

BOARD OF HIGHER EDUCATION
REQUEST FOR COMMITTEE AND BOARD ACTION

COMMITTEE: Academic Affairs

NO.: AAC 12-29

COMMITTEE DATE: February 28, 2012

BOARD DATE: March 6, 2012

**APPLICATION OF WENTWORTH INSTITUTE OF TECHNOLOGY TO AWARD
THE MASTER OF SCIENCE IN FACILITY MANAGEMENT**

MOVED: The Board hereby approves the Articles of Amendment of **Wentworth Institute of Technology** to offer the **Master of Science in Facility Management**.

Authority: Massachusetts General Laws Chapter 69, Section 30 et seq.

Contact: Dr. Francesca Purcell, Associate Commissioner for Academic and P-16 Policy

INTENT

Wentworth Institute of Technology, a New England Association of Schools and Colleges accredited, independent institution located in Boston, Massachusetts, filed articles of amendment to offer a Master of Science in Facility Management. The Master of Science in Facility Management (MSFM) program is designed to combine common general management techniques with current facility management practices and technologies. The curriculum will provide graduates with the tools and managerial decision making skills to maintain and manage the built environment and coordinate the physical workplace with the people and functions of the organization.

The International Facilities Management Association reports growing demand globally for facilities managers based on rapid population growth and continued limitation of energy resources. Growth in the construction of commercial buildings (sixteen percent increase) and manufacturing buildings (nine percent increase), as reported by McGraw-Hill Companies, will also fuel demand for facilities managers. Further, approximately twenty-two students graduate annually from Wentworth's current Bachelor of Science in Facilities Management degree and 220 have enrolled in the facility management certificate program in the past four years. Wentworth anticipates that a majority of students applying to the proposed MSFM will come from these programs as well as students applying from external programs.

The program was submitted after meeting internal campus requirements for approval including a vote by the Corporation on June 15, 2011.

INSTITUTIONAL OVERVIEW

Wentworth Institute of Technology, located in Boston, Massachusetts, is a private coeducational institution of higher education offering bachelor's degrees in seventeen majors, including architecture, interior and industrial design, computer science, engineering, engineering technology, and management. The Institute was founded in 1904 through a bequest from Arioeh Wentworth, a Boston merchant.

In 1956, the Commonwealth of Massachusetts granted Wentworth Institute the power to award the Associate in Engineering; the Associate in Applied Science in 1968; and the Bachelor of Science and Bachelor of Engineering Technology in 1970. In 1977, Wentworth Institute and Wentworth College were merged into Wentworth Institute of Technology with the surviving corporation authorized to offer the Bachelor of Science in Engineering Technology, Bachelor of Engineering Technology, Associate in Engineering and Applied Science, and appropriate honorary degrees. In 1984 the Institute was empowered to "grant degrees at the associate and baccalaureate level in fields of science, engineering and technology" and to "confer appropriate honorary doctorate and ex officio

degrees.” In 2008, the Board of Higher Education approved the Master of Architecture and the Master of Science in Construction Management in 2010.

ACADEMIC AND RELATED MATTERS

Admission

The target population will be working professionals with degrees in engineering, construction management, business, architecture, or design that have 3-10 years of working experience.

Successful candidates for the proposed MSFM program will meet the following criteria:

1. An undergraduate degree in facility management, architecture, engineering, construction management, business, or interior design with demonstrated competencies in accounting, operations, real estate, project management, and general management by submitting proof of completion of undergraduate coursework, a prior learning assessment portfolio or by completing our facilities management certificate program.
2. Two years verifiable full-time work experience in FM field. Satisfactory completion of two full semesters of co-operative education in a related field on the undergraduate level will fulfill one year of the required two years work experience.
3. Official transcripts from all institutions attended after high school graduation.
4. Two letters of recommendations from current or past supervisors.
5. Results of the GRE or GMAT exams may be submitted but are not required.

Applicants will accepted to the proposed MSFM program on a rolling basis.

Projected Enrollment

	# of Students Year 1	# of Students Year 2	# of Students Year 3	# of Students Year 4*
New Full Time				
Continuing Full Time				
New Part Time	10	15	20	20

Continuing Part Time		9	14	18
Totals	10	24	34	38

Tuition and Fees

Tuition and fees for FY2012-12 will be \$1,130 per credit hour which equals \$33,900 for the full program and \$40,680 for students who also complete the honors thesis.

Curriculum (Attachment A)

The program will be comprised of 10 required courses totaling 30 credit hours. There will be a 6 credit hour thesis option for students who wish to pursue that option. The program will be taught over five semesters with students expected to complete two courses each semester. Students may complete the program in less than two years of part-time study.

The proposed program will provide graduates with a clear understanding of the management skills, expertise and ethics necessary to be successful within the facility and property management industry. Topics explored will include financial analysis, communication strategies, project planning and management, managing technology platforms and the built assets, leadership, managing and leading teams, professional practice, as well as energy management and sustainable practices.

The academic quality assessment plan for the proposed program will engage all of its various constituencies (i.e. students, alumni, faculty, administrators, employers, industrial advisors, and accreditors) in a cyclical assessment procedure that will use quantitative and qualitative data gathered from a variety of sources on a regular basis to affect change and improvement in the program as needed.

RESOURCES AND BUDGET

Faculty and Staff

The faculty for the proposed MSFM program will build on the strength of the existing Bachelor of Science in Facilities Planning & Management program who hold appropriate terminal degrees. The department has an existing faculty and staff team that will support the start up of the MSFM program, including nine full-time faculty, 5-6 adjunct faculty per semester, and two administrative coordinators.

In conjunction with the creation of a Graduate Committee, Wentworth is developing criteria to identify a Graduate Faculty that is a subset of all Wentworth faculty. The core of the Graduate Faculty will consist of full-time faculty members who hold a terminal degree. Other faculty members will be designated by the Provost as Graduate Faculty upon recommendation of the Graduate Programs Committee, based on academic qualifications as well as professional experience.

Administrative and Operational Organizational Structure

The proposed MS in Facility Management is a collaborative undertaking between the Department of Management and Facilities which will provide faculty and have full academic oversight of the program, and the College of Professional and Continuing Education (CPCE) which will provide administrative support. The program will also be subject to Institute-wide policies on graduate programs established by the Institute's Graduate Programs Committee. The program will be housed in the Department of Management and Facilities. The Director of the Master of Science in Construction Management will also serve as Director of the proposed Master of Science in Facility Management (MSFM). The Director will report to the Dean of CPCE, with a dotted line reporting relationship to the Chairs of both the Construction Management and Management and Facilities Departments on matters relating to the curriculum, faculty selection and the academic integrity of the two graduate programs.

Facilities and Library and Information Technologies

The Alumni Library supports the teaching, learning, research, professional, and cultural needs of the students, faculty, and staff of Wentworth Institute of Technology by its selection, organization, and access to information in several media. The Library is housed on two levels in Beatty Hall, which is located in the center of the campus and is open seven days a week, 96 hours per week (longer during finals). The Library has a print collection of about 70,600 volumes and almost 400 paper periodical titles. Within the 70,600 volumes are the 7,994 volumes that comprise the Facilities Management collection.

The Library's electronic collection continues to increase in number and quality. All but one or two of the Library's electronic resources (databases, 60,860 e-books, 42,647 full-text electronic journals, and e-reference tools) are available for remote access. There are 40 print journal titles in Facilities Management (Business, Economics and Management) and 3,411 Facilities Management (Business, Economics and Management) online journals and databases.

A secure wireless network is available everywhere on campus as well as in the dorms. There are currently two labs available in Beatty Hall for student use with

open lab hours in the evenings and afternoons. Weekend hours are also available subject to student monitors' schedules. Software programs include CAD, word processing, graphics, spreadsheet and desktop publishing. Additional equipment includes scanners, VCR's, computer projection systems, and printers.

Fiscal (Attachment B)

Wentworth projects that the program would incur a loss of about \$32K in the first year, and turn an operating margin of 37% or \$108K in year 2. The out years (years 3-4) would average operating margins of 41% on annual revenues that would average \$307K per fiscal year.

EXTERNAL REVIEW AND INSTITUTIONAL RESPONSE

The proposed program was reviewed December 7 – 9, 2011 by a visiting committee comprised of faculty members Ken Rennels, Associate Professor and Director Facilities Management Program, Purdue School of Engineering and Technology, Indiana University Purdue University Indianapolis; Ying Hua, Assistant Professor, Department of Design and Environmental Analysis, Co-Director, International Workplace Studies Program, Cornell University; and Jeffrey W. Rogers, Assistant Professor, Facility Management Program, College Applied Sciences & Technology, Rochester Institute of Technology. The committee made several suggestions for improvement within the areas of curricular focus particularly in preparation for seeking International Facility Management Association Foundation accreditation. Given that the program will be offered through the College of Professional and Continuing Education but academically housed within the College of Arts and Sciences, the committee requested clarification of roles and responsibilities of the program director and program faculty. The committee also stressed the need for the establishment of academic qualifications necessary for faculty (full and part time) teaching in graduate programs. The institution responded to the points regarding curriculum changes and committed to aligning the curriculum with the competencies necessary for accreditation. A clear delineation of roles and responsibilities was provided. The institution has begun the process of establishing academic qualifications for faculty. After reviewing the school's response, the committee expressed that the college's response was adequate in its intentions.

PUBLIC HEARING

The required public hearing was held on February 28, 2012 at the Department of Higher Education, located at One Ashburton Place in Boston, Massachusetts. No comment was offered in opposition to the proposed program.

STAFF ANALYSIS AND RECOMMENDATION

The staff has thoroughly evaluated all materials submitted by Wentworth Institute of Technology and finds that the proposal meets the requirements for NEASC-

accredited institutions outlined in 610 CMR 2.08. Recommendation is for approval of the school's petition to offer the Master of Science in Facility Management.

ATTACHMENT A: CURRICULUM

Graduate Program Curriculum Outline (Insert additional rows as necessary.)

Major Required (Core) Courses (Total # of courses required = 10)		
Course Number	Course Title	Credit Hours
MGMT 819	Business Finance & Investment	3
FMGT 800	Project Management Applications	3
MGMT 840	Executive Leadership	3
MGMT 845	Communication Strategies	3
MGMT 825	Quantitative Methods in FM Research	3
MGMT 811	Strategic Financial Decision-Making	3
FMGT 820	Facility Operations	3
FMGT 830	Contemporary Issues in Managing Technology	3
FMGT 840	Energy/Sustainability	3
FMGT 980	Facility Management Capstone	3
	SubTotal # Core Credits Required	30
FMGT 990	Thesis Option	6

Curriculum Summary	
Total number of courses required for the degree	10
Total credit hours required for the degree	30
Total credit hours w/ optional thesis	36
Prerequisite, Concentration, Dissertation or Other Requirements:	
<p>Successful candidates for the MSFM program will have an undergraduate degree in facility management, architecture, engineering, construction management, business, or interior design with two years verifiable full-time work experience in FM field.</p> <p>Students should exhibit a level of competence in the following areas before being formally admitted into the program:</p> <ul style="list-style-type: none"> • Accounting • Operations • Real Estate • General Management • Project Management 	

Appendix - Income and Expense Projections for FY13 -FY16
(in thousands of \$\$)

	FY13	FY14	FY15	FY16	Sum of 4 Yr.
	<u>Forecast</u>	<u>Forecast</u>	<u>Forecast</u>	<u>Forecast</u>	<u>Forecast</u>
Revenues	149	294	303	312	1058
Enrolled students	10	19	19	19	
<u>Operating Costs*</u>					
Faculty Costs	50	60	60	67	237
Industry Partners	11	13	13	16	53
Coursework Dev. (\$3k/Course)	18	12			30
Administrative Assistant	45	46	47	48	186
(\$36K base plus 25% fringe)					
Other Costs					
Start-up Capital	20				20
Books \$200/Student/Course	12	23	23	24	82
Marketing/Advertising	20	25	25	25	95
Travel/Accreditation Costs	5	5	5	5	20
Technology Upgrades	-	<u>2</u>	<u>2</u>	<u>2</u>	6
Total Estimated Costs	181	186	175	187	729
Operating Margin	-32	108	128	125	329
% of Revenues	-21%	37%	42%	40%	31%