

M.S. IN CIVIL ENGINEERING

OVERVIEW

M.S. students in our department gain advanced knowledge in environmental, geotechnical, structural, or transportation engineering. Students pursuing a research-based M.S. are expected to not only gain but also develop and share advanced knowledge to solve today's challenging problems including, but not limited to, harmful algal blooms (HABs), artificial intelligence in transportation, and COVID19 detection in wastewater samples. The department faculty conduct both applied and fundamental research and tailor the research to students' interests and skill sets. Students are expected to present their work in local and national conferences. Our department has an excellent track record with our M.S. students finding employment in industry or consulting firms prior to or shortly after graduation. M.S. students interested in an academic career often publish their research before continuing on to obtain a Ph.D. degree either in our department or at another institution.

ADMISSIONS REQUIREMENTS

Background of students: Admission for graduate students at The University of Toledo requires a four-year bachelor's degree from an accredited college of university. Most students admitted have a strong GPA from a civil, environmental, or chemical engineering department and have a GRE quantitative score of 160. Students with non-engineering backgrounds can be admitted or provisionally admitted on a case-by-case basis after review of the applicant's transcripts and prior accomplishments. If provisionally admitted, students will need to take certain undergraduate courses to prepare for graduate courses. These courses will be identified prior to admission and will appear on the student's plan of study.

Test scores: For all applicants from an accredited U.S. or Canadian university with an undergraduate GPA below 2.7 and for all international applicants from non-English speaking countries, GRE scores must be submitted with a quantitative GRE score of at least 150. For all international applicants from non-English speaking countries, an English test score is required. Minimum test scores should be TOEFL speaking score of 22 (total 81), IELTS Band 6.5 or Duolingo (105). Students not meeting these scores could be provisionally admitted by completing the GAP (<https://www.utoledo.edu/cisp/gap.html>) option.

Recommendation letters: The Department of Civil and Environmental Engineering requires one letter of recommendation but more will strengthen the application. The letters can be from professors, employers or workplace supervisors. Unless it has been a long time since the applicant were a student, at least one letter should be from a professor.

Statement of purpose: The applicant should indicate their area of interest (environmental, geotechnical, structural, or transportation) in the statement of purpose.

Application requirements:

- **Degree:** Applicants must hold a four-year bachelor's degree from a regionally accredited college or university
- **GPA:** Applicants must have at least a 3.0/4.0 grade point average from previous undergraduate coursework or a 3.3/4.0 for previous graduate coursework
- **Application:** UToledo application required
- **GRE:** Required for applicants whose degree is from a non-US institution.
- **Transcripts:** Required
- **Statement of Purpose:** Required
- **Letters of Recommendation:** 1
- **Proof of English language proficiency:** Required for students from non-English speaking countries. See University graduate admissions for minimum test score requirements and exceptions.

Application priority deadlines for admissions and funding decisions:

- **Fall:** January 15
- **Spring:** October 1
- **Summer:** Contact program

Review of the application: Once the application is deemed complete by the College of Graduate Studies, the application is made available to the Civil and Environmental Engineering Department. The admissions committee of the department considers the application as a whole, including statements of purpose and reference letters. While exceptions for some circumstances have been made, the minimum expected GPA of admitted applicants is the equivalent of 70%.

PROGRAM REQUIREMENTS

For the master of science in civil engineering (M.S.C.E.) degree, a minimum of 30 credit hours is required – 21 cr hr of graduate course work and 9 cr hr of thesis research (CIVE 6960) performed under the supervision of a full-time faculty member approved by the department of civil engineering. The department also offers a M.S.C.E. degree with a project or course work option with the written approval of the department chair or graduate program director. In the project option, a minimum of 30 cr hr is required – 24 cr hr of graduate course work and 6 cr hr for the project report (CIVE 6920). In the course work-only option, a minimum of 30 cr hr in graduate course work is required. Courses taken on an audit basis do not count toward the degree. Additional requirements include:

- A maximum of 6 cr hr of CIVE 6990 Independent Study is allowed toward the degree.
- Students must prepare a plan of study in conjunction with the adviser (graduate program director for the first semester) with a concentration of required and elective courses in one of the department's research focus areas of graduate study and receive approval from the graduate program director. Required core courses

in each area are determined by the faculty comprising that research area in conjunction with the graduate program director.

- No more than 9 cr hr toward the M.S.C.E. may be earned at another university, and in no case may the thesis or project be satisfied by work completed at another institution.
- PLO 1. Solve engineering problems in one of the two specialty areas (Infrastructure and Environmental).
- PLO 2. Solve engineering problems using mathematics in one of the two specialty areas indicated in SLO (1).
- PLO 3. Successfully present the results of engineering research in oral and written forms.
- PLO 4. Synthesize the completed research for publication in a journal, book, or conference for thesis students.
- PLO 5. Practice responsible citizenship in local and global communities by using skills including but not limited to professional ethics, diversity and inclusion, and social equity.