

Construction Management

Program and Application Information

Department Chair:	Dr. Yong Bai
Department Location:	AR/LA 106
Department Phone:	(701) 231-6521
Department Web Site:	www.ndsu.edu/construction/
Application Deadline:	May 1 for the fall semester, October 1 for the spring semester.
Degrees Offered:	M.S., Master of Construction Management, Certificate
Test Requirement:	GRE (M.S. applicants)
English Proficiency Requirements:	M.S.: TOEFL iBT: 81, IELTS: 7, PTE Academic 54; Master of Construction Management: TOEFL iBT: 79, IELTS: 6.5, PTE Academic: 53

Programs

The Department of Construction Management and Engineering offers three separate and distinct graduate programs as listed below followed by a description of each of the programs.

- Master of Science in Construction Management
- Master of Construction Management
- Graduate Certificate in Construction Management

Master of Science in Construction Management

The Master of Science in Construction Management is an on-campus, research-focused degree. Students are expected to significantly contribute to the development and delivery of scholarly publications and to the development and submission of research grant proposals as determined by the major adviser.

Admission Requirements

In addition to the Graduate School requirements, to be admitted into the Master of Science in Construction Management applicants must:

- Have earned a baccalaureate degree in construction, engineering, architecture, or other related discipline with a minimum CGPA of 3.0 or equivalent to attain full standing.
- Submit an official transcript for each college/university attended.
- The Graduate Record Examination (GRE) is required for all applicants.
- Submit a one-page "Statement of Research Objectives and Qualifications" that directly relates to one of the "Research Interests" of the CM&E faculty.
- Submit a two-page resume.
- Submit three (3) letters of recommendation.

Prospective students must submit application materials directly to the NDSU Graduate School via the online application process.

Financial Assistance

Various types of financial assistance are available to graduate students as described on the Graduate School website. For exceptional applicants, the CM&E Department may offer a graduate assistantship, which consists of a monetary stipend and a possible tuition waiver; however, student activity fees and program fees are not waived. There is no separate application process for graduate assistantships. Applicants are evaluated based on their credentials and/or experience.

Master of Construction Management

The Master of Construction Management is an online professional program consisting of 30 credits of course work and the Associate Constructor (AC) Exam. The Master of Construction Management is administered through Distance and Continuing Education (DCE) at NDSU.

Admission Requirements

In addition to the Graduate School requirements, to be admitted into the Master of Construction Management, applicants must:

- Have earned a baccalaureate degree in construction, engineering, architecture, or other related discipline with a minimum CGPA of 3.0 or equivalent to attain full standing.

- Submit an official transcript for each college/university attended.
- Submit a two-page resume.
- Submit a one-page "Statement of Purpose" outlining reasons for pursuing the Master of Construction Management.
- Submit three (3) letters of recommendation.

Prospective students must submit application materials directly to the NDSU Graduate School via the online application process. Applicants who are deficient in the CGPA requirement are encouraged to apply for the Graduate Certificate in Construction Management. Although successful completion of the Graduate Certificate does not guarantee acceptance into the Master of Construction Management, the Graduate Certificate will be seriously considered in application decisions related to the Master of Construction Management Program.

Financial Assistance

Graduate assistantships, tuition waivers, and financial aid offered by the CM&E Department, the Graduate School, or NDSU are not available to students in the Master of Construction Management program.

Graduate Certificate in Construction Management

The Program of Graduate Certificate in Construction Management provides an online course learning experience constituting a distinct knowledge-base and a specific set of associated skills within the areas of estimating, scheduling, and project management at the graduate level. These three areas constitute a body of knowledge that represents the fundamental core of construction management.

Admission Requirements

In addition to the Graduate School requirements, to be admitted into the Graduate Certificate in Construction Management applicants must:

- Have earned a baccalaureate degree in construction, engineering, architecture, or other related discipline with a minimum CGPA of 3.0 or equivalent to attain full standing.
- Submit of an official transcript for each college/university attended.
- Submit a two-page resume.
- Submit a one-page "Statement of Purpose" outlining reasons for pursuing the Graduate Certificate in Construction Management.
- Submit three (3) letters of recommendation.

Prospective students must submit application materials directly to the NDSU Graduate School via the online application process.

Financial Assistance

Graduate assistantships, tuition waivers, and financial aid offered by the CM&E Department, the Graduate School, or NDSU are not available to students in the Graduate Certificate in Construction Management Program.

Master of Science in Construction Management

The Master of Science in Construction Management requires a total of 31 graduate-level credits (24 credits of course work, 6 credits of research/thesis, and 1 credit of seminar) and a thesis. The thesis requires the creation and presentation of new knowledge in providing a solution to a problem. Prior to submitting a thesis to the graduate student's supervisory committee, the thesis must be reviewed by a departmentally approved external editor. All costs associated with external review are the responsibility of the graduate student.

An example of the Plan of Study for the Master of Science in Construction Management is shown below:

CM&E 790	Graduate Seminar	1
CM&E 603	Scheduling and Project Control	3
CM&E 605	Construction Support Operations	3
CM&E 701	Construction Technology and Equipment	3
CM&E 711	Construction Cost Estimating	3
CM&E 712	Construction Management	3
600, 700 or 800-level electives *		9
CM&E 798	Master's Thesis	6
Total Credits		31

* Electives may be any 600, 700, or 800-level courses offered at NDSU determined by the student and the major faculty adviser. A minimum cumulative grade point average (CGPA) of 3.0 must be achieved in order to complete the M.S. degree.

Master of Construction Management

The Master of Construction Management degree consists of thirty (30) credits of course work and AC Exam. The following ten (10) courses constitute the thirty (30) credits of course work required for the degree.

Required Courses

CM&E 603	Scheduling and Project Control	3
CM&E 605	Construction Support Operations	3
CM&E 660	Infrastructure Management	3
CM&E 701	Construction Technology and Equipment	3
CM&E 703	Advanced Project Planning and Control	3
CM&E 711	Construction Cost Estimating	3
CM&E 712	Construction Management	3
CM&E 715	Construction Specifications and Contracts	3
CM&E 725	Decision Making and Risk Analysis	3
CM&E 740	Financial and Economic Concepts for Construction Managers	3
CM&E 793	Individual Study/Tutorial (ACExam)	
Total Credits		30

Schedule of Courses

Summer 2015

CM&E 725	Decision Making and Risk Analysis
CM&E 740	Financial and Economic Concepts for Construction Managers

Fall 2015

CM&E 603	Scheduling and Project Control
CM&E 701	Construction Technology and Equipment
CM&E 712	Construction Management

Spring 2016

CM&E 605	Construction Support Operations
CM&E 711	Construction Cost Estimating
CM&E 715	Construction Specifications and Contracts

Summer 2016

CM&E 660	Infrastructure Management
CM&E 703	Advanced Project Planning and Control

Associate Constructor (AC) Exam

The Associate Constructor (AC) Exam is administered by the American Institute of Constructors & Constructor Certification Commission. All students in the Master of Construction Management Program must take the AC Exam before their graduation. There is no requirement that a student has to earn a pass score in order to receive the Master of Construction Management Degree from NDSU. However, students are encouraged to prepare for the AC Exam and earn a pass score or better established by the testing agency. The exam may be taken multiple times. The AC exam is the first level in reaching the designation of a "Certified Professional Constructor" (CPC), which is a three-stage process consisting of the AC exam (Level I), 4-5 years of relevant construction management work experience, and the CPC exam (Level II). The AC Exam is offered twice a year, typically in March and November. International applicants should note that the AC Exam is not offered online and is only offered in the United States. If a student has the AC designation, he/she may take the CPC Exam before the graduation. A pass score also is not required for the CPC Exam..

Graduate Certificate in Construction Management

The Graduate Certificate in Construction Management is administered through Distance and Continuing Education (DCE) at NDSU. The certificate program consists of nine credits encompassing the following three (3) courses:

CM&E 603	Scheduling and Project Control	3
CM&E 711	Construction Cost Estimating	3
CM&E 712	Construction Management	3

Only grades of C or higher will satisfy requirements for certificate completion with a CGPA of 3.0 or greater. The Dean of the Graduate School, using official NDSU transcripts, will verify course completion and issue the certificate. Courses used to satisfy the Graduate Certificate requirements cannot be older than three years at the time the certificate completion is verified.

Eric Asa, Ph.D.

University of Alberta, 2002

Research Interests: Infrastructure and Assets Management, Construction Materials, Engineering Education, Computational Modeling

Yong Bai, Ph.D., P.E., F.A.S.C.E.

Chair and Professor

North Carolina State University, 1996

Research Areas: Infrastructure Construction and Maintenance, Highway Work Zone Safety, International Construction Management, and Emerging Technologies in Construction

Bradley Bowen, Ed.D.

North Carolina State University, 2011

Research Interests: Engineering Education, K-12 Engineering, Project-based Learning

Zhili (Jerry) Gao, Ph.D.

Iowa State University, 2004

Research Interests: Virtual Design and Construction (Visualization, BIM Development And Implantation), Advanced Concrete Techniques (Sustainable Concrete, New Concrete Materials And Structures)

Todd L. Sirotiak, MBA, Ph.D., P.E., C.P.C.

Iowa State University, 2008

Research Areas: Cost Control, Sustainability, and Engineering Education

Jongchul Song, Ph.D.

The University of Texas at Austin, 2005

Research Interests: Energy Efficient Building Technology (Thermal Insulation Performance), Asphalt Pavement Construction (Temperature-Density Relation)

Matthew L. Stone, Ph.D.

University of Alabama, 2013

Research Areas: Cost Estimating, Life Cycle Analysis, and Infrastructure Construction

Huojun Yang, Ph.D.

University of Nebraska-Lincoln, 2012

Research Interest: Built Environmental Systems and Building Energy