Bachelor of Science in Civil Engineering

About This Program

The Bachelor of Science in Civil Engineering is designed to provide a strong foundation in science, mathematics, and engineering science; technical competence in multiple areas of civil engineering practice; and an understanding of the importance of ethics, safety, professionalism, and socioeconomic concerns in resolving technical problems through synthesis, planning, and design. Elements of design are introduced at the freshman level. This is followed by an analysis and design component in professional program courses, culminating in a comprehensive design experience.

ABET ACCREDITATION

The UT Arlington Civil Engineering BS degree has been accredited since October 1967 by the Engineering Accreditation Commission of ABET (http://www.abet.org) under the commission's General Criteria and the Program Criteria for Civil Engineering. ABET is recognized by the U.S. Department of Education as the sole agency responsible for accreditation of educational programs leading to degrees in engineering. Graduation from an ABET accredited program is an important factor in attaining registration as a Professional Engineer in the State of Texas and other states.

PROGRAM EDUCATIONAL OBJECTIVES

The program is designed so that a few years following graduation students will be able to:

- Pursue professional growth and development through employment in technical roles and/or project management positions in the practice of Civil Engineering.
- Be involved in continuing education and professional development activities.
- Obtain PE licensure or other professional certification.

STUDENT OUTCOMES

Upon completion of the degree, students will be able to:

1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. Communicate effectively with a range of audiences.
4. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. Acquire and apply new knowledge as needed, using appropriate learning strategies.

Admissions Criteria

Admission as a Civil Engineering major is subject to the relevant requirements and policies of the University of Texas at Arlington and of the UTA College of Engineering. The Civil Engineering Department does not impose additional requirements.

ADMISSION TO THE PROFESSIONAL PROGRAM

For admission to the professional program in Civil Engineering students must meet the requirements for admission to the College of Engineering in addition to the following added stipulations:

- Each student must complete all pre-professional courses stipulated under "Program Curriculum" with a minimum grade of C in each course.
- A minimum 3-calculation GPA of 2.25 is required in: a) all courses, b) all math, science, and engineering courses, and c) all program specific courses.

Curriculum

Foundations	
General Core Requirements (https://catalog.uta.edu/academicregulations/degreerequirements/generalcorerequirements/)	42
Students must complete specific courses in certain core areas as part of the pre-professional program.	

In addition to the specified courses, students must choose 6 hours of U.S. History, 6 hours of Political Science, 3 hours of Language, Philosophy, & Culture, and 3 hours of Creative Arts from the UTA General Education Core Requirements.		
For Communication select:		
ENGL 1301	RHETORIC AND COMPOSITION I	
COMS 2302	PROFESSIONAL AND TECHNICAL COMMUNICATION FOR SCIENCE AND ENGINEERING [2]	
For Mathematics select:		
MATH 1426	CALCULUS I	
MATH 2425	CALCULUS II	
For Life & Physical Sciences select:		
PHYS 1443	GENERAL TECHNICAL PHYSICS I	
PHYS 1444	GENERAL TECHNICAL PHYSICS II	
For Social & Behavioral Sciences select:		
IE 2308	ECONOMICS FOR ENGINEERS	
For Foundational Component Area Option select:		
MATH 2326	CALCULUS III	
CE Pre-Professional Program		
Additional hours required in core		4
UNIV-EN 1131	STUDENT SUCCESS	1
or ENGR 1101	ENTRANCE TO ENGINEERING FOR TRANSFER STUDENTS	
CHEM 1465	CHEMISTRY FOR ENGINEERS	4
CE 1105	INTRODUCTION TO CIVIL ENGINEERING [1]	1
CE 1252	COMPUTER TOOLS - AUTOCAD [1]	2
CE 2153	COMPUTER TOOLS - CIVIL 3D	1
CE 2221	DYNAMICS	2
CE 2311	STATICS	3
CE 2313	MECHANICS OF MATERIALS I	3
CE 2331	ENGINEERING MEASUREMENT AND COMPUTER MODELING	3
MATH 3319	DIFFERENTIAL EQUATIONS & LINEAR ALGEBRA	3
CE Professional Program		
GEOL 3340	GEOLOGY FOR ENGINEERS	3
CE 3131	ENVIRONMENTAL ANALYSIS	1
CE 3142	APPLIED FLUID MECHANICS LAB	1
CE 3143	PROPERTIES AND BEHAVIOR OF SOILS	1
CE 3210	CIVIL ENGINEERING COMMUNICATIONS	2
CE 3253	APPLICATIONS OF COMPUTER-BASED DESIGN PROGRAMS IN CIVIL ENGINEERING	2
CE 3301	STOCHASTIC MODELS FOR CIVIL ENGINEERING	3
CE 3302	TRANSPORTATION ENGINEERING	3
CE 3305	BASIC FLUID MECHANICS	3
CE 3311	CONSTRUCTION ENGINEERING	3
CE 4328	WATER SYSTEM DESIGN	3
CE 3334	PRINCIPLES OF ENVIRONMENTAL ENGINEERING	3
CE 3341	STRUCTURAL ANALYSIS	3
CE 3342	WATER RESOURCES ENGINEERING	3
CE 3343	SOIL MECHANICS	3
CE 4347	REINFORCED CONCRETE DESIGN	3

CE 3361	PROPERTIES & BEHAVIOR OF CIVIL ENGINEERING MATERIALS	3
CE 4352	PROFESSIONAL PRACTICE	3
CE 4383	SENIOR PROJECT	3
Senior Technical Electives		
Select 6 hours of CE core electives to be selected from two of the following four areas: Construction, Environmental, Geotechnical, and Transportation.		6
Select 3 hours of CE technical or core electives from any CE technical elective area.		3
Select 3 hours of CE technical or core elective from any CE technical elective area or substitute either CE 4393 (Industrial Internship) or CE 4394 (Research Internship) as a technical elective. See Civil Engineering Department for course classifications.		3
Total Hours		**130**

1 Satisfies Computer Use Competency requirements.
2 Satisfies Oral Communication Competency requirements.

Program Completion

ACADEMIC RULES, REGULATIONS, AND POLICIES

The rules, regulations, and policies of the University of Texas at Arlington and of the UTA College of Engineering are set forth in other sections of this catalog. It is the responsibility of each student to follow the applicable published rules. Failure to follow these rules may be grounds for dismissal from the program.

COURSE REQUISITES

- A student must have the written approval of their program advisor to register for any course that will satisfy a requirement of their degree program.
- A student must have specific written permission of their program advisor to register at a different institution for any course that will satisfy a requirement of their degree program.
- A student may not attempt a CE Department course without satisfying all current requisite requirements. A prerequisite course requirement is satisfied by earning a grade of C or better. A co-requisite course requirement is satisfied by earning a grade of C or better or by concurrent enrollment in the course at UTA.
- A student may not drop a course which is co-requisite to a CE Department course without also dropping the CE Department course.
- No professional program courses may be attempted until the student is admitted into the professional program or obtains the written permission of the program advisor for one semester or obtains the written permission of the program advisor and Department Chair for any subsequent enrollment.

Advising Resources

Location:

Nedderman Hall 425

Email:

ceugadvising@uta.edu

Phone:

817-272-0279

Web:

Advisor Information & Scheduling an Appointment