

# CONSTRUCTION MANAGEMENT BACHELOR OF SCIENCE

## Leading to a Bachelor of Science Degree in Construction Management

The Construction Management program provides a background of technical skills to apply to a construction project from conception to completion. Students are taught the skills necessary to manage resources, time, cost, and quality with an emphasis on team building. Skills developed during the program include management, budgeting and cost control, cost estimating, scheduling, engineering fundamentals, and the development of analytical and communication skills. The Construction Management program has a cooperative education program where hands-on experience is acquired. Career opportunities for the construction manager are found throughout the industry and include positions with construction companies, government agencies, architectural and engineering firms, industrial firms, and manufacturing and materials suppliers.

The Bachelor of Science in Construction Management (BSCM) program at Wentworth Institute of Technology is accredited by the American Council for Construction Education (ACCE). The primary goal of ACCE is to promote and improve construction education in colleges and universities. By working together through ACCE, representatives of the total construction community and the public at large, construction educators and constructors establish and maintain standards and criteria for accreditation. ACCE provides guidance to those programs seeking to achieve accredited status, and carry out the accreditation process.

ACCE accreditation serves the interests of:

- Students: by helping them identify institutions and programs that offer quality education in construction education,
- The Construction Industry: by enabling employers to identify persons who have the potential for making lasting contributions to the construction industry and their profession, and
- Owners / Users of Constructed Facilities and the Public at Large: by raising the professional caliber of constructors and thus the quality of the construction for which they assume responsibility.

Specifically, accreditation of a construction education program by ACCE assures;

- Students and prospective employers that the program has met stringent industry standards of content and quality,
- That program graduates have been provided a quality education enabling them to perform a broad range of professional responsibilities, and
- The construction industry and students that the program performs periodic self-evaluations to keep current with emerging technologies and requirements of the construction industry.

Accreditation by ACCE assists an institution and its construction education program in maintaining contact with other programs and practicing construction professionals, and enables the program to;

- Keep current with emerging technologies in the field,
- Increase awareness of current courses, facilities, and services provided by other accredited programs,
- Improve instructional techniques, and
- Access construction industry contacts nationwide.

## Program Educational Objectives

There are several goals of the Construction Management program:

- Maintain accreditation by the American Council of Construction Education (ACCE), which promotes, supports, and accredits construction education programs.
- Successfully place students in positions appropriate for college graduates in the construction industry.
- Maintain class sizes with an average of no more than 30 students in lectures and an average of no more than 20 students in lab.
- Provide Students with the knowledge and skills to succeed in supervisory and management roles in construction related fields.

## Student Outcomes

The following are the learning outcomes that will be used to assess the Construction Management program. These learning outcomes are aligned with the requirements for ACCE accreditation:

- Create written communications appropriate to the construction discipline.
- Create oral presentations appropriate to the construction discipline.
- Create a construction project safety plan.
- Create construction project cost estimates.
- Create construction project schedules.
- Analyze professional decisions based upon ethical principles.
- Analyze methods, materials, and equipment used on construction projects.
- Apply electronic-based technology to manage the construction process.
- Apply basic surveying techniques for construction layout and control.
- Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process
- Understand construction accounting and cost control.
- Understand construction quality assurance and control.
- Understand construction project control processes.
- Understand the legal implications of contract, common, and regulatory law to manage a construction project.
- Understand the basic principles of sustainable construction.
- Understand the basic principles of structural behavior.
- Understand the basic principles of HVAC, electrical, and plumbing systems.

Credits for Degree: 133

This is a four-year full-time, American Council for Construction Education (ACCE) accredited program that begins in the fall of the student's first year and is planned to finish in the summer semester of the student's fourth year.

This period includes two semesters of cooperative work experience. A graduate of the program can earn a Construction Manager in Training

(CMIT) certificate, the first step in gaining a Certified Construction Manager (CCM) professional registration.

Students should contact their academic advisor for information regarding the construction management electives.

### Special Graduation Requirement

Students in the Bachelor of Science in Construction Management program must demonstrate completion of a U.S. Department of Labor Occupational Safety and Health Administration (OSHA) 30-hour training course in Construction Safety & Health. Submission to the Registrar (registrar@wit.edu) of a photocopy of either the signed and dated card or verification and dating of entrance ticket or receipt indicating that the student actually attended the training will serve as adequate proof.

#### First Year

Fall Semester		Credits
CONM1050	INTRODUCTION TO THE BUILT ENVIRONMENT	3
CONM1200	BUILDING CONSTRUCTION	4
CHEM1000	CHEMISTRY OF THE BUILT ENVIRONMENT	4
MATH1000	COLLEGE MATHEMATICS <sup>1</sup>	4
English Sequence		4
<b>Credits</b>		<b>19</b>

#### Spring Semester

CONM1525	INTRODUCTION TO BUILDING INFORMATION MODELING (BIM)	2
CONM1550	INTRODUCTION TO PLAN READING & SPECIFICATIONS	2
PHYS1000	COLLEGE PHYSICS I	4
MATH1500	PRECALCULUS <sup>1</sup>	4
English Sequence		4
<b>Credits</b>		<b>16</b>

#### Second Year

Fall Semester		Credits
CONM2000	CONSTRUCTION SURVEYING	4
CONM2100	STATICS & STRENGTH OF MATERIALS	4
CONM2200	ESTIMATING	4
MGMT2700	FINANCIAL ACCOUNTING	3
HSS Elective (ECON4102)		4
<b>Credits</b>		<b>19</b>

#### Spring Semester

CONM2500	BUILDING SYSTEMS	4
CONM2600	WOOD & STEEL ANALYSIS & DESIGN	3
CONM1600	HEAVY CONSTRUCTION EQUIPMENT	3
CONM3150	QUALITY CONTROL AND ASSURANCE	3
MATH1030	STATISTICS & APPLICATIONS	4
COOP2500	CO-OP INSTITUTE	0
<b>Credits</b>		<b>17</b>

#### Summer Semester

COOP3000	PRE CO-OP WORK TERM (OPTIONAL)	0
<b>Credits</b>		<b>0</b>

#### Third Year

Fall Semester		Credits
CONM3100	CONSTRUCTION PROJECT MANAGEMENT	4

CONM3201	CONSTRUCTION PROJECT SCHEDULING	4
MGMT3000	MANAGING & LEADING ORGANIZATIONS	4
HSS Elective		4
<b>Credits</b>		<b>16</b>

#### Spring Semester

COOP3500	COOP EDUCATION 1	0
<b>Credits</b>		<b>0</b>

#### Summer Semester

CONM3500	ADVANCED ESTIMATING & BID ANALYSIS	4
CONM3600	CONCRETE ANALYSIS & DESIGN	4
MGMT3600	LABOR RELATIONS	3
HSS Elective (PSYC4552)		4
<b>Credits</b>		<b>15</b>

#### Fourth Year

Fall Semester		Credits
COOP4500	COOP EDUCATION 2	0
<b>Credits</b>		<b>0</b>

#### Spring Semester

CONM4000	CONSTRUCTION PROJECT CONTROL	3
CONM4100	CONSTRUCTION BUSINESS & FINANCE	4
CONM4200	CONSTRUCTION SAFETY & RISK MANAGEMENT	3
MGMT4100	POWER & LEADERSHIP IN ORGANIZATIONS	4
CONM Elective <sup>2</sup>		3
<b>Credits</b>		<b>17</b>

#### Summer Semester

CONM4650	BUSINESS, CONSTRUCTION LAW & GOVERNMENT REGULATIONS	3
CONM5500	SENIOR PROJECT CONSTRUCTION MANAGEMENT	4
CONM Elective <sup>2</sup>		3
HSS Elective		4
<b>Credits</b>		<b>14</b>
<b>Total Credits</b>		<b>133</b>

#### ENGL/HSS Note

Students are required to complete:

- At least one course in Humanities: CSAS, HSSI, HIST, HUMN, LITR and PHIL
- At least one course in the Social Sciences: CSAS, HSSI, COMM, ECON, ENVM, POLS, PSYC and SOCL
- The remaining course from either the Humanities or Social Sciences category.

Students with a three English course sequence may use the third English course to satisfy a Humanities requirement.

A minimum of 24 credits total, including English, humanities, and social science credit, is required to complete the humanities and social sciences graduation requirement.

Of the four humanities and social science electives, BSCM students must include the following:

Course	Title	Credits
ECON4102	PRINCIPLES OF ECONOMICS	4
PSYC4552	INDUSTRIAL ORGANIZATION PSYCHOLOGY	4

<sup>1</sup> In lieu of MATH1000 and/or MATH1500, one or more of the following can be used to satisfy 8 total math credits: MATH1750, MATH1776/MATH1777, MATH1850, MATH1876/MATH1877

<sup>2</sup> Possible CONM Electives include any section of CONM 3800 SPECIAL TOPICS IN CONSTRUCTION MANAGEMENT, and any course from the revised Real Estate/Facilities Management combined concentration with a CMRE or CMFM prefix, and any course from the proposed Infrastructure Management (IM) concentration with whatever unique prefix may be assigned.