</li> <li>• Res Econ 452 Industrial Organization in Resource Economics (C)</li> </ul>	(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"> <li>• Res Econ 162 The Consumer in our Society (E)</li> <li>• Res Econ 362 Consumer Protection and Legislation (E)</li> <li>• Res Econ 460 Family in Economic Systems (E)</li> <li>• Res Econ 470 Family Economic Policy: Issues and Implications (E)</li> </ul>	(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"> <li>• Res Econ 453 Public Policy in Private Markets (C)</li> <li>• Res Econ 121 Hunger in a Global Economy (C)</li> </ul>	(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"> <li>• Res Econ 213 Intermediate Statistics for Business and Economics (C)</li> <li>• Res Econ 428 Managerial Economics (C)</li> </ul>	(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"> <li>• Res Econ 213 Intermediate Statistics for Business and Economics (C)</li> </ul>	(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"> <li>• Res Econ 453 Public Policy in Private Markets (C)</li> </ul>	(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"> <li>• Res Econ 102 Introductory Resource Economics (C)</li> </ul>	(1)	College of Social and Behavioral Sciences	Full-time	No	Amherst Campus

		<ul style="list-style-type: none"> <li>• Res Econ 428 Managerial Economics (C)</li> </ul>	(1)	Behavioral Sciences			
Spraggon, John PhD Economics Associate Professor	Y	<ul style="list-style-type: none"> <li>• Res Econ 202 Price Theory (C)</li> <li>• Res Econ 462 Experimental Economics (E)</li> </ul>	(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"> <li>• Res Econ 262 Environmental Economics (E)</li> <li>• Res Econ 263 Natural Resource Economics (E)</li> </ul>	(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"> <li>• Res Econ 112 Computing: Foundations to Frontiers (C)</li> <li>• Res Econ 202 Price Theory (C)</li> <li>• Res Econ 313 Quantitative Methods in Applied Economics (C)</li> </ul>	(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"> <li>• Res Econ 453 Public Policy in Private Markets (C)</li> </ul>	(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"> <li>• Res Econ 397 Economics of Contemporary Information Technology (E)</li> </ul>	(1)	College of Social and Behavioral Sciences	Part-time	No	Amherst Campus