

MASTER OF SCIENCE (MS) DEGREE IN THE FIELD OF CIVIL ENGINEERING

Program Learning Outcomes for the MS Degree in the field of Civil Engineering

Upon completing the MS degree in the field of Civil Engineering, students will be able to:

1. Demonstrate a solid foundation in civil and environmental engineering at the graduate level.
2. Acquire advanced knowledge of the principles of civil and environmental engineering and apply them to advanced technical problems.
3. Conduct an independent research program.
4. Demonstrate professional written and oral communication skills.

Requirements for the MS Degree in the field of Civil Engineering

The MS degree is a thesis master's degree. For general university requirements, please see [Thesis Master's Degrees \(https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-thesis-masters-degrees/\)](https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-thesis-masters-degrees/). Students pursuing the MS degree in the field of Civil Engineering must:

- Complete a minimum of 30 credit hours of graduate-level study (graduate semester credit hours, coursework at the 500-level or above) to satisfy degree requirements.
- Complete a minimum of 24 credit hours at Rice University from approved graduate-level courses and 6 credit hours of thesis research.
 - Core courses contribute to breadth, depth, and minimum competency as civil and environmental engineers. For students focusing on civil, structural engineering and mechanics, coursework must include at least one course in each of the following areas: structural mechanics and FEM, structural dynamic systems, earthquake engineering, probabilistic mechanics, and applied mathematics. Comparable coursework completed previously may be substituted for these core courses. Students must obtain a minimum GPA of 3.00 with a minimum grade of B- (2.67 grade points) in each core course.
- Select a thesis committee according to departmental requirements and conduct original research in consultation with the committee.
- Present and defend in oral examination an approved research thesis.

Students take the oral exam only after the committee determines the thesis to be in a written format acceptable for public defense. Normally, students take two academic years and the intervening summer to complete the degree.

Students intending to extend their studies into the PhD degree program should note that the department does not grant an automatic (candidacy) MS degree to candidates who have not written a satisfactory master's thesis.

The requirements listed in the General Announcements (GA) satisfy the minimum requirements for this degree program. In certain instances, courses (or requirements) not officially listed here may be substituted upon approval of the program's academic advisor, or where applicable, the department or program's Director of Graduate Studies. Course substitutions or any exceptions to the stated official curricular requirements must be approved by the [Office of Graduate and Postdoctoral Studies \(https://graduate.rice.edu/\)](https://graduate.rice.edu/). Students and their academic advisors should identify and clearly document the courses to be taken.

Summary

Code	Title	Credit Hours
	Total Credit Hours Required for the MS Degree in the field of Civil Engineering	30

Policies for the MS Degree in the field of Civil Engineering

Department of Civil and Environmental Engineering Graduate Program Handbook

The General Announcements (GA) is the official Rice curriculum. As an additional resource for students, the department of Civil and Environmental Engineering publishes a graduate program handbook, which can be found here: https://gradhandbooks.rice.edu/2023_24/Civil_Environmental_Engineering_Graduate_Handbook.pdf

Transfer Credit

For Rice University's policy regarding transfer credit, see [Transfer Credit \(https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-all-degrees/#transfer\)](https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-all-degrees/#transfer). Some departments and programs have additional restrictions on transfer credit. Students are encouraged to meet with their academic program's advisor when considering transfer credit possibilities.

Departmental Transfer Credit Guidelines

Students pursuing the MS degree in the field of Civil or Environmental Engineering should be aware of the following departmental transfer credit guidelines:

- No more than 2 courses (6 credit hours) of transfer credit from U.S. or international universities of similar standing as Rice may apply towards the degree.

Additional Information

For additional information, please see the Civil and Environmental Engineering website: <https://cee.rice.edu/>

Opportunities for the MS Degree in the field of Civil Engineering

Fellowships and Opportunities

- **NASA Internships:** multiple opportunities are available for undergraduate and graduate students for spring and fall semesters, as well as year-long appointments.
- **NRC Research Associateship Program:** the National Academies of Sciences, Engineering, and Medicine offer paid postdoctoral, senior, and graduate fellowships.

- **NASA Fellowships and other opportunities:** NASA offers several internships, fellowships, and scholarships for both undergraduate and graduate students.
- **NSF Graduate Research Fellowship Program (NSF-GRFP):** provides fellowships to individuals selected early in their graduate careers based on their demonstrated potential for significant achievements in science and engineering.
- **Fullbright-Hays Doctoral Dissertation Research Abroad Program (DDRA):** provides grants to fund individual doctoral students to conduct research in other countries in modern foreign languages and area studies for periods of 6 to 12 months.
- **DOE Computational Science Graduate Fellowship:** The Department of Energy Computational Science Graduate Fellowship (DOE CSGF) program provides outstanding benefits and opportunities to students pursuing doctoral degrees in fields of study that utilize high performance computing to solve complex problems in science and engineering.
- **DOD National Defense Science and Engineering Graduate Fellowship (NDSEG):** it is a highly competitive portable fellowship that is awarded to US citizens and nationals who intend to pursue a doctoral degree in one of fifteen supported disciplines.
- **Pathways to Science:** it is a project of the Institute for Broadening Participation. The organization places emphasis on connecting underrepresented groups with STEM programs, funding, mentoring, and resources. Fellowships for masters and doctoral students are available, as is funding for travel and summer institutes.

Student Clubs

- **Civil and Environmental Department Graduate Student Association:** The main purpose of the club is to 1) foster better professional and personal relationships among students and between students and faculty members 2) provide a forum for concerns, both professional and personal, about graduate student life and 3) foster professional growth through mentoring, recruitment, and affiliate/ internship relationships.
- **Earthquake Engineering Research Institute:** <https://eeri.rice.edu/>
The objective of this student chapter is to encourage, facilitate, and promote learning and interest among students in the field of earthquake engineering through interaction with professionals and experts and through interdisciplinary involvement.

Additional Information

For additional information, please see the Civil and Environmental Engineering website: <https://cee.rice.edu/>