Master of Engineering in Civil Engineering (Structures and Applied Mechanics)

About This Program

Master of Engineering in Civil Engineering (Structures and Applied Mechanics) aims to prepare students for continued professional and scholarly development consistent with their technical interests.

Competencies

1. Fundamental Knowledge: Graduates will have extensive basic and applied knowledge in construction engineering and management.
2. Independent Abilities: Graduates will have the ability to conduct independent and original study ranging from gathering of information to application, analysis, creation, documentation of the study, and its resolution.
3. Critical Thinking: Graduates will have extensive breadth and ability to critique and synthesize literature, review results and to apply this knowledge in developing new ideas, in designing and evaluating scientific investigations, and in assessing, interpreting and understanding data relating to construction engineering and management.
4. Advanced Knowledge: Graduates will demonstrate extensive mastery of the subject matter at a deeper theoretical and applied level beyond the fundamental knowledge gained in his/her undergraduate course sequence.
5. Effective Communication: Graduates will have the ability to present scientific results in both written and oral format in various forums including thesis defense, master's defense, project reports, manuscripts, professional society meetings, journals, and performing class lectures, presentations, and reports.
6. Professional Development: Graduates are expected to demonstrate interest in pursuing lifelong learning by attaining professional licenses, and obtaining professional development hours by attendance at conferences, higher educational classes, short courses and seminars, conducting classes, and publishing.

Admissions Criteria

Performance on the GRE will not be the sole criterion for admitting applicants or the primary criterion to deny admission to the master's program. In cases where GRE performance is relatively poor all other qualifications presented by the applicant will be carefully evaluated for evidence of potential for success.

UNCONDITIONAL ADMISSION

A student must meet the following requirements for unconditional admission:

1. A bachelor's in civil engineering (applicants with an appropriate bachelor's in another discipline will be considered, subject to satisfactory completion of deficiency courses for area of interest.)
2. An undergraduate GPA of 3.0 on a 4.0 scale, as calculated by admissions, is typical of a successful applicant.
3. A minimum score of 155 on the GRE Quantitative section and 146 on the GRE Verbal section is typical of a successful applicant.
4. A minimum score of 79 on the TOEFL iBT, or a minimum score of 6.5 on the IELTS, if English is not the applicant's native language. International applicants who have successfully completed a bachelor's degree from an institution in the United States and are not seeking funding as a Graduate Teaching Assistant are not required to meet this requirement.

PROBATIONARY ADMISSION

If applicants do not meet a majority of standards for unconditional admission outlined above, they may be considered for probationary admission after careful examination of their application materials. Probationary admission may require that the applicant receive a B or better in at least their first 9 hours of graduate coursework applicable to their degree being sought at UT Arlington, take additional English courses, and/or deficiency courses as required.

DEFERRED ADMISSION

A deferred application decision may be granted when a file is incomplete or when a denied decision is not appropriate.

DENIAL OF ADMISSION

A candidate may be denied admission if they have less than satisfactory performance on a majority of the admission criteria described above.

WAIVER OF GRADUATE RECORD EXAM

A waiver of the Graduate Record Exam (GRE) may be considered for a UT Arlington graduate who graduated within the past 3 years and has completed an engineering or science degree closely related to Civil Engineering. The student's GPA must equal or exceed 3.0 in the last 60 hours of study which must have been completed at UTA.

FACILITATED ADMISSION OF OUTSTANDING UT ARLINGTON UNDERGRADUATES

Facilitated Admission may be considered for a student who has graduated from UT Arlington no more than one academic year prior to proposed entrance to the graduate program. Students must complete the last 60 hours of study at UT Arlington. The student's UT Arlington GPA must equal or exceed 3.5 in the last 60 hours of undergraduate study and all undergraduate coursework completed at UT Arlington. The applicant's records will be assessed for evidence of strengths relevant to success in the Civil Engineering graduate program. Meeting the minimum GPA requirement shall not be the sole determinant or the primary criterion for granting facilitated admission.

Curriculum

Foundations		
CE 5303	INTRODUCTION TO FINITE ELEMENT	3
CE 5311	ADVANCED STEEL DESIGN I	3
CE 5312	ADVANCED CONCRETE DESIGN I	3
CE 5315	ADVANCED MECHANICS OF MATERIALS	3
Specialization		
Select 18 hours from the following:		18
Structures		
CE 5302	ADVANCED CONCRETE MATERIALS	
CE 5305	FIBER REINFORCED COMPOSITE DESIGN	
CE 5306	STRUCTURAL STEEL DESIGN	
CE 5307	STRUCTURAL TIMBER DESIGN	
CE 5308	STRUCTURAL MASONRY DESIGN	
CE 5309	PRESTRESSED CONCRETE	
CE 5310	PLASTIC ANALYSIS AND DESIGN OF STRUCTURES	
CE 5314	ADVANCED STEEL DESIGN II	
CE 5316	MACHINE LEARNING FOR CIVIL ENGINEERING	
CE 5320	TEMPORARY STRUCTURES	
CE 5343	ADVANCED BUILDING INFORMATION MODELING	
CE 5351	ADVANCED STRUCTURAL ANALYSIS I	
CE 5364	FOUNDATION ANALYSIS AND DESIGN	
CE 5367	DESIGN OF EARTH STRUCTURES	
CE 5383	EXPERIMENTAL STRESS ANALYSIS	
CE 5384	CONCRETE BRIDGE DESIGN AND EVALUATION	
CE 5385	STRUCTURAL DYNAMICS	
CE 5394	EARTHQUAKE DESIGN OF REINFORCED CONCRETE BUILDINGS	
CE 6350	ADVANCED CONCRETE DESIGN II	
CE 6355	EARTHQUAKE ENGINEERING	
CE 6357	STRUCTURAL STABILITY	
CE 6358	THEORY OF ELASTICITY & ADVANCED MECHANICS	
Non-Structures		
CE 5300	TOPICS IN CIVIL ENGINEERING (with prior approval of advisor when topic is relevant)	
Total Hours		**30**

Program Completion

The Civil Engineering Graduate Program has established rules, regulations, policies, and procedures for continuation in the graduate program and fulfilling graduation requirements. These can be found in the Civil Engineering Graduate Handbook available in the Civil Engineering Office. In addition to the requirements of the Graduate Studies listed elsewhere, to continue in the program each civil engineering graduate student must:

- Maintain an overall GPA of 3.00 or higher and a GPA of 3.0 in core (foundations) classes.
- Master's students whose core course GPA is below 3.0 are required to take written exams only on the core courses in which they made lower than B grades, or they may retake those courses and make a grade of B or better.
- Each core course exam will be similar to a final exam and will be 1.5 to 2.5 hours in duration, at the discretion of the faculty giving the exam. Also at the discretion of the faculty, the exams may be open book, closed book, or a combination of both. Students who must take exams on multiple core course subjects, may take those at different times or days.

- Each exam must be passed with a grade of 75% or higher. In case of failing an exam subject, students will be allowed only one additional attempt on that subject.
- In lieu of taking the exams, either the initial time or a second time, students can opt to repeat the respective core course as a 5300 class, in which case the course must be passed with a grade of B or better. The option to repeat a course as a 5300 class can only be exercised once.
- Given this potential additional graduation requirement and in order not to postpone one's graduation, master's students are strongly encouraged to take their core courses as early as possible, ideally within the first two long semesters

Advising Resources

Location:

Nedderman Hall 425

Email:

cegradadvising@uta.edu

Phone:

817-272-2201

Web:

Advisor Information & Scheduling an Appointment