

Program:	Civil Engineering
Degree:	Bachelor of Science
Department:	Zachry Department of Civil Engineering
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Outcome	Master the depth of knowledge required for a degree
Marketable Skills	<ul style="list-style-type: none"> • (a) an ability to apply knowledge of mathematics through differential equations, science (including calculus-based physics, chemistry and at least one additional basic science), and engineering • (b) an ability to design and conduct civil engineering experiments, as well as to analyze and interpret data • (j) a knowledge of contemporary issues, including current civil engineering professional practice issues and an ability to explain basic concepts in management, business, public policy, leadership and the importance of licensure

Outcome	Demonstrate critical thinking
Marketable Skills	<ul style="list-style-type: none"> • (e) an ability to identify, formulate, and solve civil engineering problems • *Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions. • *Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Outcome	Communicate effectively
Marketable Skills	<ul style="list-style-type: none"> • (g) an ability to communicate effectively in oral and written forms • *Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.

Outcome	Practice personal and social responsibility
Marketable Skills	<ul style="list-style-type: none"> • (f) an understanding of professional and ethical responsibility • (h) the broad education necessary to understand the impact of civil engineering solutions in a global, economic, environmental, and societal context

Outcome	Demonstrate social, cultural, and global competence
Marketable Skills	<ul style="list-style-type: none"> • (c) an ability to design a civil engineering system, component, or process to meet desired needs while incorporating engineering standards and realistic constraints such as those based on economic, environmental, sustainability, constructability, ethical, health and safety, social, and political issues in more than one civil engineering context • *Using relevant information and individual judgement to determine whether events or processes comply with laws, regulations, or standards.

Outcome	Prepare to engage in lifelong learning
Marketable Skills	<ul style="list-style-type: none"> • (i) a recognition of the need for, and an ability to engage in life-long learning

	<ul style="list-style-type: none"> • *Understanding the implications of new information for both current and future problem-solving and decision-making
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Outcome	Work collaboratively
Marketable Skills	<ul style="list-style-type: none"> • (d) an ability to function on multidisciplinary teams • (k) an ability to use modern tools, techniques, and computation methods necessary for civil engineering practice. • *Getting members of a group to work together to accomplish tasks • *Encouraging and building mutual trust, respect, and cooperation among team members

Notes:

- Marketable skills listed with an asterisk (*) for this example program were drawn from the Knowledge, Skills, Abilities, and Work Activities identified by the US Department of Labor and Statistics for “civil engineers” as published on O*Net Online (onetonline.org)
- Marketable skills listed with a letters (a)-(k) for this example program were drawn from ABET Criterion 3.
- Alternate sources for degree-specific marketable skills include learning outcomes and associated metrics used for programmatic assessment
- Learning outcomes or skills required for programmatic accreditation