BOARD OF HIGHER EDUCATION

REQUEST FOR COMMITTEE AND BOARD ACTION

COMMITTEE:	Academic Affairs	**NO**:	AAC-17-05
		COMMITTEE DATE:	November 29, 2016
		BOARD DATE:	December 6, 2016

APPLICATION OF THE UNIVERSITY OF MASSACHUSETTS BOSTON TO AWARD THE BACHELOR OF ARTS IN ENVIRONMENTAL STUDIES AND SUSTAINABILITY

MOVED: The Board of Higher Education hereby approves the application of **University of Massachusetts Boston** to award the **Bachelor of Arts in Environmental Studies and Sustainability**

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.

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

Contact: Winifred M. Hagan, Ed.D., Associate Commissioner for Academic Affairs and Student Success

BOARD OF HIGHER EDUCATION
November 2016
University of Massachusetts Boston
Bachelor of Arts in Environmental Studies and Sustainability

INTENT AND MISSION

The University of Massachusetts Boston (UMB) reports that the Environmental Studies and Sustainability, Bachelor of Arts program (ESS/BA) fits within the mission and values of UMB and the School for the Environment (SFE). The ESS/BA reflects SFE values of inquiry, creativity and discovery, transformation, diversity and inclusion, engagement, environmental stewardship and sustainability, economic and cultural development. Collaboration with the College of Science and Mathematics, the College of Liberal Arts, the College of Management, and the McCormack Graduate School of Policy and Global Studies were significant to the proposals' development. It is expected that the ESS/BA will strengthen the SFE's mission of generating and activating knowledge to solve linked watershed and coastal marine environmental problems.

The purpose of the proposed ESS/BA program is to prepare Interdisciplinary Environment and Sustainability (IES) professionals to use interdisciplinary and collaborative decision-making processes to devise practical solutions for managing environmental problems. It is expected that ESS/BA majors will learn human- natural systems knowledge, problem analysis and solution management skills that emphasize interdisciplinary knowledge production and decision-making processes. UMB intends that ESS/BA majors will be broadly trained across disciplines in order to provide students with an overarching interdisciplinary framework for approaching complex, interconnected environmental problems.

The proposed program has obtained all necessary governance approvals on campus and was approved by the University of Massachusetts Board of Trustees on September 21, 2016. The required letter of intent was circulated on June 2, 2016. No comments were received.

NEED AND DEMAND

National and State Labor Market Outlook

A 2014 EDUVENTURES report indicated that national occupational growth for the natural resources and conservation field is expected to grow steadily at ~15 % each year, while the New England regional growth is expected to be ~ 1%[1]. The proposed program is expected to help support this growth need by providing graduates for the local, state, regional, and national workforce.

UMass Boston reports that, according to 2014 projections by the Bureau of Labor Statistics (BLS), employment demand for individuals with a background in IES is increasing at the local, state, and national level. BLS data for workforce growth in IES show that the field is expected to grow 16 to 29% faster than other STEM fields and it is anticipated that 15% growth will occur from 2012 to 2022. UMass Boston also reports that in response to this need the BLS introduced the Green Jobs Initiative to develop information on the number and trend of green jobs; the industrial, occupational, and geographic distribution of the jobs; and the wages and salaries associated with green jobs. The BLS defines "green jobs" as jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources and jobs for which duties involve making production processes environmentally friendly.

[1] EDUVENTURES, Inc. 2014. *School for the Environment Campus Data Report* . Boston, Massachusetts: EDUVENTURES.

Student Demand

Based on the EDUVENTURES (2014) report, UMB expects the proposed ESS/BA to have 15 degree conferrals per year by the end of five years. The report also suggests UMB can anticipate that 65% of students will be comprised of incoming freshman; 25% from community college transfers, and 10% from within the university. The percentages are based on UMB current enrollment trends in environmental science as well as data from surveys of high school students in the region and at institutions that offer a similar degree program. These data were complied to provide the expected breakdown of student sources for the new major.

OVERVIEW OF PROPOSED PROGRAM

UMB reports that Interdisciplinary Environment and Sustainability (IES) education has grown since the early 1990's, combining human and natural system interfaces through applied interdisciplinary knowledge in areas of system science, policy and governance, and adaptive management. System science programs prepare students to advance scientific understanding of the complexity of human-natural systems. Policy and Governance programs prepare students to understand how political institutions, industrial processes, community and individual choices contribute to practices that can either threaten or create resilient and sustainable system interfaces. Adaptive management programs prepare students for complex, integrated, decision-making processes that inform adaptive policy and management of human-natural system interfaces. While each of these prototypes differs in its knowledge content and applied skills, UMB reports that there is some overlap and at the same time all three are distinctly important for problem solving for environmental sustainability.

Duplication

In 2013, the National Center for Science and the Environment commissioned a study that found there were 40 IES degree-granting programs in Massachusetts at 4-year institutions, yet in the New England region only 12% of all institutions provided IES degrees. UMB indicates that the top 10 institutions are the University of Vermont, Middlebury College, Massachusetts Maritime Academy, Green Mountain College, Bates College, Dartmouth College, Keene State College, Yale University, Northeastern University, and University of Rhode Island[2]. Eleven public institutions in MA provide environmental programs with UMass Dartmouth, UMass Lowell, Massachusetts College of Liberal Arts, and Salem State University offering an Environmental Studies BA.

ACADEMIC AND RELATED MATTERS

Admission

Admission requirements for first-year and transfer students are planned to be consistent with the general admission requirements of the university. It is expected that applicants will have earned strong grades in high school or college programs and demonstrate strong writing and math skills as evidenced by their grades, essays, and standardized exams. The UMB School for the Environment works with transfer students on providing transfer credit or waivers for coursework taken at previous institutions.

[2] Ibid.

Program Enrollment Projection

	# of Students Year 1	# of Students Year 2	# of Students Year 3	# of Students Year 4*
New Full -Time	15	15	15	15
Continuing Full -Time	0	15	30	45
New Part -Time	0*	0*	0*	0*
Continuing Part -Time	0*	0*	0*	0*
Totals	15	30	45	60

* No part-time students were calculated into enrollment projections for this program, though it is planned that the program will be accessible to part-time students. In developing the proposal, only full-time student data was available as few part-time students are enrolled in the School for the Environment resulting in a lack of available data to provide a statistically reliable projection. UMB would welcome part-time students to the program.

Curriculum (Attachment A)

It is expected that the proposed ESS/BA degree will require a total of 120 credits, including the general education and major courses. UMB plans that the goal of the prescriptive 14 core courses will ensure that all ESS/BA students will have a common environmental studies and sustainability foundation. These courses were carefully selected to ensure the horizontal and vertical coverage of the core areas of environmental studies and sustainability. As well, UMB anticipates that the prescriptive nature of the 14 core courses will enable strong advising.

Internships or Field Studies

UMB expects the proposed program will provide multiple pathways for students to gain experience in the field before degree completion. The capstone options for the proposed degree program include Cooperative Education Field Experiences, and it offers an Environmental Sciences Capstone and Honors in Environmental Sciences course, Internships in Environmental Studies, Environmental Problem Analysis and Policy Formulation or an independent study. UMB maintains that allowing for multiple pathways to completion without a required internship will ensure timely degree completion for all students whether or not they are able to take advantage of paid or unpaid internships and research opportunities.

RESOURCES AND BUDGET

Fiscal (Attachment B)

UMB expects that the development of the ESS/BA will require few new resources and that most of the fiscal needs required for the proposed degree program will be covered through the existing resources in the School for the Environment. The proposed program leverages existing resources on campus and in the SFE. It is planned that due to the existing environmental focus and expertise on campus, only a few modified courses will be needed to fully develop the curriculum. It is also planned that the Environmental Studies program director will also serve as the ESS/BA director. Existing administrative staff members are expected to provide support for the proposed program. In addition a modest travel stipend for visits to PK-12 and community colleges is planned. Attendance at national conferences, marketing materials, and classroom instructional supports are also anticipated.

Faculty and Administration (Attachment C)

Faculty resources and courses, for the proposed ESS/BA program are expected to be numerous as environmental faculty, are based in the School for the Environment and the College of Science and Mathematics and in a number of departments within the College of Liberal Arts. There also are additional faculty based in the College of Management and the McCormack Graduate School of Policy and Global Studies who are anticipated to be participants in the proposed program. Staffing is expected to be supported by the School for the Environment, including a dean, two undergraduate program directors (Environmental Science and Environmental Studies), an undergraduate program coordinator, a business manager, an office manager, an administrative assistant, an SFE engineer/boat captain, a GIS/IT technician, a graduate program director, and a graduate program coordinator.

Facilities, Library and Information Technologies

Existing School for the Environment facilities include staff office space, a student lounge/computer lab (four computers and a poster printer), a 24/7 computer lab (five computers), three teaching laboratories including a GIS lab with a poster printer, 12 research wet laboratories, eight research dry laboratories, the Environmental Analytical Facility (~30 instruments distributed among four instrumentation rooms, the University of Massachusetts Boston Field Station on Nantucket, and a research vessel. Class schedules and classrooms are assigned centrally by a staff member in the College of Liberal Arts and College of Science and Mathematics office. Additional facilities include faculty or department office spaces and classrooms managed by collaborating units of the College of Liberal Arts, College of Management, and the McCormack Graduate School for Policy and Global Studies.

The university library supports the campus' academic and research pursuits and is expected to be adequate for the university's instructional programs. It is anticipated that the library staff will guide students in the process of discovery and effective use of informational materials. The university library staff members facilitate conversations on scholarly communication, copyright, research, teaching, and learning in higher education. The library has a dean who oversees Reference Outreach Instruction, Public Services, Business Acquisitions and Technical Services, Resource Management, Library Applications Development Manager, Resource Sharing, Reserves, document delivery services, and University Archives and Special Collections. Resources

include an online catalog, course reserves, online databases and indexes, E-Resources, InterLibrary Loan, research guides, WorldCat, and ScholarWorks.

The Information Technology Services Division (ITSD) of the university supports faculty, staff and students with 100 staff and 60 students across five units of application services, client services, infrastructure, education technology, and research computing. ITSD provides student services including tech support, Wi-Fi, printing, email, computer laboratories, free and discounted software, training videos, and training classes. Example Resources include Blackboard Learn, webmail, computer labs, virtual computer labs, and free or reduced-price software/hardware such as MS Office, McAfee Anti-virus, Mathematica, MATLAB, Dell and Apple products.

Affiliations and Partnerships

While there are no formal articulation agreements with other institutions in place, UMB expects that Massasoit and Bunker Hill community colleges will be the best feeder community colleges for the program with Cape Cod Community College as a recruitment institution as well. UMB plans to establish articulation agreements with these three community colleges as well other appropriate two-year campuses once the proposed program has received BHE approval.

PROGRAM EFFECTIVENESS

Goal	Measurable Objective	Strategy for Achievement	Timetable
Have higher graduation rates than university average for undergraduates	90% 6-year graduation rates	Develop cohorts through seminars and student success programs	5 years after first cohort graduates
High employment/graduate school placement	100%	Seminars, networking activities, and professional development seminars	5 years after first cohort graduates
High employer satisfaction	90% employers surveyed are satisfied or very satisfied with ESS BA graduates	Effective curriculum and professional development activities	5 years after first cohort graduates

EXTERNAL REVIEW AND INSTITUTIONAL RESPONSE

The program was reviewed by Dr. Dibyendu Sarkar, certified professional geologist and Professor of Environmental Engineering at the Stevens Institute of Technology in Hoboken, New Jersey; and by Dr. Daniel Hornbach, an aquatic ecologist and Professor and Chair of Environmental Studies at Macalester College in Saint Paul, Minnesota. The review team conducted a site visit on Wednesday, July 6, 2016 with representatives of the faculty, staff, students, and administration. It also conducted a paper review of the proposed program and submitted a report to UMB's Office of the Provost on Sunday, July 10, 2016. The reviewers concluded that the program was thoughtfully developed and structurally and intellectually sound; had

great potential, especially in the area of sustainability; with strong interdisciplinary administrative and faculty collaboration across the university. The review team made two suggestions. One was for more explicit incorporation of sustainability in the program and the second was to make descriptions of resources that could support funding for students pursuing internships more available.

UMB responded with appreciation for the review and understands sustainability to be a broad and growing field, not limited to the environment. UMB's rationale is that environmental sustainability is embedded in all courses associated with the proposed ESS/BA. UMB responded that the embedded nature of sustainability is consistent with the national approach of Integrated Environmental and Sustainability education as reviewed in the Council for Environmental Deans and Directors annual reports and as noted in the text of the proposal. The ESS/BA curriculum design framework is informed by and based on these reports. UMB agreed that it will adjust existing course titles and course descriptions as appropriate, leverage the explicitly named sustainability courses, and potentially add additional courses in this area. Regarding resources, UMB plans to leverage existing resources and maximize new investments to broadly advance environmental education, research, and service campus-wide. It is expected that such investments will address funded internship programs, joint hiring, and can be extended and developed once the program is approved.

STAFF ANALYSIS AND RECOMMENDATION

Staff thoroughly reviewed all documentation submitted by the **University of Massachusetts Boston** and external reviewers. Staff recommendation is for approval of the proposed **Bachelor of Arts in Environmental Studies and Sustainability** program.

ATTACHMENT A: CURRICULUM

BA Environmental Studies and Sustainability

Major Required (Core) Courses (# Total courses required = 14[a])		
Course Number	**Course Title**	**Credit Hours**
Natural Sciences / Mathematics		
ENVSCI 120	Introduction to Environmental Sciences	3
ENVSCI 121	Introduction to Environmental Sciences Laboratory	1
ENVSCI 260	Global Environmental Change	3
MATH 125 or ENVSCI 261	Introductory Statistics or Statistics for Environmental Science	3
Natural Resources		
ENVSCI 122	Introduction to Environmental Policy and Management	3
Social Sciences		
POLSCI 203	Public Policy	3
Humanities		
HIST 276	This Land Is Your Land: a Survey of American Environmental History	3
INTR-D 201	An Introduction to Interdisciplinary Studies	3
PHIL 220	Environmental Ethics	3
Econ/Econ. Dev.		
ECON/ENVSCI 345L	Natural Resources and Sustainable Development	3
Seminars		
ENVSTY 210	Second-Year Seminar: Conflict and Resolution	1
ENVSTY 310	Third-Year Seminar: Professional Development	1
ENVSTY 410	Fourth-Year Seminar: Environmental Issues	1
Capstone	***Choose one***	
ENVSCI 444 ENVSCI 476 ENVSCI 498 ENVSTY 301 ENVSTY 401 ENVSTY 478	Cooperative Education Field Experiences Environmental Science Capstone Honors in Environmental Science Internships in Environmental Studies Environmental Problem Analysis and Policy Formulation Independent Study	3
	Sub-Total # Core Credits Required	34

Elective Courses (from 24 course options, below) # Total elective courses required = 4) For major elective courses, student must take a total of 4 courses, one from each area of Natural Resources, Social Sciences, Humanities, and Economics/Economic Development and 2 of the 4 courses must be at the 300 level or above.		
Natural Resources		
ENVSCI 270	Cities and the Environment	3
ENVSCI 280	Global Society and the Environment	3
ENVSCI 281	Introduction to Geographic Information Systems	3
ENVSCI 324	Coastal Zone Management	3
ENVSCI 340	Planning and Land Use Law	3
ENVSCI 364	Environmental Management and Sustainability	3
ENVSCI 375	Urban Planning	3
ENVSCI 383	Water Resource Management: Principles, Practices, and Problems	3
ENVSCI 384	Climate and Energy: Law, Policy, and Management	3
Social Sciences		
ANTH 263	Anthropology of the Environment	3
ANTH 317	Human Epidemiology	3
ANTH 346	Culture, Globalization, and the Environment	3
CONRES 621	Negotiation	3
CONRES 623	Introductory Theory	3
SOCIOL 290	Environmental Justice and Human Disaster	3
Humanities		
ASIAN 371	Environmental Issues in China	3
ENGL 343	Literature, Culture, and the Environment	3
COMM 340	Communication and Community Mobilization	3
HIST 385	American Indians and the Environment	3
HIST 392	American Women in Biography	3
WGS 270	Native American Women in North America	3
WGS 295L	Introduction to Human Rights	3
Econ. /Econ. Dev.		
ECON/ENVSCI 349L	Economic Approaches to Environmental Problems	3
MGT 481	Introduction to Environmental Management and Clean Energy	3
	Sub-Total Elective Credits	12

Distribution of General Education Requirements	# of Credits
Verbal Reasoning and Expression (VRE) (2 courses; ENGL 101 and 102)	6
Critical Analysis (CA) (3 courses; ENVSCI 187s, 188s, and 200G-Level)	7
Quantitative Reasoning (QR) (1 Course; MATH 125 or ENVSCI 261)	Waived
Diversity (DY) (2 courses; listings)	6
Arts and Humanities (3 Courses; AR and HU listings; HIST 276 and PHIL 220 and AR listings)	9
Mathematics and Natural Sciences (NS) (3+1(lab) courses; at least 1 NS course; ENVSCI 120, 121, 260 and MATH 125 or higher)	10
Social Behavioral (3 Courses; ENVSCI 122 and SB listings)	9
World Cultures/World Languages (2 Courses; WC and WL listings)	6
Sub-Total General Education Credits	53[a]

Curriculum Summary	
Total number of courses required for the degree	40[a] 18 (major, 14 core and 4 elective) + 19 (gen. ed.) – 7 (dual general education and major) + 10 (non-major elective)
Total credit hours required for degree	120[a] 99 (major and general education) - 19 (dual general education and major) + plus 40 (non-major, non-general education)

Students who do not meet the world languages requirement prior to enrollment on campus may have to take up to two additional courses in world language (6 credits)

[a] = This results in 99 credits from the general education and major requirements and leaves 21 credits outstanding for the BA degree. However, since ENVSCI 120, 121 and 260 count as General Education Natural Science courses (7 credits), ENVSCI 122 counts as a Social Behavioral General Education Distribution course (3 credits), MATH 125 or ENVSCI 261 count as the Mathematics and Quantitative Reasoning General Education Distribution Course (3 credits), and HIST 276 and PHIL 220 count as Humanities Distribution courses (6 credits) for a total of 19 credits, a student will likely need an additional 40 credits (21 + 19) to reach the 120 BA degree requirements. Overall, these 40 credits will allow students to pursue other interests such as individual courses or themes of interest, a minor, or a second major.

ATTACHMENT B: BUDGET

B.A. Environmental Studies and Sustainability

REVENUE ESTIMATES										
	Year 1 2014		Year 2 2015		Year 3 2016		Year 4 2017		Year 5 2018	
Full-Time Tuition Rate: In-State	1,714		1,714		1,714		1,714		1,714	
Full-Time Tuition Rate: Out-State	9,758		9,758		9,758		9,758		9,758	
Mandatory Fees per Student (In-state)	10,968		11,407		11,863		12,338		12,831	
Mandatory Fees per Student (out-state)	20,162		20,968		21,807		22,680		23,587	
FTE # of New Students: In-State	9.5		9.5		9.5		9.5		9.5	
FTE # of New Students: Out-State	2		2		2		2		2	
# of In-State FTE Students transferring in from the institution's existing programs		2		0		0		0		0
# of Out-State FTE Students transferring in from the institution's existing programs										

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	$16,283	$3,428	$16,283	$0	$16,283	$0	$16,283	$0	$16,283	$0
Out-of-State	$19,516	$0	$19,516	$0	$19,516	$0	$19,516	$0	$19,516	$0
Mandatory Fees	$144,520	$21,936	$150,301	$0	$156,313	$0	$162,565	$0	$169,068	$0
Second Year Students										
Tuition										
In-State			$16,283	$3,428	$16,283	$0	$16,283	$0	$16,283	$0
Out-of-State			$19,516	$0	$19,516	$0	$19,516	$0	$19,516	$0
Mandatory Fees			$150,301	$22,813	$156,313	$0	$162,565	$0	$169,068	$0
Third Year Students										
Tuition										
In-State					$16,283	$0	$16,283	$0	$16,283	$0
Out-of-State					$19,516	$0	$19,516	$0	$19,516	$0
Mandatory Fees					$156,313	$0	$162,565	$0	$169,068	$0
Fourth Year Students										
Tuition										
In-State							$16,283	$0	$16,283	$0
Out-of-State							$19,516	$0	$19,516	$0
Mandatory Fees							$162,565	$0	$169,068	$0
Fifth Year Students										
Tuition										
In-State									$0	$0
Out-of-State									$0	$0

Mandatory Fees									$0	$0
Gross Tuition and Fees	$180,319	$25,364	$372,200	$26,241	$576,335	$0	$793,457	$0	$819,468	$0
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	$180,319	$25,364	$372,200	$26,241	$576,335	$0	$793,457	$0	$819,468	$0

EXPENDITURE ESTIMATES										
	Year 1 2014__		Year 2 2015__		Year 3 2016__		Year 4 2017__		Year 5 2018__	
	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	$15,000	$191,667	$15,450	$197,417	$15,914	$203,339	$16,391	$209,439	$16,883	$215,723
Administrators	$12,500	$3,500	$12,875	$3,500	$13,261	$3,500	$13,659	$3,500	$14,069	$3,500
Support Staff	$0	$17,959	$0	$18,497	$0	$19,052	$0	$19,624	$0	$20,212
Others	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fringe Benefits __34__%	$9,350	$72,463	$9,631	$74,601	$9,919	$76,803	$10,217	$79,071	$10,524	$81,408
Total Personnel	**$36,850**	**$285,588**	**$37,956**	**$294,015**	**$39,094**	**$302,694**	**$40,267**	**$311,635**	**$41,475**	**$320,843**
Operating Expenses										
Supplies	$8,500	$750	$8,500	$750	$8,500	$750	$8,500	$750	$8,500	$750
Library Resources	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Marketing/Promotional Expenses	$1,500	$0	$1,500	$0	$1,500	$0	$1,500	$0	$1,500	$0
Laboratory Expenses	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

General Administrative Overhead	$4,217	$25,770	$4,316	$26,529	$4,418	$27,310	$4,524	$28,115	$4,633	$28,943
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Expenses	**$14,217**	**$26,520**	**$14,316**	**$27,279**	**$14,418**	**$28,060**	**$14,524**	**$28,865**	**$14,633**	**$29,693**
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**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$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**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Total Expenditures	**$51,067**	**$312,108**	**$52,271**	**$321,293**	**$53,513**	**$330,754**	**$54,791**	**$340,499**	**$56,108**	**$350,536**

BUDGET SUMMARY OF NEW PROGRAM ONLY

	Year 1 2014__	Year 2 2015__	Year 3 2016__	Year 4 2017__	Year 5 2018__
Total of newly generated revenue	**$180,319**	**$372,200**	**$576,335**	**$793,457**	**$819,468**
Total of additional resources required for program	**$51,067**	**$52,271**	**$53,513**	**$54,791**	**$56,108**
Excess/ (Deficiency)	**$129,253**	**$319,928**	**$522,823**	**$738,666**	**$763,360**

ATTACHMENT C: FACULTY

Name of faculty member	Tenure	Courses Taught (C) Indicates core courses, (OL) course taught online	# of sections	Division or College of Employment	Full- or part-time in program	Full- or part-time in other department or program	Sites where individual will teach program courses
Barron, Patrick Ph.D. English Associate Professor	Y	• ENGL 343	1	English, College of Liberal Arts	Part-time	Full-time, English	• Main Campus
Bowen, Robert Ph.D. International Relations Associate Professor	Y	• ENVSCI 280 • ENVSCI 476	1 1	School for the Environment College of Science and Mathematics	Full-time	No	• Main Campus
Chen, Robert Ph.D. Oceanography Full Professor	Y	• ENVSCI 120 (C)	1	School for the Environment, College of Science and Mathematics	Full-time	No	• Main Campus
Christian, Alan Ph.D. Zoology Associate Professor	Y	• ENVSTY 201 (C) • ENVSTY 210(C • ENVSCI 281 • ENVSTY 301 • ENVSTY 310 (C) • ENVSTY 401 (C) • ENVSTY 410 (C) • ENVSTY 478	1 1 1 1 1 1 1 1	Biology Department, College of Science and Mathematics	Part-time	Full-time, Biology Department and School for the Environment	• Main Campus

Clifford, Jennifer Ph.D. Economics NTT	N	• ASIAN 480	1	Economics Department, College of Liberal Arts	Part-time	Part-time, Economics	• Main Campus
Coscia, Caroline M.S. Public Policy Lecturer II	N	• POLSCI 203 (C)	1	Department of Political Science, College of Liberal Arts	Part-time	Part-time, McCormack School	• Main Campus
Den Ouden, Amy Ph.D. Anthropology Associate Professor	Y	• WGS 270 • WGS/ANTH 295L	1 1	Women's and Gender Studies, College of Liberal Arts	Part-time	Full-time, Anthropology	• Main Campus
Douglas, Ellen Ph.D. Water Resources Engineering Associate Professor	Y	• ENVSCI 261 (C) • ENVSCI 383	1 1	School for the Environment, College of Science and Mathematics	Full-time	No	• Main Campus
Duff, John Juris Doctor Associate Professor	Y	• ENVSCI 122 (C) • ENVSCI 384	1 1	School for the Environment, College of Science and Mathematics	Full-time	No	• Main Campus
Edelstein, Sari Ph.D. English Assistant Professor	N	• ENGL 408	1	English Department, College of Liberal Arts	Part-time	Full-time, English	• Main Campus

Gontz, Allen Ph.D. Earth Science Associate Professor	Y	• ENVSCI 498	1	School for the Environment, College of Science and Mathematics	Full-time	No	• Main Campus
Hartwell, Stephanie Ph.D. Sociology Full Professor	Y	• SOCI 290	1	Sociology Department, College of Liberal Arts	Part-time	Full-time, Sociology	• Main Campus
Konstantinidis, Charlampos Ph.D. Economics Assistant Professor	N	• ECON/ENVSCI 349L	1	Economics Department, College of Liberal Arts	Part-time	Full-time, Economics	• Main Campus
Levy, Dave M.A. Public Relations Adjunct Professor	N	• COMM 340	1	Communications Department, College of Liberal Arts	Part-time	Part-time, Communications	• Main Campus
Martinez-Reyes, Jose Ph.D. Anthropology Associate Professor	Y	• ANTH 263 • ANTH 346 • ANTH 349		Department of Anthropology College of Liberal Arts	Part-time	Full-time, Anthropology	• Main Campus
Metzel, Debora Ph.D. Geography Lecturer II	N	• ENVSCI 270	1	School for the Environment, College of Science and Mathematics	Full-time	No	• Main Campus

O'Brien, Erin Ph.D. Political Science Associate Professor	Y	• POLSCI 203		Department of Political Science, College of Liberal Arts	Part-time	Full-time, Political Science	• Main Campus
Poynton, Helen Ph.D. Molecular and Biochemical Nutrition Assistant Professor	Y	• ENVSCI 260 (C)	1	School for the Environment, College of Science and Mathematics	Full-time	No	• Main Campus
Pugh, Jeffrey Ph.D. Political Science Assistant Professor	N	• CONRES 621		Department of Conflict Resolution, Human Security, and Global Governance, McCormack School of Public Policy and Global Studies	Part-time	Full-time, Political Science	• Main Campus
Rivera, Lisa Ph.D. Philosophy Associate Professor	Y	• PHIL 220 (C)	1	Department of Philosophy, College of Liberal Arts	Part-time	Full-time, Philosophy	• Main Campus
Robinson, William Ph.D. Biology Full Professor	Y	• ENVSCI 121 (C)	5	School for the Environment, College of Liberal Arts	Full-time	No	• Main Campus

Schneider, Peter M.A. Urban Affairs Adjunct Professor	N	• ENVSCI 364	1	School for the Environment, College of Science and Mathematics	Part-time	Yes; Director, Environmental Health and Safety	• Main Campus
Sweet, Elizabeth Ph.D. Anthropology Assistant Professor	N	• ANTH 317		Department of Anthropology College of Liberal Arts	Part-Time	Full-time, Anthropology	• Main Campus
Timmons, David Ph.D. Resource Economics Assistant Professor	N	• ECON/ENVSCI 345L (C)	1	Department of Economics, College of Liberal Arts	Part-time	Full-time, Economics	• Main Campus
Valencius, Conevery Ph.D. History of Science Associate Professor	Y	• HIST 276	1	Department of History, College of Liberal Arts	Part-time	Full-time, History	• Main Campus
Veleva, Vesela Sc.D. Pollution Prevention and Cleaner Production Lecturer	N	• MGT 481	1	Department of Management and Marketing, College of Management	Part-time	Full-time, Management and Marketing	• Main Campus
Weitzman, Eban Ph.D. Social and Organizational Psychology Associate Professor	Y	• CONRES 623		Department of Conflict Resolution, Human Security, and Global Governance, McCormack School of Public	Part-time	Full-time, Conflict Resolution	• Main Campus

				Policy and Global Studies			
Wiggin, Jack M.S. Urban Studies and Planning Adjunct Professor	N	• ENVSCI 340 • ENVSCI 375	1 1	School for the Environment, College of Science and Mathematics	Part-time	Yes; Director, Urban Harbors Institute	• Main Campus
Wollons, Roberta Ph.D. History of Education Full Professor	Y	• HIST 392	1	Department of History, College of Liberal Arts	Part-time	Full-time, History	• Main Campus
Zhu, Jun Ph.D. Environmental Sciences Instructor	Y	• ENVSCI 281 (OL)	1 1	School for the Environment, College of Science and Mathematics	Part-time	No	• Online • Main Campus