

Construction Management at USM



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Department of Technology

The Department of Technology in the School of Engineering and Physical Sciences provides degree programs and services related to manufacturing, construction, and information technology.

The curricula of the Department provides a blend of general education, technical, and professional courses designed to prepare individuals for careers as leaders in business and industry.



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Department of Technology

Degree Programs and Concentrations

B.S. In Technology Management

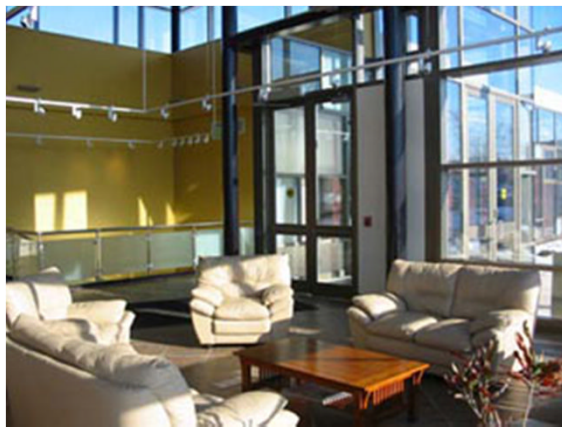
Industrial Management
Precision Manufacturing
Information and Communications
Construction Management

B. S. in Applied Technical Leadership



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The John Mitchell Center



A LEED certified facility on the
Gorham campus



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Contemporary meeting rooms, classrooms,
and laboratories



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The Need for a Construction Management Program

The average age of construction leaders is 55+

The U.S. Bureau of Labor Statistics projects that the demand for jobs in areas that include CM will increase by 17% and that construction is one of the top 25 fastest growing career areas

There is no degree path in construction management for construction workers in Southern Maine (UMaine has a program as does Wentworth and Northeastern in Boston).



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Construction Management

Program Goals

To prepare bachelors degree graduates for careers as construction supervisors, superintendents, project managers, estimators, construction managers and project executives in support of the construction industry of the region.

To provide a bachelors degree educational path for graduates of construction related associate degree programs in the community colleges of Maine

To provide a bachelors degree educational path for individuals employed in the construction industry in Maine who have obtained technical expertise equivalent to an associate degree through non-traditional means.

To provide construction management courses for individuals not seeking a degree, but who will benefit from those courses.



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Who is the Program For?

Transfer Students

Students who have completed a construction related associate degree program from a regionally accredited community or technical college.

Students With Experience

Students without an associate degree who hold a license in a construction related trade or who prepare a portfolio to demonstrate sufficient technical background to meet the degree requirements.

Students Not Seeking A Degree

Individuals who are not seeking a degree but who would benefit from taking one or more construction management courses.

Traditional Students



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Prior Learning Assessment

Students can receive credit for previously learning experiences through several methods including:

CLEP /Dantes Examinations

College Level Examination Program

Defense Activity for Non-Traditional Educational Support

USM Challenge Examinations

Military Credit Evaluation

High School Advanced Placement Examinations

Credential Review

Selected licenses, certificates, & credentials

Portfolio Assessment

Student developed portfolio identifying and documenting prior learning through a variety of means



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Associate Degree Plus Two Years

Semester 1

Pre-Calculus
History Centered Art
Intro to Computers
Intro to Construction Management
Legal Environment Business
Economics

Semester 2

Reasoning
Technical Writing
Financial Accounting
Project Management I
Industrial Org. Mgmt. & Supervision
Occupational Safety & Health

Semester 3

Ergonomics/Time Study
Construction Documents I
Cost Estimating
Science
Professional Elective
Applied Calculus

Semester 4

Construction Documents II
Construction Project Management
Statistics
Professional Elective
General Elective



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Actual requirements will vary depending
on the courses transferred.

Four Year - Eight Semester Degree Program

1st Semester - Fall			2nd Semester - Spring		
ENG 100	College Writing	3	ARH 312*	History of Modern Arch	3
MAT 140	Pre-Calculus	3		Creative Expression	3
ITC 100	Intro Construction Mang	3	Mat 148D	Applied Calculus	3
EYE 112	Built Environment	3	ITP 210	Technical Writing	3
ITT 181	Intro to Computers	3	ITP 280	Indust.Org.Mgt. & Supr.	3
3rd Semester - Fall			4th Semester - Spring		
ESP 260	Soil & Water Conservation	3	ITS 300	Ergonomics/Time Study	3
	Physics w/Lab	4	ITT 103	Material Property Testing	3
ITS 320	Occup Safety & Health	3		Statistics	3
ITP 230	Project Management	3	ACC 110	Financial Accounting	3
ITT 282	Computer-Aided Design	3	ECO	Economics	3
ITC 440	Internship - Sophomore Summer 3 credits				
5th Semester - Fall			6th Semester - Spring		
BUS 280	Ethical Inquiry	3	ITC 442	Construciton Documents 2	3
	Legal Environ. Business	3	ITC 432	Construction Proj. Mang.	3
ITC 341	Construction Documents 1	3	ARC 221*	Concepts of Structures	3
ITC 351	Construction Cost Est.	3	ARC 231*	Materials & Methods	3
	Thematic Cluster 1	3		Thematic Cluster 2	3
ITC 441	Internship - Junior Summer	3 Credits			
7th Semester - Fall			8th Semester - Spring		
ARC 322*	Geology w/Lab	4		General Elective	3
	Structures II	3	ITT 425	App. Process Control Eng	3
ARC 332*	Construction Techniques	3	ITP 490	Cost Analysis & Control	3
	General Elective	3		Technical Elective	3
	Thematic Cluster 3	3	ITT 460	Capstone	3
TOTAL					128

* Classes at UMA. ARH 105 satisfies Cultural Interpretation Core Requirement



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USM, CM Student Chapters and Affiliates

Students are encouraged to become actively engaged and involved with a professional organization that is associated with their interests and career objectives.

- Construction Management Associate of America (CMMA)
- Construction Specifications Institute (CSI)
- Associated Builders and Contractors (ABC)
- Associated General Contractors (AGC)

Scholarships

USM, CM Students have been recognized with numerous scholarships from:

- USM
- CMAA
- CSI
- ABC
- AGC
- NAWIC



Students in the CM Concentration degree program are required to complete a senior assessment; namely, the level 1, Associate Constructor , AIC, Constructor Certification Exam as part of the graduation requirement.

During this 8 hour exam, students are tested on the following competencies:

- **Communication Skills**
- **Engineering Concepts**
- **Management Concepts**
- **Materials, Methods, and Project Modeling and Visualization**
- **Bidding and Estimating**
- **Budgeting, Costs, and Cost Control**
- **Planning, Scheduling, and Schedule Control**
- **Construction Safety**
- **Construction Geomatics**
- **Project Administration**



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(Level 1) The AC (Associate Constructor) certification is intended for constructors entering the construction field and exam questions will be primarily based upon education knowledge

(Level 2) The CPC (Certified Professional Constructor) certification is intended for the Professional Constructor who has been in the field for several years and exam questions will cover both education and experience-based knowledge.



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Certifications that USM CM students may gain through independent exams, while completing their BS degree requirements:

- AC from AIC
 - requires degree completion
- CPC from AIC
 - 2+yrs substantial responsibility
- CAPM from PMI
- PMP from PMI
 - 2+yrs exp.
- CPE from ASPE
 - 5+yrs exp.
- LEED Green Associate from USGBC
- OSHA 30 hour card
- CDT from CSI
- CCCA from CSI
 - 2+yrs exp.



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ITC 351, Construction Cost Estimating

- Offered in Fall Semester
- 18-22 Students per semester
- Students from diverse backgrounds
- Focus on Takeoff, Pricing
- Emphasis on Site, Building through Finishes (Not M/E/P), Subcontractor evaluation, bid process



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ITC 351, Construction Cost Estimating

- Guest speakers bring outside perspective of industry
- Seek to have students learn by doing
- This year will use MC2 estimating software
- Students will electronically bid an actual project

The CM Program Advisory Committee

Courses in the Construction Management concentration are taught by both regular full time faculty at the University representing a variety of disciplines and adjunct faculty who are practicing experts in construction management. The program is also actively supported by an advisory committee made up of representatives from regional construction and architectural firms that represent both commercial and residential construction and other selected individuals.

PC Construction

Wright-Ryan Construction

Reed & Reed, Inc.

David Johnston & Co., Inc.

AlliedCook Construction Corp.

R.J. Grondin & Sons

Landmarc Construction Services Corp.

Associated Constructors of Maine, Inc.

Taylor, McCormack & Frame

Shaw Brothers Construction, Inc.



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Special Thanks

- Maine ASPE Maine Chapter 37
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