

MASTER OF SCIENCE IN CONSTRUCTION MANAGEMENT

The Master of Science (MS) in Construction Management develops upper-level management personnel for the construction industry, while helping students to pass the Certified Professional Constructor (CPC) examination administered by the American Institute of Constructors (AIC).

Note: Final approval to offer this program had not been received when this catalog went to press. Please consult the department office or the department website to determine the availability of this program.

Admission Requirements

All applicants to the MS program in Construction Management must satisfy the requirements of the UALR Graduate School in addition to any requirements specific to the Donaghey College of Engineering and Information Technology. To be considered, an application must contain the following items:

- A bachelor's degree in construction management or construction engineering, civil engineering, architecture, business, or similar areas is required. Students with educational backgrounds different from construction management may need to take prerequisite courses. Applicants must have an overall undergraduate grade point average (GPA) of 3.0 (4.0 scale).
- The Graduate Record Examination (GRE) General Test should be taken within five years of application. The applicant must have a minimum combined verbal and quantitative reasoning GRE score of 1000 (300 on the revised GRE taken after August 1, 2011) and a minimum score of 3.5 on the analytical writing test. The GRE requirement will be waived if the GPA is 3.5 or higher (4.0 scale).
- Demonstrated proficiency in written English (via the TOEFL exam) – for applicants whose native language is not English. Applicants' scores must exceed 525 (paper-based test) or 197 (computer-based test) or 71 (internet-based test). Applicants with scores below but close to 525 (197 if computer-based test or 71 internet-based test) may be admitted provisionally upon the recommendation of the Graduate Coordinator to the Dean of Graduate School, and allowed to fulfill the TOEFL requirement as specified in the Graduate School admissions policies.
- Demonstrated proficiency in spoken English (via the Test of Spoken English (TSE) or the American English Oral Communication Proficiency Test (AEOCPT) exams) - for applicants whose native language is not English and who are seeking financial support via a teaching assistantship. The student must get a score of 80% or higher on the AEOCPT or the TSE.
- Three (3) letters of recommendation.
- Official college transcripts including grades and curriculum for undergraduate and (if applicable) graduate studies.
- Written statement by the applicant regarding the reasons (e.g. interests, relevant experience, and goals) why he or she should be considered for this MS program.
- A resume detailing any professional work experience, published papers, or presentations.
- The department graduate faculty will evaluate the compatibility between the applicant's background, research interests, and communication skills vis-a-vis the MS program when making admission decisions, and may decline to admit an otherwise qualified application based on a lack of fit with the program.

Students may apply to the MS program at any time. Applicants to the MS program are ordinarily expected to start in the fall semester of each year. Foreign national graduate students who are candidates for admission must process their visa applications so that they can arrive in the United States and attend orientation at the Office of International Students (OIS). Those students who are not able to obtain approval for entry into the United States in order to meet this timeline may request an admission deferral to attend the following semester or academic year.

Program Options

The Master of Science degree in Construction Management offers two options:

1. Thesis Option: 30 credit hours beyond the baccalaureate degree, including six credit hours of thesis work.
2. Non-Thesis Option: 30 credit hours beyond the baccalaureate degree, including a three credit hour project.

For both thesis and non-thesis options, the work must include at least 18 credit hours of 7000-level or above work. A maximum of 12 credit hours (with grades of B or better) can be 5000-level courses, and a maximum of nine credit hours (with grades of B or better) of graduate courses can be taken from programs outside the construction management program or from another university.

Program Requirements

Students with backgrounds outside of construction management or construction engineering are required to take the following background courses:

CNMG 1205 Drawings and Specifications	CNMG 3339 Estimating I
CNMG 2313 Construction Materials	CNMG 4211 Estimating II
CNMG 2314 Mechanical, Electrical, and Plumbing (MEP) Systems	CNMG 4329/5329 Construction Planning and Scheduling
CNMG 2323 Construction Administration	CNMG 4342/5342 Construction Safety

Students will develop their own programs of study in cooperation with appropriate faculty and in consideration of the courses and facilities available. The student's plan of study must be developed in conjunction with the student's advisor with approval by the program coordinator. All master's course work must be completed with a minimum overall graduate GPA of 3.0. If a student receives one "C" or lower grade, the student will be warned that this academic performance is unacceptable and the department graduate faculty will review the student's performance and recommend corrective action.

Transfer of Credit

Course credit may be granted to the student for completing equivalent graduate coursework from other institutions based upon the applicability of the courses to thesis work and the student's educational goals. Such credit must be exclusive of thesis or other exit project credits, be no more than nine credit hours, be no more than five years old at the time of transfer, and must have a letter grade of B or better. Students interested in requesting credit transfer should discuss the request with their advisor and the program coordinator. The Dean of the Graduate School must also approve the request before the transfer of credit can be granted.

MS Advisor

Each student will choose a faculty member to be his or her mentor through the program. New students will be assigned an advisor by the program coordinator prior to the start of classes. Students may change their advisors until they have completed the first semester. After that, changes in a student's advisor will be granted only in special circumstances.

Thesis Committee

A student choosing the thesis option will be guided by the student's thesis committee, comprising the student's MS Advisor (serving as committee chair) and two members of the department graduate faculty. Successful completion of the thesis will require an oral defense in which the student will defend his or her findings and conclusions. Policies and procedures for passing, failing, and repeating the thesis defense will be in compliance with the UALR Graduate School policies.

Courses in Construction Management

CNMG 5329 Construction Planning and Scheduling

Prerequisite: CNMG 4211 or equivalent. An in-depth study of the process of creating and monitoring a construction project schedule. Creation of project schedules on a variety of scheduling software, with primary focus on Primavera. Two hours lecture and two hours lab. Three credit hours. Dual-listed in the *UALR Undergraduate Catalog* as CNMG 4329. Students cannot receive graduate credit for CNMG 5329 if they have previously taken CNMG 4329.

CNMG 5334 Construction Contracts and Law

A study of construction contracts in relation to project delivery systems and the basic principles of construction law. Case studies are used to analyze selected areas that affect the construction process. Topics include standard agreements and conditions, negligence, risk, indemnities, modifications, mechanics lien, claims, dispute resolution, conflicts of interest, ethical consideration, and labor law. Three hours lecture. Three credit hours. Dual-listed in the *UALR Undergraduate Catalog* as CNMG 4334. Students cannot receive graduate credit for CNMG 5334 if they have previously taken CNMG 4334.

CNMG 5342 Construction Safety

A study of the principles of construction safety management and OSHA 29 CFR PART 1926. The OSHA Construction Industry Training Course 500 topics covered in depth. Students develop a company safety plan and hazardous communications program, perform safety analysis, conduct safety meetings, and write accident investigation reports. Students complete the topic requirements for the OSHA 10-hour and 30-hour Construction Safety and Health training card. Two hours lecture and two hours lab. Three credit hours. Dual-listed in the *UALR Undergraduate Catalog* as CNMG 4342. Students cannot receive graduate credit for CNMG 5342 if they have previously taken CNMG 4342.

CNMG 5361 Green Construction

Overview of design and construction delivery systems for high performance green buildings; relevant criteria and established guidelines; green standards; high performance green buildings and sustainability; vocabulary associated with sustainability and green buildings; physical limitations of materials. Three hours lecture. Dual-listed in the *UALR Undergraduate Catalog* as CNMG 4361. Students cannot receive graduate credit for CNMG 5361 if they have previously taken CNMG 4361.

CNMG 5389 Professional Engineering Licensure

Prerequisite concurrent: Registration for the Fundamentals of Engineering exam, or consent of instructor. Legal, regulatory, and ethical issues related to the practice of engineering; preparation for engineering licensure examinations. Two hours lecture. Three hours lab. Three credit hours. Cross listed as SYEN 5389. Dual-listed in the *UALR Undergraduate Catalog* as CNMG 4389. Students cannot receive graduate credit for CNMG 5389 if they have previously taken CNMG 4389.

CNMG 7318 BIM and 4D Simulation

Prerequisite: CNMG 4218 or equivalent, graduate standing. Advanced techniques of using Building Information Modeling (BIM) together with scheduling control to do 4D simulation. Potential applications of computer and information systems in construction industry. (3 credits)

CNMG 7376 International Construction Business Management

Prerequisite: graduate standing. Construction contracting, emphasis on international economics, marketing, contracts, design, and specifications. Issues of local construction techniques, construction marketing, international construction, sustainability, global economics, and influence on construction of local culture, traditions, architecture, history, and political climate. (3 credits)

CNMG 7345 Applied Construction Management

Prerequisite: CNMG 4211, CNMG 5329 or equivalent, or consent of the instructor. This course discusses design, development, estimating, scheduling, contracting, and administering small construction project, including extensive site and feasibility analyses. (3 credits)

CNMG 7385 Construction Management Graduate Project

Prerequisites: graduate standing, completion of at least 18 credits in the Master's program, or consent of the student's graduate advisor. Students, under faculty supervision, will conduct directed research on practical problems related to Construction Management, and will submit a project report documenting the results. Three credit hours.

CNMG 7399 Special Topics

Prerequisites: graduate standing. Advanced topics in the areas of Construction Analysis and Applications, Construction Engineering, etc. Three hours lecture. (3 credits)

CNMG 8100, 8200, 8300, 8400, 8500, 8600 Construction Management Master's Thesis

Prerequisites: graduate standing, completion of at least 18 credits in the Master's program, or consent of the thesis advisor. Scholarly investigation of a selected problem in an area to Construction Management culminating in a written thesis and oral defense. Maximum of six hours may be applied toward MS degree. Variable credit of one to six hours.