

Undergraduate Student Handbook
Department of Civil, Construction and
Environmental Engineering



University of New Mexico

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IMPORTANT NOTE: Please check our website for updates to the information contained in this manual: <http://civil.unm.edu>.

Introduction

Welcome to the Department of Civil, Construction and Environmental Engineering! This handbook provides you with helpful information about the undergraduate programs in the Department of Civil, Construction and Environmental Engineering (referred to as CCEE or the Department) to help you successfully fulfill the requirements of your chosen undergraduate degree.

CCEE offers three undergraduate degrees:

- BS in Civil Engineering (BSCE)
- BS in Construction Engineering (BSCnE)
- BS in Construction Management (BSCM)

The Department also offers a minor in Construction Management, which is open to any UNM undergraduate student. The requirements for this minor can be found at <https://civil.unm.edu/programs-and-degrees/undergraduate/minor-in-construction-management.html>.

The Department also offers the four graduate degrees:

- Master of Science in Civil Engineering (MSCE),
- Master of Construction Management (MCM),
- Master of Engineering in Civil Engineering (MENG), and
- Doctor of Philosophy (Ph.D.) in Engineering with a concentration in Civil Engineering.

More information on graduate degrees can be found on the department website and our Graduate Student Manual.

Accreditation

The BSCE Program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

The BSCnE Program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

The BSCM Program is accredited by the American Council for Construction Education, <http://www.acce-hq.org>.

Admission to the Department

Every student who wishes to pursue an undergraduate degree offered in CCEE must be

formally admitted to the Department. Students entering the university with an interest in one of the Department's three undergraduate degrees will be admitted as a pre-major assigned to the Department. When you have successfully completed the admission requirements for your desired degree, you can apply for admission to one of the Department's undergraduate degree programs.

Admission requirements to one of the Department's undergraduate degrees are as follows:

- Completion of at least 26 credit hours toward the degree and good standing in the university,
- An overall GPA of at least 2.5,
- Completion of at least 19-25 credit hours of technical courses required in the first year curricula (courses vary by degree program),
- A GPA of at least 2.75 and grades of C- or better in each of those 19-25 hours,
- Completion of ENGL 1110 with a grade of C or better.

Transfer students apply through the Office of Admissions and are considered for admission to the Department under the same conditions. The university's Admissions Office and the Department will evaluate student transcripts to determine which transfer courses will be accepted toward the appropriate degree program. Prior to admission, if necessary, approval may have to be obtained for appropriate course equivalencies or core substitutions from the respective academic departments or the Associate Dean of Academics in the School of Engineering.

Students must be admitted to the Department before they can register for any 300- or 400-level classes.

Advisement

All pre-major students will be advised within the Department by the Senior Academic Advisor. Once admitted to the Department, students will be assigned a faculty advisor who will usually remain with them until graduation. Construction and engineering programs are very structured by nature, with each course building on previous ones, and most of the courses in the last two years of the curriculum are offered only once a year. It is therefore important that you plan your course of study carefully. Your faculty advisor will help you decide which courses to take each semester and will advise you regarding other issues related to success in your studies. As you prepare to register for the upcoming semester, typically in November and April, you must meet with your advisor and fill out an advisement form. You and your advisor will sign the form, after which the Department will lift the advisement hold on your registration.

You should make every effort to get to know your advisor and to contact him/her during the semester with any issues you may have. You will find that this relationship will help you make the best decisions regarding your academic future, and an advisor can help you with references, leads for jobs, and many other steps that will help you in your career. While it is critical to follow your advisor's counsel, it is your responsibility to understand and complete the requirements for your program.

Academic Policies

The UNM catalog contains a number of policies affecting your academic program. You should read these policies to ensure that you understand their applications, because they apply to all students in the School of Engineering, regardless of their department. The 2020-2021 UNM catalog, which includes specific graduation requirements, can be found at <http://catalog.unm.edu/catalogs/2020-2021>.

The faculty encourage you to make the fastest and most efficient progress toward your degree. The following additional departmental policies will help ensure your success.

- Students in all three degree programs must complete all mathematics, science and engineering courses required for their degree with a grade of C- or better.
- No student may enroll in a course in the CCEE Department without first earning a grade of C- or above in all prerequisites for the course.
- Students transferring into the Department must complete at least 24 credit hours of work applicable to the degree after admission to the CCEE Department.

As you plan your curriculum, be cognizant of course prerequisites so you to take courses in the recommended order. Each course required for graduation must be successfully completed within three attempts (see the UNM Catalog under the Graduation Requirements section).

Advanced Placement and CLEP

Many courses in UNM's core curriculum can be satisfied by taking Advanced Placement courses in high school and achieving a specified score on an AP test. See <http://catalog.unm.edu/catalogs/2020-2021/admissions.html> under College Board Advanced Placement Program.

CLEP (College Level Examination Program) Subject Exams can also be used for credit for specific courses; contact the School of Engineering for details.

Placement Out of English 1110 and/or 1120

Some students may have "placed out" of English 1110 and/or 1120 by virtue of a minimum ACT or SAT score established by the English Department. "Placement" means that you are not required to take those one or two courses, but you do not receive credit hours for those courses either (this is an important consideration in meeting the requirement for required total credit hours for your degree program). Your substitute course(s) may include other Humanities, Fine Arts (not a studio course), or Social Sciences courses. The department must approve your choices. You must propose to the CCEE Senior Academic Advisor, in writing (email is fine), what you will substitute for the English 1110 and 1120, so that your choices can be approved and documented.

Credit/No Credit Grading Option

You may elect the CR/NC option for the Humanities, Social and Behavioral Sciences (except Econ 2110/2120), Fine Arts, and Second Language electives in the University

General Education Requirements. The Credit/No Credit (CR/NC) grading option cannot be used for any other courses required in the curriculum, including the technical elective courses. Bear in mind that some schools, when evaluating your record for graduate admissions, may interpret the Credit option as a C, and a No Credit as an F on your transcript, thus affecting your GPA.

Add/Drop/Withdraw from Courses

The UNM Office of the Registrar (<http://registrar.unm.edu/>) maintains a list of deadlines for each semester. In general, a student may add courses or change sections through the second week of the semester. You may drop a course or courses without a grade during the first three weeks of the semester. (See <http://catalog.unm.edu/catalogs/2020-2021/student-services-information.html> under Student Services Information, Changes in Enrollment).

After the third week you may withdraw from a course until the end of the 12th week of the semester through LoboWeb. After the 12th week, course withdrawals will only be accepted with approval from the Dean of the School of Engineering. No withdrawals will be accepted after the last day of instruction of the semester, prior to final exam week. All withdrawals are subject to a grade of W

How Withdrawals Can Affect Your Graduation

You must complete a required course with an appropriate grade (C or higher for all core courses; C- or higher for all required engineering courses) within three attempts. The number of “attempts” includes not only those at UNM but also at any other institution with an accredited program where you have taken the course and received a grade. A course “grade” at UNM or elsewhere includes W, NC, I, AUD, or any grade A+ through F.

You are NOT eligible for graduation if you cannot earn the required grade within three attempts.

Probation and Suspension

Students who are not making satisfactory progress toward the degree may be placed on probation status. If the probation conditions are not satisfied within a semester, a student is subject to dismissal from the School of Engineering. The Department makes recommendations to the SOE Associate Dean of Academics on probation and suspension decisions.

University General Education and Diversity Requirements

The faculty of the University has instituted a common set of courses required of students in all degree programs. Each undergraduate curriculum in the Department satisfies the Communication, Mathematics and Statistics, and Physical and Natural Sciences requirements. You will be required to select and complete elective courses in Humanities, Social and Behavioral Sciences, Arts and Design, Second Language, and Student Choice. Note that the General Education Requirement Area 8, Student Choice, is met by taking Math 1522 and Phys 1310. You can find the current University General Education requirements at <https://gened.unm.edu/>.

In addition to the University General Education Requirements, the University has also instituted a diversity requirement for all students. You can find the diversity requirements at <https://gened.unm.edu/us-global-diversity-requirement.html>. By careful selection of courses, students can satisfy the diversity requirement with a required University General Education course.

Degree Curricula

The curriculum for each undergraduate engineering degree is designed to provide a foundation of scientific and mathematical understanding of the principles of engineering as well as an introduction to engineering design. Likewise, the construction management curriculum includes basic management and technical courses.

The current course requirements for each degree can be found at <http://civil.unm.edu/students/undergraduate/index.html>. You must satisfy the curriculum specified in the UNM catalog at the time that you are admitted to the Department, although you may choose to make substitutions satisfying more recent curriculum requirements that are introduced before you graduate. The Senior Academic Advisor will compile a curriculum/degree sheet in your student file showing your progress. Students are also encouraged to track their degree progress with the LoboTrax degree audit system. Because the LoboTrax degree audit represents the formal record of your standing in the Department, you should check it with your faculty advisor each semester to ensure its accuracy.

Breadth/Depth Electives

The civil engineering curriculum requires a total of 6 Breadth and Depth Electives (24 credits), consist of upper level courses in the sub-disciplines of civil engineering: Construction, Environmental, Geotechnical, Structures, Transportation, and Water Resources. These electives are taken in the junior and senior years and are selected from a list of courses approved by the faculty. The list can be found at <http://civil.unm.edu/students/undergraduate/breadth-and-depth-required-electives.html>. In addition, many graduate courses in the department may qualify as breadth and depth electives; interested students should discuss such courses with their advisors.

The construction engineering curriculum includes two elective courses, normally taken in the senior year, which are selected from a list of courses approved by your faculty advisor (typically any 400-level or higher course in the CE department).

The construction management curriculum includes a Minor in Management from the Anderson School of Management. The minor requires ACCT 2110, Math 1350, and Econ 2110/2120 as well as Mgt 300 and Mgt 310 and one of the 300-level management electives on the list with a grade of C- or better. The curriculum also includes one construction elective. A list of approved electives can be found on the Department website.

Senior Capstone Course

The final capstone course, CE 499: Design of Civil Engineering Systems (for engineering students) or CE 497L: Design Construction Integration (for CM students), is a culmination of your studies and can be taken only during your final semester, after you have taken all the prerequisite courses and several of the electives. Students must have an approved Application for Undergraduate Degree on file before being allowed to take CE 499 or CE 497L.

Course Offerings

Most 300- and 400-level departmental courses are taught only once a year. If you are not careful, you may find that a course is not offered during the semester you need it, and you will lose a year in a sequence of courses. Be sure to consult your advisor and plan ahead.

Cooperative Education/Internships

You may find it helpful to your understanding of civil engineering, construction engineering, or construction management as well as to your choice of an area of specialization to participate in some kind of cooperative education or internship program. These programs allow you to work in an industrial setting and give you experience in the work world to augment your academic education. Please note that a one-credit internship (CE 495) is required for all construction engineering and construction management students.

UNM's Career Services Office can help provide placement with an employer, either locally or at other locations. Such placements are usually for a semester and adjacent summer. The great advantages of a formal internship or cooperative education assignment are that you get to understand the application of what you have learned, and you acquire experience that is valuable when you look for permanent employment. Employers value such experience, and many students return to their co-op employers after graduation. If a work experience interests you, talk it over with your advisor, because taking a semester away from school will require a careful rescheduling of your courses.

Independent Study

During your senior year, you can choose to pursue independent study under the direction of a departmental faculty member. You may receive credit for that course (CE 491-492, Special Topics in Civil Engineering) as a Depth Elective for civil engineering, in the category in which the professor is assigned. The CE faculty members, their specialties and contact information are found at <http://civil.unm.edu/faculty-staff/index.html>.

Graduation with Honors

Baccalaureate Honors at graduation are automatically awarded subject to the University requirements shown in the UNM Catalog <http://catalog.unm.edu/catalogs/2020-2021/undergrad-program.html>.

Departmental Honors are not automatic. You must apply, be accepted by the department, and have a faculty member agree to work with you. You should apply by the end of your junior year so you can take at least six hours of honors independent study (CE 493-494) by the time you graduate. See the Senior Academic Advisor for more information and an application.

Graduate Studies

Earning a BS degree is just the first step in your professional career. It provides only the foundation, and you will be continually called upon to learn new things as your career advances. Most engineers and construction managers find it beneficial to take advanced studies as their practices become more specialized. Pursuing a graduate degree allows you the opportunity to learn more about your chosen specialty, and many students find it most efficient to continue directly after completion of the BS. Students with a minimum GPA of 3.0 and who are within 10 hours of graduation can take courses for graduate credit, provided that all requirements of the BS degree are also fulfilled. The Shared Credit Program, described below, is another way qualified students may take graduate courses during their degree.

Shared Credit Program

The School of Engineering has developed a Shared Credit Degree Program designed to allow students to complete a Bachelor's and Master's degree in an abbreviated time period (usually five years, depending upon the student's mathematics preparation upon entering UNM as a first-year student). To accomplish this, some courses are counted towards both the Bachelor's and Master's degrees. High-achieving students can earn up to 12 credit hours that count towards both their undergraduate and graduate degrees by selecting upper-level electives that are aligned with their future graduate program.

The department issues invitations to students to apply to the program during the junior year of their BS program after completing 75 credit hours applicable to their BS degree. To be eligible for the program, students must have already been admitted to their BS degree program. Admission to the graduate portion of this program is provisional and not finalized until the student satisfactorily completes the requirements for the BS degree. Admission requirements to the Department's shared credit program include a minimum GPA of 3.5. Students who are successfully admitted to the shared credit program do not need to complete the GRE for admission to graduate school.

The curriculum for each student is approved by the Director of Undergraduate Studies, the Director of Graduate Studies, and the Senior Academic Advisor. Students are required to submit an application form and a proposed plan of courses (<http://civil.unm.edu/admissions/soe-shared-credit-degree-program.html>). Students are allowed to apply up to 12 credit hours of coursework to both their Bachelor's and Master's degrees. These courses will be from the students' upper level technical electives. All courses must be taken at the graduate level and must comply with their programs of study at both the Bachelor's and Master's levels.

Application for Degree

During the second semester of your junior year, or prior to enrollment in the 100th hour toward your degree, you must complete an Application for the Undergraduate Degree form, which is available from the Senior Academic Advisor. This form indicates the additional courses you plan to take to complete your degree requirements. The Director of Undergraduate Programs will carefully review the completed form to verify that all the departmental and university requirements have been satisfied. When done in a timely fashion, this ensures that your final year of study will result in a BS degree. If you postpone submitting your application until the “final” semester, you may find that you need to take additional courses, thus delaying your graduation. **IMPORTANT:** You **must** submit this application by the end of the semester *prior* to the one in which you intend to graduate, or you will not be allowed to take CE 499, Design of Civil Engineering Systems (civil and construction engineering students) or CE 497L, Design Construction Integration (construction management students), which is required in your last semester.

Professional Certification

The Fundamentals of Engineering (FE) is a national examination which all BSCE and BSCnE students are required to take before graduating. Passing the FE exam and earning a BS degree are the first steps toward professional licensure, which you enter in the status of Engineering Intern. After a suitable period of practice in the profession and passing of the Professional Engineering exam, you achieve the status of Professional Engineer (P.E.) and are professionally licensed in whatever state(s) you practice. Most civil engineers find it necessary to pursue licensure, both for reasons of professional status and to ensure the health and safety of the public.

There are usually review sessions for the FE exam held each semester, and you will find them helpful as you prepare yourself to take it. Instructions for taking the exam are available at: <http://www.ncees.org/>. There is no application deadline. However, a graduating senior must take the exam well before the official date of graduation so that the Senior Academic Advisor can certify that he/she has taken the exam.

Likewise, all BSCM students are required to take the American Institute of Constructors (AIC) Level I Exam prior to graduation (<http://www.professionalconstructor.org/>). This exam is typically taken in the senior year. Exams are held on one day each spring and fall (typically in April and November). Students should be sure to sign up for this exam prior to the exam cut-off date to ensure that you can graduate in a timely manner.

Part-Time Work

If you can avoid working and instead devote full time to your classes, you will finish faster and will enjoy focusing exclusively on your studies. However, if you do find it necessary to work, you should try to select a technical job with a flexible schedule that will allow you to pursue your studies as a first priority. You will need to balance the demands of work and study by reducing your academic load. This causes problems with scheduling and course sequences and invariably leads to a longer program. For this reason, you will want to talk to your advisor about a suitable academic load. The faculty

have found it effective to advise students to work no more than 15 hours per week if they plan to take 12 credit hours of academic work.

Student Activities

Many of our graduating students tell us that they wished they had done several things differently during their time at UNM. Their most common advice to incoming students includes: more involvement with student activities, better communication and interaction with the faculty, following an advisor's counsel, and paying more attention in classes. These are excellent recommendations for you as you enter the department.

You will find that participation in extracurricular activities enriches your experience at the university. There are a wide range of organizations and activities both in the larger university and in the department, and participation provides social association, leadership opportunities and professional development. Most students join and become active in a student chapter of a professional society. The Department hosts chapters of the American Society of Civil Engineers (ASCE), the Associated General Contractors (AGC), Homebuilders Association (HBA), and the Institute of Transportation Engineers (ITE). These organizations typically sponsor speakers, service projects, national competitions and social events, and your student membership is the start of a lifelong association that is recognized by every employer. Student chapters of American Indian Science and Engineering Society (AISES), Society for Women Engineers (SWE), Women in Science and Engineering (WISE), Engineers Without Borders (EWB-USA), and other organizations are sponsored at the School of Engineering level. The faculty encourage you to be active in organizations.

The Department also sponsors a chapter of the national honorary society for civil engineering, Chi Epsilon. Membership in Chi Epsilon, reserved for juniors and seniors who have achieved academic excellence, is recognized by all employers nationwide. Tau Beta Pi is an engineering-wide national honorary society to which engineering students may also be invited. If you have excellent grades and six hours of a foreign language, you may be eligible for Phi Beta Kappa, the oldest and most respected honorary society.

Scholarships

There are a wide variety of scholarships available to students through the university, the School of Engineering (Engineering Student Services) and the Department. The CCEE department has funding for deserving students in the department, both on the basis of scholarship and need. The annual application deadline is usually around June 1. These will be advertised when they are available via email and on the department's web site.