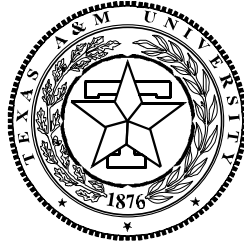


College of Architecture
Texas A&M University



The Certificate in Facility Management

Approved: August 1999

Revised: August 1, 2008

THE CERTIFICATE IN FACILITY MANAGEMENT

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THE CERTIFICATE IN FACILITY MANAGEMENT

PART I: General Description

Purpose

The certificate in facility management provides students in any graduate degree program at Texas A&M University an opportunity to develop a body of knowledge in facility management that will further their career goals. The certificate assumes that facility management is a cross-disciplinary field. The program is designed to ensure that students gain a sense of mutual respect for others in the field and an appropriate awareness, understanding, and ability within a specific body of knowledge.

The Facility Management Certificate Council

The Council for the Certificate in Facility Management (the Certificate Council) is comprised of not less than three (3) faculty with expertise in the field, and is appointed by the Dean of the College of Architecture to advise on all matters relating to the program.

The Graduate Advisory Committee for each student, with the oversight of degree coordinators, department heads, and the Office of Graduate Studies, is responsible for the academic program of the student. However, the Certificate Council is charged with ensuring that students recommended for the certificate have met content standards.

The program can be accomplished within the minimum number of hours required for the degree; however, additional hours may be required by the student's Graduate Advisory Committee, and students may choose to take additional hours not on the degree plan in order to meet the requirements for the certificate.

The Certificate

The Certificate in Facility Management was approved by the College of Architecture Executive Committee in August, 1999.

The certificate is awarded after the completion of the program, and must be signed by the head of the student's academic department and the dean of the college. The certificate contains the seal of the university and appropriate text. It will normally be presented at college ceremonies prior to the official university graduation exercises. The cost of producing and framing the certificates is covered by the Office of the Dean.

PART II: Criteria and Course Requirements

The College of Architecture will award the certificate in Facility Management to students who meet the criteria listed below:

1. Any student admitted to a graduate degree program offered in the College of Architecture should declare the intent to seek the Certificate in Facility Management at the time of filing a Degree Plan. (See Part VI for a copy of the application form). Application forms are also available in the Graduate Programs Office of the College.
2. The student must complete a MINIMUM of fifteen (15) credit hours of course work with facility management content as follows:
 - a. The courses MUST be applicable toward a graduate degree at Texas A&M University, but may not necessarily be included on the student's degree plan.
 - b. COSC 670, Introduction to Facility Management, is required.
 - c. A capstone course of at least 3 credit hours must be approved by the Certificate Council. This capstone course may be a final study, thesis or research paper that is taken as part of the student's normal degree program.
 - d. At least three (3) credit hours of course work with facility management content MUST be from outside the student's major field.
 - e. At least two (2) courses must be taken from one of the four major elective areas:
 - 1) Operations and Maintenance,
 - 2) Finance and Real Estate,
 - 3) Planning, Project Management, Technology, or
 - 4) Human and Environmental Factors.
3. On completion of all requirements for the degree, the student will receive a Certificate in Facility Management signed by the Dean and the appropriate Department Head.

The student's Graduate Advisory Committee remains the primary body for recommending the degree plan content. Courses required or intended for the Certificate in Facility Management may be used in the degree plan with the concurrence of the Graduate Advisory Committee. Students may also add other courses in order to fulfill the Certificate requirements. Students are encouraged to consult with their Graduate Advisory Committee AND a member of the Certificate Council as their degree plan is being developed. A written statement should be provided to explain why courses not on the list of approved courses should be allowed toward

the certificate. The content relating to Facility Management emphasis for the certificate should be clearly demonstrated.

Transfer of Credit

The transfer of credit from another university must meet the following criteria:

1. The credit hours to be transferred must have been accepted by a graduate program at Texas A&M University and must be listed in the degree plan for that graduate program.
2. The credit hours to be transferred must not exceed six credit hours.
3. The credit hours to be transferred must meet all other criteria of the facility management degree program."

PART III: A. Approved Courses for the Certificate

Approved Courses and Course Content

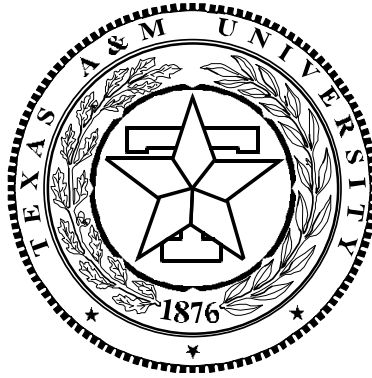
The Certificate Council will make available a list of courses, inside and outside the College of Architecture, that meet the requirements for facility management content. The list, and associated syllabi and names of instructors, will be on file in the office of the CRS Center, 418 Building C.

Where a student identifies a course not on the list, or wishes to transfer a course from another institution, the syllabus and specific reference to facility management content **MUST** be submitted to the Certificate Council for review. Courses not accepted for use toward a graduate degree at Texas A&M University may not be used toward the certificate.

If a course has a generic topic (for example a design studio in architecture or a capstone studio course in land development or planning), the facility management content and the student's specific role in working with that content must be stated in a supporting letter from the student and submitted with the application. The letter should be co-signed by the instructor of the course.

As a general practice, a member of the Certificate Council who also serves as a chair of a student's Graduate Advisory Committee will not provide signature approval at any step in the application process. The Certificate Council may seek input from faculty concerning course content and/or the specific contribution of a student in a course with team activity.

Where the Certificate Council makes a negative finding as to the applicability of a course, or a final project, the finding will be made in writing with copies to the student, student file, and chair of the student's Graduate Advisory Committee. Appeals against findings of the Certificate Council will be made to the academic dean of the College of Architecture, whose decision will be final.



The College of Architecture
Texas A&M University

Certificate in Facility Management

awarded to

Student

in recognition of the completion of a program
of study in Facility Management approved by the faculty
as a part of the requirements for the degree of

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXX

Dean of the College

XXXXXXXXXXXXXXXXXXXX

Head of the Department

Month Year

PART III: B. Faculty

The following faculty have reviewed the certificate in facility management and have asked that their name be added to the list of faculty for the certificate.

Liliana O. Beltran, Ph.D., Assistant Professor of Architecture

* David L. Bilbo, Ph.D., Clark Professor of Construction Science

John A. Bryant, Ph.D., Associate Professor of Construction Science

Richard Burt, Ph.D., Assistant Professor of Construction Science

*David E. Claridge, Ph.D., Leland Jordan Professor of Mechanical Engineering & Director of Energy Systems Laboratory

Mark J. Clayton, Ph.D., Associate Professor of Architecture, Executive Associate Dean

* Jeff S. Haberl, Ph.D., Professor of Architecture; Assoc. Director of Energy Systems Lab

Nancy L. Holland, Ph.D., Associate Professor of Construction Science

* Robert E. Johnson, AIA, D.Arch., Professor of Architecture; Bullock Endowed Chair

*Sarel Lavy, Assistant Professor of Construction Science and Associate Director, CRS Center

*Valerian Miranda, Ph.D., Associate Professor of Architecture; Interim Director, CRS Center & Chair, Certificate Council

Andrew D. Seidel, Ph.D., Professor of Architecture and Landscape Architecture and Urban Planning

*Atef M. Sharkawy, Ph.D., Professor of Landscape Architecture and Urban Planning

Mardelle M. Shepley, D.Arch, Professor of Architecture

* Ward V. Wells, Professor of Architecture

David G. Woodcock, FAIA, Professor of Architecture and Director, Center for Historic Preservation

* Paul K. Woods, Ph.D., Associate Professor of Construction Science

* = member of the Facility Management Certificate Council

**PART III: C. List of Courses Offered in the College of Architecture
Relevant to the Facility Management Certificate**

College of Architecture CAPSTONE Facility Management Courses
(One must be selected to fulfill requirements for the certificate)

ARCH 691/693	Research/Professional Study	3 *
COSC 691/693	Research/Professional Study	3 *
LDEV 691/693	Research/Professional Study	3 *

* A maximum of 3 credit hours in these courses may be counted towards the FM certificate.
(Other university disciplines may use equivalent research)

Required Facility Management Course

COSC 670	Facilities Management	3
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ELECTIVE AREA 1: Operations and Maintenance

ARCH 619	Applied Solar Energy	3
ARCH 621	Energy Optimization in Building Design	3
ARCH 634	Architectural Lighting	3
COSC 663	Sustainable Construction	3
MEEN 436	Principles of Heating, Ventilation and Air Conditioning	3
MEEN 437	Principles of Building Energy Analysis	3
MEEN 664	Energy Management in Commercial Buildings	3
MEEN 665	Application of Energy Management	3

ELECTIVE AREA 2: Finance and Real Estate

LDEV 661	Development and the Environment	3
LDEV 662	Land Development Law	3
LDEV 664	Market Analysis for Development	3
LDEV 667	Design and Development Economy	3
ACCT 640	Accounting Concepts and Procedures	3
FINC 635	Financial Management for Non-Business	3

ELECTIVE AREA 3: Planning, Project Management, Technology

ARCH 642	Data Processing in Environmental Design	3
ARCH 652	Facility Information Technology	3
ARCH 663	Interior Architecture	3
COSC 620	Construction Operations	3
COSC 621	Adv Topics Construction Proj Sched and Proj Mgmt	3
COSC 622	Construction Resources	3
COSC 624	Project Acquisition and Control	3
COSC 672	Introduction to FM Data Systems	3
MGMT 655	Survey of Management	3

ELECTIVE AREA 4: Human and Environmental Factors

ARCH 646	Historic Preservation Theory and Practice	3
ARCH 660	Design Programming	3
ARCH 676	Survey of Human Behavior and Design	3
COSC 664	Construction Safety Management	3
MGMT 630	Behavior in Organizations	3

ELECTIVES: Internships

ARCH 684	Professional Internship	1-3
COSC 684	Professional Internship	3

PART III: D. Model Degree Plan for Master of Architecture Students Seeking a Certificate in Facility Management

Fall Semester I	ARCH 605	Design I	6
	ARCH 631	Architectural Structures III	3
	<i>COSC 670</i>	<i>Introduction to Facility Management (Req'd for FM)</i>	<u>3</u>
			12
Spring Semester I	ARCH 606	Design II	6
	ARCH 633	Environmental Systems III	*3
	ARCH ---	Architectural History	<u>3</u>
			12
Summer	ARCH 684	Professional Internship	
or	Elective		3
Fall Semester II	ARCH 607	Design III	6
	ARCH 685	Directed Studies (Final Study Prep)	1
	Elective		*3
	Elective		<u>*3</u>
			13
Spring Semester II	<i>ARCH 693</i>	<i>Professional Study (Final Study) (Req'd for FM)</i>	**6
	ARCH 657	Professional Practice	3
	Elective		<u>*3</u>
			12
Minimum hours standard degree			52

Required classes for the facility management certificate are in *italics*.

* Possible facility management electives, at least one of which must be a course outside the Department of Architecture with facility management content. For a list of these courses please refer to section III.C.

** Students must complete a capstone Professional Study or Thesis with a Facility Management focus that is approved by the Facility Management Certificate Council. Although this is a 6 credit hour course, only 3 credit hours may be counted toward the FM certificate.

**PART III: E. Model Degree Plan for Master of Science in Architecture
Students Seeking a Certificate in Facility Management**

Fall Semester I	CARC 601	Foundations of Research	3
	<i>COSC 670</i>	<i>Introduction to Facility Management (Req'd for FM)</i>	3
	Elective	Major Area (Facility Management)	*3
	Elective	Minor Area	<u>3</u>
			12
Spring Semester I	Writing Course (ENGL 660 or equivalent)		3
	Elective	Major Area (Facility Management)	*4
	Elective	Minor Area	3
	ARCH 685	Directed Studies (Final Study Prep)	<u>1</u>
			11
Fall Semester II	Elective		3
	<i>ARCH 691</i>	<i>Thesis Research (Req'd for FM)</i>	<u>**6</u>
			9
Minimum hours standard degree			32

Required classes for the facility management certificate are in *italics*.

- * Possible facility management electives, at least one of which must be a course outside the Department of Architecture with facility management content. For a list of these courses please refer to section III.C.
- ** Students must complete a capstone Professional Study or Thesis with a Facility Management focus that is approved by the Facility Management Certificate Council. Although this is a 6 credit hour course, only 3 credit hours may be counted toward the FM certificate.

PART III: F. Model Degree Plan for Master of Science in Construction Management Students Seeking a Certificate in Facility Management

Fall Semester I	COSC 690	Theory of Research	3
	STAT 651	Statistics in Research	3
	COSC 681	Research Seminar	1
	Elective		*3
	<i>COSC 670</i>	<i>Introduction to Facility Management (Req'd for FM)</i>	<u>3</u>
			13
Spring Semester I	COSC Elective		*3
	Elective		*3
	COSC 693	Research Proposal Development	2
	Elective		<u>*3</u>
			11
Fall Semester II	COSC Elective		*3
	<i>COSC 693</i>	<i>Professional Paper (Req'd for FM)</i>	**3
	Elective		*3
	Elective		<u>*3</u>
			12
Minimum hours standard degree			36

Required classes for the facility management certificate are in *italics*.

- * Possible facility management electives, at least one of which must be a course outside the Department of Construction Science with facility management content. For a list of these courses please refer to section III.C.
- ** Students must complete a capstone Professional Study or Thesis with a Facility Management focus that is approved by the Facility Management Certificate Council.

***The Department of Construction Science also requires the following:
18 credit hours must have the COSC prefix
6 credit hours must not have the COSC prefix (excluding statistics)***

PART III: G. Model Degree Plan for Master of Science in Land Development Students Seeking a Certificate in Facility Management (45 Credit Program)

Fall Semester I	LDEV 664	Market Analysis for Development	*3
	LDEV 667	Design Development Economy	*3
	LDEV 677	Residential Project Development	3
	<i>COSC 670</i>	<i>Introduction to Facility Management (Req'd for FM)</i>	<u>3</u>
			12
Spring Semester I	FINC 639	Real Estate Development Analysis	*3
	LDEV 662	Development Law	*3
	LDEV 678	Commercial Project Development	3
	LDEV 663	Project Management	<u>*3</u>
			12
Summer	LDEV 687	Development Analysis and Feasibility I, and	3
	LDEV 688	Development Analysis and Feasibility II	3
	<i>LDEV 693</i>	<i>Professional Study (Req'd for FM)</i>	<u>**3</u>
			9
Fall Semester II	LDEV Elective Course 1 (Environmental Issues)		3
	Leveling Course		3
	Elective Course 2		*3
	Elective Course 3		<u>*3</u>
			12
Minimum hours standard degree			45

Required classes for the facility management certificate are in *italics*.

* Possible facility management electives, at least one of which must be a course outside the Department of LAUP with facility management content. For a list of these courses please refer to section III.C.

** Students must complete a capstone Professional Study or Thesis with a Facility Management focus that is approved by the Facility Management Certificate Council.

PART III: H. Other Degree Plans

Students seeking a Certificate in Facility Management from other graduate degree programs should consult with their Degree Coordinator and their Graduate Advisory Committee.

PART IV: Steps Toward Obtaining the Certificate

Approved by the College Research and Interdisciplinary Council, 9 April 2003

Students are encouraged to meet with a member of the Facility Management Certificate Council prior to filing an application and completing a degree plan.

Step One: *Application for the Certificate.* At the time of filing a degree plan the student will complete an Application for the Facility Management Certificate and attach to it a copy of the degree plan signed by the student's Graduate Advisory Committee and the head of the student's department. The Certificate Council will evaluate the application for compliance with the requirements for content and inform the student in writing of its conclusion.

Step Two: *Review of the Application.* At the time a professional study, professional paper, thesis, or dissertation abstract is approved by the Graduate Advisory Committee, the student will provide the proposal and/or other supporting document as may be required, to the Certificate Council for its approval of certificate content. The Certificate Council will inform the student in writing about the outcome of its review.

Step Three: *Issue of the Certificate.* At the time the student is approved for receipt of the degree, the Graduate Programs Office will review the approved certificate courses and advise the dean of the College of successful completion. Students who submitted a proposal or other supporting documentation in Step Two must:

1. submit a final abstract that has been approved by their Graduate Advisory Committee. This abstract submission must occur not later than ONE MONTH prior to the date of commencement.
2. submit their entire professional paper, thesis or dissertation electronically using Adobe Acrobat to the facility management certificate program.

When all requirements are met, the dean will authorize the granting of the certificate.

PART V: Policy for Maintaining Student Records for Certificate Programs

Official Facility Management Certificate records consist of the Application, copy of the approved Degree Plan (and any subsequent Petitions that may impact the previously approved program), an Abstract (see attached application form) of the final project topic, and any official correspondence.

1. These records will be kept in the official student folders in the Graduate Programs Office of the College of Architecture.
2. For reference purposes the Graduate Programs Office will create and maintain a database showing all students who have received, or are currently enrolled in, a certificate program.

The database should indicate:

NAME

DEGREE PROGRAM

DATE OF APPLICATION

DATE OF ACTIONS FOR EACH STEP ABOVE

TITLE OF PROJECT, PAPER, THESIS, OR DISSERTATION

NAME OF CHAIR OF GRADUATE ADVISORY COMMITTEE

DATE OF DEGREE/CERTIFICATE AWARDED

PERMANENT/CURRENT ADDRESS/E-MAIL

EMPLOYMENT DATA

This database should be accessible by the certificate program office, which may also maintain hard copy files as may be deemed appropriate for developing data on the career histories, addresses, email address, etc. of certificate holders and current students.

Student grades will not be available outside the Graduate Programs Office, and personal data will not be released, except in accordance with state law and university guidelines.

PART VI:
Student Application and Course Plan for
Certificate in Facility Management

Date of Application to Certificate Program: _____

Student Information

Name: _____ Student ID Number: _____

Address: _____

Phone(s): _____ Email: _____

Degree Information

Department: _____

Degree Program (please circle)

Ph.D. ARCH URSC M.ARCH MLA MUP MS(Arch) MSLD MS(COMG) MS(VIZA) MS(ME)

Chair of Graduate Advisory Committee: _____

Expected completion date: _____

Please provide the following items:

I. A copy of the approved proposal of the dissertation, thesis, final study, or professional paper that clearly demonstrates the significance of the research to the field of facility management. *This must be submitted to the facility management certificate council before you begin your research or final study.*

II. When you submit your proposal (part I) and before you begin your research or final study, you must also include a separate document that answers the following four questions:

1. What aspect of facility management does the proposed work impact? Please list.
2. How does the proposed work relate to the state-of-the-art in facility management?
3. Why is the proposed work significant to a facility manager?
4. If the results of the proposed work are adopted by a facility manager, how would the impact be measured (i.e., time savings, money savings, energy savings, etc.).

III. A final abstract as was filed with the dissertation, thesis, final study or professional paper and the final dissertation, thesis, final study or professional paper **in electronic format** (MS Word or Adobe Acrobat).

Application parts I and II must be submitted before you begin your research.

Application part III must be submitted after you complete your research in order for you to receive your certificate.

This completed application must be submitted to:

Dr. Valerian Miranda, Chair, FM Certificate Program
CRS Center (Room 006), Williams Administration Building

Student Course Plan for FM Certificate

List below proposed courses to meet FM Certificate requirements.

Department Abbreviation	Course Number	Course Title	Credit
<i>COSC</i>	<i>670</i>	<i>Introduction to Facility Management</i>	<i>3</i>
		Total hours listed for credit	

- **REQUIREMENTS:** A minimum 15 credit hours of courses, distributed as follows:
 - a) COSC 670, Introduction to Facility Management
 - b) a capstone course of at least 3 credit hrs,
 - c) at least 2 courses of 3 credit hours each from one of the 4 major elective areas,
 - d) at least 3 credit hours of course work outside your major field of study.
- In unusual cases, when a student identifies a course not on the list or wishes to transfer a course from another institution, the syllabus and specific reference to facility management content **MUST** be submitted for review. Courses not accepted for use toward a graduate degree at Texas A&M University may not be used toward the certificate.
- Where a course has a generic topic (for example a design studio in architecture or a capstone studio course in planning) the facility management content and the student’s specific role in working with that content must be stated in a supporting letter from the student submitted with the application and signed by the instructor
- **IMPORTANT:** Please attach a copy of your approved degree plan, as approved and signed by your Graduate Advisory Committee.

Signature of Student

Date

Approval Recommended:

Facility Management Certificate Council

Date

Distribution:

Grad Programs Office	Certificate Office	Student	Chair, Student’s Graduate Advisory
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