

# CONSTRUCTION MANAGEMENT BACHELOR OF SCIENCE - BUILT ENVIRONMENT CONCENTRATION

## Leading to a Bachelor of Science Degree in Construction Management with a Concentration in the Built Environment

The concentration in the Built Environment is a specialized track within the Construction Management Program. The concentration exposes students to the full lifecycle of vertical construction from initial property evaluation and financial feasibility analysis through the physical building construction process and into alignment of asset portfolio management including short-term and long-term planning for physical facilities and real property life cycles. A career in any management field related to the built environment requires excellent communication skills, the ability to analyze and solve problems from different perspectives and an integrated understanding of stakeholder driving factors that define success for a project.

Building on a core of oral and written communications, mathematics, science, and business management principles, the Built Environment concentration sets students up for successful exploration of a wide range of commercial real estate, construction management and facilities management issues including leasing, property evaluation and the integration of strategic business planning with the technical components of building operations, physical asset maintenance and sustainability efforts. An integral aspect of the concentration is the experience students gain through two semesters of cooperative employment tied to an area of the built environment.

### 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 of no more than 30 students on average in each lecture and no more than 20 students on average in each 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.

- 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 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: 132

This is a four-year full-time 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. Students in this track are accepted into the Construction Management program. Prior to their sophomore year, students can formally elect to enter the Built Environment concentration.

Course	Title	Credits
<b>Freshman Year</b>		
<b>Fall Semester</b>		
CONM1050	INTRODUCTION TO THE BUILT ENVIRONMENT	3
CONM1200	BUILDING CONSTRUCTION	4
CHEM1000	CHEMISTRY OF THE BUILT ENVIRONMENT	4
MATH1000	COLLEGE MATHEMATICS	4
English Sequence		4
		<b>Credits</b>
		<b>19</b>
<b>Spring Semester</b>		
CONM1525	INTRODUCTION TO BUILDING INFORMATION MODELING (BIM)	2
CONM1550	INTRODUCTION TO PLAN READING & SPECIFICATIONS	2
MATH1500	PRECALCULUS	4
PHYS1000	COLLEGE PHYSICS I	4
English Sequence		4
		<b>Credits</b>
		<b>16</b>
<b>Sophomore Year</b>		
<b>Fall Semester</b>		
CMRE1500	PRINCIPLES OF COMMERCIAL REAL ESTATE	3
CONM2000	CONSTRUCTION SURVEYING	4
CONM2100	STATICS & STRENGTH OF MATERIALS	4
CONM2200	ESTIMATING	4
ECON4102	PRINCIPLES OF ECONOMICS	4
		<b>Credits</b>
		<b>19</b>

Course	Title	Credits
<b>Spring Semester</b>		
CONM2500	BUILDING SYSTEMS	4
CMRE2000	REAL ESTATE INVESTMENT	3
CONM3150	QUALITY CONTROL AND ASSURANCE	3
MATH1030	STATISTICS & APPLICATIONS	4
MGMT2700	FINANCIAL ACCOUNTING	3
COOP2500	INTRODUCTION TO COOPERATIVE EDUCATION	0
<b>Credits</b>		<b>17</b>

<b>Summer Semester</b>		
COOP3000	OPTIONAL COOP EDUCATION	
<b>Credits</b>		<b>0</b>

<b>Junior Year</b>		
<b>Fall Semester</b>		
CMRE3000	REAL PROPERTY ANALYSIS	3
CONM3100	CONSTRUCTION PROJECT MANAGEMENT	4
CONM3201	CONSTRUCTION PROJECT SCHEDULING	4
MGMT3000	MANAGING & LEADING ORGANIZATIONS	4
<b>Credits</b>		<b>15</b>

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

<b>Summer Semester</b>		
CMFM2400	PROPERTY MANAGEMENT	3
CONM4200	CONSTRUCTION SAFETY & RISK MANAGEMENT	3
MGMT3600	LABOR RELATIONS	3
PSYC4552	INDUSTRIAL ORGANIZATION PSYCHOLOGY	4
HSS Elective		4
<b>Credits</b>		<b>17</b>

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

<b>Spring Semester</b>		
CMFM4100	FACILITY ASSESSMENT & FORECAST	4
CONM4100	CONSTRUCTION BUSINESS & FINANCE	4
CMFM4200	ENERGY & SUSTAINABILITY	3
or CONM/CMFM/ CMRE3800	or SPECIAL TOPICS IN CONSTRUCTION MANAGEMENT	
HSS Elective		4
<b>Credits</b>		<b>15</b>

<b>Summer Semester</b>		
CONM4650	BUSINESS, CONSTRUCTION LAW & GOVERNMENT REGULATIONS	3
CONM5500	SENIOR PROJECT CONSTRUCTION MANAGEMENT	4
CMRE4000	REAL PROPERTY SECURITIZATION	3

Course	Title	Credits
HSS Elective		4
<b>Credits</b>		<b>14</b>
<b>Total Credits</b>		<b>132</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 28 credits total, including English, humanities, and social science credit, is required to complete the humanities and social sciences graduation requirement.

Of the five humanities and social science electives, BSCM students must include the following **HSS Directed Electives**:

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