BOARD OF HIGHER EDUCATION

REQUEST FOR COMMITTEE AND BOARD ACTION

COMMITTEE: Academic Affairs **NO**: AAC-16-06

COMMITTEE DATE: October 20, 2015

BOARD DATE: October 27, 2015

APPLICATION OF UNIVERSITY OF MASSACHUSETTS LOWELL TO AWARD THE MASTER OF SCIENCE DEGREE IN ENGINEERING MANAGEMENT

MOVED: The Board of Higher Education hereby approves the application of **University of Massachusetts Lowell** to award the **Master of Science in Engineering Management**

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.
Interim Deputy Commissioner for Academic and Student Success

BOARD OF HIGHER EDUCATION

August 2015

University of Massachusetts Lowell
Master of Science in Engineering Management

INTENT AND MISSION

The mission of the University of Massachusetts Lowell (UML) reflects that it is a public research university committed to excellence in teaching, research and community partnerships. UML is dedicated to transformational education that fosters student success, lifelong learning and global awareness. The mission of the Francis College of Engineering is to prepare women and men to be successful as engineers. Programs are available in several engineering disciplines to accommodate varied interests, and within each discipline students prepare for careers in research, development, design, production, construction, teaching, and management. The proposed Master of Science in Engineering Management (MSEM) program is intended to be congruent with these mission statements. It is also intended to be revenue-generating and is a strategic component of UML's academic program mix and important to the financial management of the campus.

The purpose of the proposed MSEM program is a blend of traditional engineering and business disciplines intended to prepare students for a career in managing technical organizations, projects and consulting services. The proposed MSEM program offers students with a bachelor's degree a pathway for expanding skills toward a career change or as a means to qualify for technical management positions.

The proposed program has obtained all necessary governance approvals on campus and was approved by the University of Massachusetts Board of Trustees on April 8, 2015. The required letter of intent was circulated on January 21, 2015. No comments were received.

NEED AND DEMAND

National and State Labor Market Outlook

UML reports that, according to the Bureau of Labor Statistics (BLS)[1], there will be significant opportunities for individuals with advanced training in engineering management to be gainfully employed. The six largest of the BLS job categories for occupations that require a minimum of a bachelor's degree, are architectural and engineering managers, industrial production managers, natural science managers, construction managers and industrial and civil engineers. UML reports that employment of Engineering Management Specialists in these six areas is expected to grow by 9 percent on average between 2012 and 2020, equal to the average for all occupations. UML further expects that an increase in the number of businesses, innovations in technology and materials, and increases in companies and distributors will further accelerate the growth of these engineering management positions. City Wire[2] has contended that Wal-Mart official hope to boost U.S. manufacturing by purchasing more sporting goods, apparel basics, storage products, paper products, textiles, furniture, and higher-end appliances.

[1] U.S. Bureau of Labor Statistics, *Occupational Outlook Handbook 2012-2013 Edition,* http://www.bls.gov/ooh/ (accessed May 21, 2014).

Engineering Management Specialists have held approximately 1.4 million private industry jobs nationwide in 2012 with the greatest proportion employed in the Manufacturing and Architectural/Engineering product and service industries. UML reports significant demand in the region, citing an Indeed listing 3803 engineering jobs and a *Monster* listing of 458 jobs in Massachusetts and 327 in the Boston region. .

Student Demand

UML plans that the initial target audience for the MSEM would be UML engineering graduates which number approximately 300 bachelor's degrees per year. It is reported that students have been inquiring about an MSEM for several years. Enrollment in one of the required courses in the proposed program has been very high in the last three years with 35 students in 2012, 56 in 2013 and 111 in 2014. UML sees this as an indicator of increasing student demand. The increase has been attributed to the online availability of the course. This online course, coupled with one other online engineering course, is reported to have generated $350,000 in gross revenues since April 2013. UML expects that as the MSEM program becomes known, particularly for its online option and lower cost, it is expected that the program will draw additional students.

OVERVIEW OF PROPOSED PROGRAM

UML has designed the proposed program to be a blend of traditional engineering disciplines combined with courses that are offered in the Foundations of Business graduate certificate program, which can be stacked toward the MBA. The proposed program is intended to provide the foundation for technical professionals who have opted for the management track in technical and engineering services enterprises. It is structured to be more accessible than traditional MS engineering programs by including the choice of three concentrations, specifically: (a) design and manufacturing, (b) engineering services/infrastructure management and (c) operations and supply management. The proposed program was developed by current faculty with engineering management experience in both academia and industry along with graduates of the engineering program.

Duplication

Most of the universities in the Northeast region offer MS degrees in engineering management or equivalent topics. Some of these programs are offered jointly by multiple departments and colleges such as a combination of engineering/management. MIT's Leaders for Global Operations (LGO) program offers a dual MS in engineering and an MBA or MMS from the Sloan School of Management. The emphasis is on global operations and the supply chain, rebuilding crumbling infrastructure and energy security. RPI's department of Industrial and Systems Engineering (RPI) offers an MS in Systems Engineering and Technology Management (SETM). The focus of this degree is on technical research in the area of computational technologies, decision science and simulation models. UMass Amherst offers an MS program in Engineering Management. It is based on operations research, decision analysis and network optimization. It has five core courses and up to another five elective courses. Tufts University's Gordon Institute offers an MS degree in engineering management, with emphasis on leadership. It is focused on part-time students with four semesters of evening/weekend classes. Northeastern University offers an MS in Engineering Management. The four core courses are based on

operations research, statistics, and project management. Business-based courses are part of a long list of elective courses. Western New England University (WNEU) offers an MS in Engineering Management with a focus on quality control and operations. The University of New Haven offers a similar program to WNEU, called the MS in Engineering and Operations Management (MSEOM) Cohort Program of 36 credits with mostly quality control and operations courses. The proposed UML program is distinguished by core courses that provide a blend of engineering and business fundamentals, with three options for concentrations that allow students to select a focused area of study. UML reports that their faculty and proximity to local industries provide a high-value program that is a stand-out in comparison to other programs.

ACADEMIC AND RELATED MATTERS

Admission

Admission to the proposed MSEM program will be based on a review by Graduate Admissions and by the Admissions Committee of the MSEM Department. Applicants are expected to be required to submit the results from the Graduate Record Examination (GRE) to the Graduate School. International students will be expected to provide results of the Test of English as a Foreign Language (TOEFL) examination. Depending on the option selected, UML plans that students may be required to retake course prerequisites if UML determines previous coursework is not up to par in comparison to equivalent engineering courses at UML.
It is planned that exceptions to the graduate admissions requirements will be considered on a case-by-case basis. Cases will be reviewed by the MSEM admissions committee, which consists of faculty teaching in the engineering and business programs. UML also expects cases may include applications without engineering degrees, and that applicant resumes may help determine relevant experience, but the completion of prerequisite courses may still be required. In cases where a student has an M.B.A. or has completed the Business Administration Minor for Engineering in addition to a B.S. in engineering or its equivalent, certain requirements of the proposed MSEM program may be waived.

Specific admission requirements for the proposed MSEM include a BS in any engineering or science discipline, or a BS in Industrial Management or Operations Research; GPA of 3.0 or better in the respective undergraduate program; GRE scores minimum to be determined by the proposed MSEM admission committee; three letters of recommendation; statement of purpose; TOEFL =>79 or International English Language Testing System (IELTS) =>6.5.

Students with industrial or management experience and a bachelor's degree in an area such as English or history, are expected to be considered for admission on a case-by case-basis, with a resume required as part of the application. UML plans that in some cases, an applicant may be required to complete up to three undergraduate engineering/science courses to ensure that the student has the necessary background knowledge to succeed in the proposed MSEM program.
Admission to Accelerated MSEM Master's

The College of Engineering also intends to offer a combined BSE/MSEM program in Engineering Management based on a BS in any engineering or science discipline. The admission requirements and benefits of the accelerated proposed MSEM include a UML undergraduate degree with Official transcripts indicating a minimum overall GPA of 3.0; the GRE can be waived for UML undergraduates with a GPA of 3.0 and above and upon receipt of

a recommendation by an UML faculty member; successful completion of all other University admissions requirements, including three letters of recommendation; and statement of purpose.

Program Enrollment Projection

	# of Students Year 1	# of Students Year 2	# of Students Year 3	# of Students Year 4*
New Full Time	5	5	5	5
New Part Time	10	10	10	10
Continuing Part Time		10	10	10
Totals	15	25	25	25

Curriculum (Attachment A)

Internships or Field Studies
There are no internship's or field studies included in this program. Students have the choice of a capstone engineering/professional practice project option (six credits) or may select six credit hours from any one of the three engineering management concentrations. The project option is advised by a faculty member and reviewed for approval by a committee. While the project may have a significant application component with industry involvement, this is not required.

RESOURCES AND BUDGET

Fiscal (Attachment B)

It is expected that the proposed MSEM program will be a net, revenue-generating academic program that will make a contribution to the UML campus's budget. The proposed program will be taught on campus and online by full-time faculty members. It is planned that qualified engineering managers in the area will be invited into the classroom to highlight current events in the engineering management field.

Faculty and Administration (Attachment C)

UML anticipates that one full-time faculty member will coordinate the MSEM program. This program coordinator will be identified in the Fall of 2015, one year prior to the planned admission dates for students. The stipend for the Coordinator will be $11,000 per year, based on current projections of number of students to be enrolled in the program. An additional part-time administrative assistant may be hired when the overall program enrollments have grown sufficiently. General and administrative costs are planned at $10,000 per year with a start-up estimate of $15,000. Stipends and travel support are factored into the proposed program's projected operating budget.

Facilities, Library and Information Technologies

Instructional materials and library acquisitions are anticipated to cost $5,000 per year. Facilities, space and equipment are already factored into the proposed enrollment management plan.

Start-up space costs and equipment are estimated to be $20,000. Marketing costs are estimated to be $20,000 per year and $20,000 start-up.

Affiliations and Partnerships

Industry advisors to the proposed program are those who already comprise the industrial advisory boards for the engineering departments and the College of Engineering. UML provided a sampling of the affiliations and advisors:

BAE Systems, Nashua NH, Ray Brousseau, Vice President of Electronic Systems Engineering
Dow Chemical Company, Methuen MA, Chris Chrisafides, Commercial Vice President
EMC, Hopkington MA, Mike Kerouac, President of Global Manufacturing Operations
General Electric, Lynn MA, Peter Rock, Chief Consulting Engineer
Philips, Andover MA, Karl Bischoff, Senior Director of Manufacturing
Raytheon, Waltham MA, Mark Russell, Corporate Vice President
Sanofi, Cambridge MA, Cindy Conde, Chief Information Officer
Skyworks, Andover MA, Bill Valaincourt, Vice President and General Manager
UTC Aerospace Systems, Westford MA, Kevin Raftery, Vice President and General Manager
Waters Corporation, Milford MA, Dan McCormick, Vice President of R&D

PROGRAM EFFECTIVENESS

Goal	Measurable Objective	Strategy for Achievement	Timetable
1. Program Enrollees	1.1. Attract high-quality applicants 1.2. Recruit applicants with strong technical skills 1.3 Recruit diverse and underrepresented students	1.1. Recruiting fairs; posters and flyers at Schools and professional meetings; media advertising; Web site 1.2. Actively recruiting of engineering, management and technology UML graduates 1.3. Actively contacting local and regional companies for sponsoring employees into MSEM	3-6 months before admission, then ongoing
2. Professional Advancement of Students	1.1. Prepare students academically 2.2. Assist students in obtaining employment 2.3. Maintain student contact and monitor student progress after graduation 2.4. Increase number and quality of employers recruiting MSEM students 2.5 Graduates increase their professional compensation	2.1. Strong faculty and well-designed curriculum 2.2. Active involvement by Career Services Office; personal contacts 2.3. Newsletters, surveys, social media, social events 2.4 Produce high quality graduates with superior skills 2.5. Conduct annual alumni surveys, including compensation history	Prior to implementation and then ongoing
3. Relevance of Curriculum	3.1.Internal COE and MSB faculty approval 3.2 Approval of the COE Advisory Board 3.3. Compliance with professional organizations such as the national Center of Academic Excellence	3.1.Presented the proposal to the COE faculty as well as individual consultation with COE and MSB selected faculty and department heads 3.2. Present the proposal to the COE Advisory Board 3.3. Review of program implementation against the National Center standards on a yearly basis	3-6 months before implementation, then ongoing

4. Retention and Graduation	4.1 80% Minimum retention of matriculating students 4.2 80% Minimum graduation rate	4.1 Recruit high-quality applicants with superior skill sets 4.2. Provide regular and timely student advising	ongoing

EXTERNAL REVIEW AND INSTITUTIONAL RESPONSE

The approved external review team for the proposed program included David L. Enke, Ph.D., Professor and Chair, Dept. of Engineering Management and Systems Engineering at Missouri University of Science and Technology; Joseph P. Geunes, Ph.D., Professor and Chair of the Department of Industrial and Systems Engineering at the University of Florida in Gainesville; and G. Don Taylor, Jr., Ph.D., the Charles O. Gordon Professor and Head of the Grado Department of Industrial and Systems Engineering at Virginia Tech (Virginia Agricultural and Mechanical College and Polytechnic Institute).

The reviewers conducted a documents review of the program followed by an on-site visit taking place on November 24, 2014. In general, the team found the program to be well-designed and aligned with institution and system priorities. A focus of return on investment was identified as a successful and distinguishing approach when compared with more costly competitors. The proposed degree program was found to enhance the UML relationship with local industry and provide vital workforce development activity for the region. The external reviewers were impressed with the service orientation of the faculty and leadership of the University, and found that the proposed degree may serve as a strong first step toward the development of other graduate or undergraduate degrees related to industrial and systems engineering. The team also suggested UML move toward a stronger research model to garner higher national ranking.

The review team made recommendations in areas of curriculum, finance, program timing, admissions and recruiting. They suggested some design and manufacturing courses would benefit from being less narrow and more broad-based in focus. The 9-hour capstone experience was viewed as problematic, with concern on the quality of the deliverable content to students within the cross-advisor variance, the burden on industry partners, and perceptions of 'life experience' as lacking in academic rigor. The reviewers found the Program Coordinator position to be underfunded, and that some concentrations needed course work development. They raised questions regarding the motivation and benefit of the role of the Manning School of Business and the College of Engineering faculty participation in the proposed program. Reviewers also indicated that hire dates and operational website dates in the proposed time-line were too late to adequately address vital program elements. The External Review Team raised concerns about admissions standards, and the GRE in particular. They suggested that requiring the GRE and using standardized scores, meaningful reference checks, and undergraduate grades as admissions criteria adds rigor to the admissions process. Reviewers also pointed out that at the same time, revenue-generating programs that do not have rigorous admissions standards are particularly vulnerable to claims of being diploma mills, which could be viewed as a detriment to an otherwise strong program.

UML representatives responded that they will recruit internal as well as adjunct faculty to broaden facilities and design curriculum. UML accepted the suggestion of a 6-hour capstone and altered the curriculum outline to reflect this change. They agreed to recommend additional

course release for the MESM Coordinator position as the program is developed. In terms of the role and participation of business and engineering faculty, UML cited the long-standing and cordial relationships between and among faculty that extends back 20 years. In addition UML pointed out additional compensation for online courses as a motivating factor. UML responded to admission policy concerns by recognizing and explicating the need for traditionally underserved managers and technical personnel to have opportunities to access the program and advance in their careers. Literature has shown that traditional measures for admissions can advantage traditional candidates and disadvantage non-traditional candidates[3]. UML's intention is that a rigorous admissions process is broadly developed such that no candidates are unfairly advantaged or disadvantaged.

STAFF ANALYSIS AND RECOMMENDATION

Staff thoroughly reviewed all documentation submitted by the **University of Massachusetts Lowell** and external reviewers. Staff recommendation is for approval of the proposed **Master of Science in Engineering Management** program.

[3] Bowen and Bok. (1998). *The Shape of the River.* Princeton University Press

ATTACHMENT A: CURRICULUM Master of Science in Engineering Management (MSEM)

Required (Core) Courses 7		
Course Number	Course Title	Credit Hours
22.576	Engineering Project Management	3
14.581	Engineering Systems Analysis	3
60.501	Financial Accounting	2
61.501	Business Financial Analysis	2
63.501	Operations Fundamentals	2
66.501	Organizational Behavior	2
66.511	Global Enterprise and Competition	2
	SubTotal # Core Credits Required	16
One of three Concentration Course Choices (Total Min. credits required = 9)		
a. Design and Manufacturing Concentration		
14.521	Reliability Analysis in Engineering	3
22.549	Cooling of Electronic Equipment	3
22.553	MEMS & Microsystems	3
22.571	Collaborative Engineering	3
22.575	Industrial Design of Experiments	3
22.579	Robotics	3
26.518	Plastic Product Design	3
26.590	Survey of Intellectual Property	3
b. Engineering Services/Infrastructure Management Concentration		
14.511	Inspection and Monitoring of Civil Infrastructure	3
14.540	Urban Transportation Planning	3
14.544	Transportation Economics and Project Evaluation	3
14.521	Reliability Analysis in Engineering	3
14.576	GIS Applications in Civil and Environmental Engineering	3
c. Operations and Supply Management Concentration		
19.530	Ergonomics and Work	3
19.531	Occupational Biomechanics	3
19.540	Occupational Safety Engineering	3
19.551	Work Environment Policy and Practice	3
19.638	Methods of Work Analysis	3

26.515	Lean Plastics Manufacturing	3
26.606	Plastics Manufacturing Systems Engineering	3
62.501	Marketing Fundamentals	2
63.671	Operations Management	3
63.672	Global Supply Chain Management	3
	SubTotal # Concentration Credits Required	9
Professional Capstone Practice or Non-Capstone Option *(Total credits required = 6)*		
Professional-practice capstone[4]	Capstone topic to be completed under the direction of an advisor and defended to a committee of at least three	6
OR Non capstone option [5]	Any two courses from any one of the Engineering Management concentrations	6
	SubTotal # Practice Capstone or Non-Capstone option Credits Required	6

Curriculum Summary	
Total number of courses required for the degree	12
Total credit hours required for degree	31

Prerequisite or Other Additional Requirements for concentration b. Engineering Services/ Infrastructure Management :
14.475 Construction Management (3 credits)
14.470 Engineering Economics (3 credits)

[4] Students may choose to do either a professional-practice capstone (9 credits) or take additional courses (9 credits minimum) in an Engineering Management concentration

[5] For the non-capstone option, students must submit a plan of study to the MSEM graduate coordinator and obtain his/her approval during the first year of the program. Any change to the submitted plan requires the approval of the MSEM graduate coordinator.

REVENUE ESTIMATES										
	Year 1		Year 2		Year 3		Year 4		Year 5	
	2016		2017		2018		2019		2020	
Full-Time Tuition Rate: In-State	**1737**		**1789**		**1737**		**1789**		**1842**	
Full-Time Tuition Rate: Out-State	**6816**		**7021**		**6816**		**7021**		**7231**	
Mandatory Fees per Student (In-state)	**11020**		**11350**		**10585**		**10902**		**11229**	
Mandatory Fees per Student (out-state)	**16739**		**17241**		**15939**		**16417**		**16910**	
FTE # of New Students: In-State	**5**		**10**		**10**		**10**		**10**	
FTE # of New Students: Out-State	**5**		**10**		**10**		**10**		**10**	
# of In-State FTE Students transferring in from the institution's existing programs										
# 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	$8,683	$0	$17,888	$0	$17,367	$0	$17,888	$0	$18,425	$0
Out-of-State	$34,081	$0	$70,208	$0	$68,163	$0	$70,208	$0	$72,314	$0
Mandatory Fees	$138,792	$0	$285,912	$0	$265,236	$0	$273,193	$0	$281,388	$0
Second Year Students										
Tuition										

In-State			$8,944	$0	$17,367	$0	$17,888	$0	$18,425	$0
Out-of-State			$35,104	$0	$68,163	$0	$70,208	$0	$72,314	$0
Mandatory Fees			$142,956	$0	$265,236	$0	$273,193	$0	$281,388	$0
Third Year Students										
Tuition										
In-State					$0	$0	$0	$0	$0	$0
Out-of-State					$0	$0	$0	$0	$0	$0
Mandatory Fees					$0	$0	$0	$0	$0	$0
Fourth Year Students										
Tuition										
In-State							$0	$0	$0	$0
Out-of-State							$0	$0	$0	$0
Mandatory Fees							$0	$0	$0	$0
Fifth Year Students										
Tuition										
In-State									$0	$0
Out-of-State									$0	$0
Mandatory Fees									$0	$0
Gross Tuition and Fees	$181,557	$0	$561,012	$0	$701,531	$0	$722,577	$0	$744,254	$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 (specify in cell 54)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Total	$181,557	$0	$561,012	$0	$701,531	$0	$722,577	$0	$744,254	$0

ATTACHMENT C: FACULTY FORM

Name of faculty member (Name, Degree and Field, Title)	Ten-ured Y/N	Courses Taught Put (C) to indicate core course. Put (OL) next to any course currently taught online.	# 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
Brunette, Maria J, Ph.D., Industrial Engineering, Associate Professor	☒	19.638 Methods of Work Analysis 19.540 Occupational Safety Engineering	1 1	College of Health Sciences	Full Time	No	Main Campus
Buchholz, Bryan , Ph.D., Bioengineering, Professor	☒	19.531 Occupational Biomechanics 19.638 Methods of Work Analysis	1 1	College of Health Sciences	Full Time	No	Main Campus
Chen, Yao, Ph.D., Operations Management Professor	☒	63.371 Operations Management	1	Manning School of Business	Full Time	No	Main Campus
Chunias, Stephen, MBA, Fianance Adjunct Faculty	☐	60.601 Financial Accounting C) (OL)	1	Manning School of Business	Part Time	No	Main Campus
DeStefano, Paul, P.E., PhD, Civil Engineering NTT Faculty	☐	14.521 Reliability Analysis in Engineering	1	College of Engineering	Full Time	No	Main Campus
Gartner, Nathan, Ph.D., Transportation Engineering and Operations research, P.E., Professor	☒	14.581 Engineering Systems Analysis (C) 14.544 Transport Economics and Project Evaluation	1 1	College of Engineering	Full Time	No	Main Campus
Grossman, Steven, Ph.D., Polymer Science and Engineering, J.D. Professor	☒	26.590 Survey of Intellectual Property	1	College of Engineering	Full Time	No	Main Campus
Johnston, Steven, Ph.D., Plastics Engineering, Assistant Professor	☐	26.518 Plastic Product Design (OL)	1	College of Engineering	Full Time	No	Main Campus
Khan, M Riaz, Ph.D., Management Science, Professor	☒	63.501 Operations Fundamentals (C) (OL)	2	Manning School of Business	Full Time	No	Main Campus

Kazmer, David, Ph.D., Mechanical Engineering, P.E., Professor	☒	26.515 Lean Plastics Manufacturing 26.524 Process Analysis, Instrumet. & Control	1 1	College of Engineering	Full Time	No	Main Campus
Mehta. Ashwin, M.S., Operations Research, Lecturer	☐	66.511 Global Enterprise and Competition (OL)	2	Manning School of Business	Full Time	No	Main Campus
Parkin, Robert, P.E., Ph.D., Electrical Engineering, Professor	☒	22.579 Robotic Dynamics	1	College of Engineering	Full Time	No	Main Campus
Punnett, Laura, Sc.D., Occupational Health and Safety, Professor	☒	19.530 Ergonomics and Work 19.638 Methods of Work Analysis	1 1	College of Health Sciences	Full Time	No	Main Campus
Puri, Yash, D.B.A., Business Administration Professor	☒	61.501 Business Financial Analysis (C) (OL)	2	Manning School of Business	Full Time	No	Main Campus
Quinn, Margaret, Sc.D., Work Environment and Industrial Hygiene, Professor	☒	19.551 Work Environment Policy and Practice	1	College of Health Sciences	Full Time	No	Main Campus
Shina, Sammy, Ph.D., Mechanical Engineering, P.E., Professor	☒	22.576 Engineering Project Management (C), (OL) 22.575 Industrial Design of Experiments (OL) 22.571 Collaborative Engineering	1 1 1	College of Engineering	Full Time	No	Main Campus
Sloan, Thomas, Ph.D., Management Science, Associate Professor	☒	63.672 Global Supply Chain Management	1	Manning School of Business	Full Time	No	Main Campus
Sun, Homgwei, Ph.D., Mechanical Engineering, Professor	☒	22.549 Cooling of Electronic Equipment 22.553 MEMS and Microsystems	1	College of Engineering	Full Time	No	Main Campus
Todaro, Scott, M.S., Business Administration, Adjunct Professor	☐	62.501 Marketing Fundaments (OL)	2	Manning School of Business	Full Time	No	Main Campus

Xie, Yuanchang, Ph.D., Civil Engineering. Professor	☒	14.540 Urban Transportation and Planning 14.576 Applications of GIS in Civil and Environmental ENG	1 1	College of Engineering	Full Time	No	Main Campus
Yu, Tzuyang, Ph.D., Civil Engineering, Associate Professor	☒	14.511 Inspection and Monitoring of Civil Infrastructure	1	College of Engineering	Full Time	No	Main Campus
Summary of Visiting Faculty and Faculty on Administrative Assignment							
Beers, Michael, Ph.D., Organizational Behavior, Visiting Lecturer	☐	66.501 Organizational Behavior (C), (OL)	1	Manning School of Business	Part Time	No	Main Campus