

CIVIL ENGINEERING TECHNOLOGY: BACHELOR

Overview

Program Mission

Working in partnership with industry, the Civil Engineering Technology four years Program provides quality education that prepares innovative engineers capable of serving the community and fulfilling personal ambitions with excellence.

Program Description

The Bachelor of Civil Engineering Technology program covers different areas in Civil Engineering including: Planning and design of buildings, bridges, transportation systems, water resources and supply, with particular attention to protection of the environment. It prepares students for positions as engineers with the technical and managerial skills necessary to enter careers in planning, design, construction, operation and maintenance of infrastructure in a sustainable environment. Civil Engineering Technology provides an excellent broad education with specialized areas to serve the needs of the global UAE industry. The curriculum produces high-quality engineers known for productivity, professionalism, and competence in the workplace. Graduates will have the ability to analyze and design systems, specify project methods and materials, perform cost estimates and analyzes, and manage technical tasks in support of both public and private sector organizations in Civil Engineering construction.

The graduates will have the ability to work professionally and efficiently; to gather and use information effectively. The program instills leadership qualities based on moral and ethical principles coupled with sound and rational judgment.

The program stresses the effective use of technology, information resources and engineering tools. Additionally, the program is designed to prepare students for graduate studies in Civil Engineering Technology and other areas of professional practice.

This program offers elective courses in Structures Engineering, Water and Environmental Engineering and Transportation Engineering. Students are eligible for a one year Work Experiential Learning experience during their study.

Program Goals

The goals of the Bachelor of Civil Engineering Technology program are:

1. Provide graduates with the technical knowledge and skills required by the industry to professionally develop, design, construct, operate, and maintain projects in areas of the built environment and global infrastructures.
2. Prepare graduates for lifelong learning, professional development, and adhering to international Code of Ethics.
3. Prepare graduates with the capability to be engaged in sustainable activities through community and work-based opportunities.
4. Provide graduates with leadership qualities, team building, and communication skills.

Program Learning Outcomes

Upon graduation, a HCT graduate in Bachelor of Civil Engineering Technology should demonstrate:

1. An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the Civil Engineering Technology.
2. An ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the Civil Engineering Technology.
3. An ability to apply written, oral, and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
4. An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes;
5. An ability to function effectively as a member as well as a leader on technical teams.
6. An ability to develop and evaluate a business plan to transform an engineering design (systems, products ,services and solutions) into a business opportunity utilizing entrepreneurial skills and knowledge

Requirements

Completion Requirements

Bachelor of Civil Engineering Technology

Students must successfully complete a minimum of 138 credits, including:

Code	Title	Credit Hours
Program Core Courses		84
Program Elective Courses		6
Mathematics and Science Courses		15
General Studies course		33
Total Credit Hours		138

Code	Title	Credit Hours
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Civil Engineering Core Courses

Required Credits: 84		
CVE 2001	Applied Drafting and CAD: Civil	1
CVE 2013	CAD tools in Civil Engineering	3
CVE 2103	Site Surveying	3
CVE 2113	Quantity Surveying and Estimating	3
CVE 2203	Engineering Mechanics	3
CVE 2213	Strength of Materials	3
CVE 2303	Soil Mechanics	3
CVE 2403	Fluid Mechanics and Hydraulics	3
CVE 2603	Construction Materials	3
CVE 2613	Civil Engineering Construction	3
CVE 2903	Sophomore Design Project	3
CVE 3203	Structural Analysis	3
CVE 3303	Highway Engineering	3

CVE 3403	Water Resources and Supply	3
CVE 3503	Foundation Engineering	3
CVE 3513	Concrete Design I	3
CVE 4413	Environmental Engineering	3
CVE 4503	Steel Design	3
CVE 4902	Capstone Design Project I	2
CVE 4912	Capstone Design Project II	2
EGN 1001	Engineering Workshop	1
EGN 1133	Design Thinking in Technology	3
EGN 2712	Applied Programming for Engineers	2
EGN 2806	Work Placement I	6
EGN 3012	Project Management	2
EGN 3212	Economics for Engineering	2
EGN 3812	Work Placement	12

Mathematics and Science Required Courses

Required Credits: 15

CHM 1103	Engineering Chemistry	3
MTH 1203	Calculus I	3
MTH 2103	Calculus II	3
MTH 2503	Introduction to Differential Equations	3
PHY 1203	Physics II	3

Civil Engineering Elective Courses

Required Credits: 6

CVE 4323	Transportation Planning	3
CVE 4333	GIS Applications in Civil Engineering	3
CVE 4353	Road Design and Construction	3
CVE 4403	Waste Water Engineering	3
CVE 4423	Solid Waste Management	3
CVE 4443	Coastal Engineering	3
CVE 4513	Concrete Design II	3
CVE 4523	Steel Design II	3
CVE 4603	Construction Contract Management	3
CVE 4803	Special Topics in Civil Engineering	3
EGN 4873	Data Analytics	3
EGN 4883	Introduction to Artificial intelligence	3

General Studies

Required Credits: 33

English, Arabic or other Languages

Required Credits: 12

LSC 1103, AES 1013, AES 1033 and LSC 2223

Humanities or Art

Required Credits: 3

AES 1003

Information Technology and Mathematics

Required Credits: 6

ICT 2013 and MTH 1113

The Natural Sciences

Required Credits: 3

PHY 1103

The Social or Behavioral Sciences

Required Credits: 9

LSS 1003, LSS 1123 and BUS 2403

Description	Data
Total Required Credits	138
Maximum Duration of Study	6 years
Minimum Duration of Study	4 years
Cost Recovery Program	No
Program Code	BCVET
Major Code	CVE

Ideal Study Plan

Recommended Sequence of Study

Year 1

Semester 1		Credit Hours
EGN 1133	Design Thinking in Technology	3
LSC 1103	Professional Communication and Reporting	3
LSS 1003	Life and Future Skills	3
MTH 1203	Calculus I	3
PHY 1103	Physics I	3
Credit Hours		15

Semester 2

CHM 1103	Engineering Chemistry	3
CVE 2203	Engineering Mechanics	3
CVE 2603	Construction Materials	3
EGN 1001	Engineering Workshop	1
MTH 1113	Statistics for Engineering	3
PHY 1203	Physics II	3
Credit Hours		16

Summer

MTH 2103	Calculus II	3
AES 1013	Arabic Communications	3
Credit Hours		6

Year 2**Semester 3**

CVE 2001	Applied Drafting and CAD: Civil	1
CVE 2103	Site Surveying	3
CVE 2213	Strength of Materials	3
CVE 2403	Fluid Mechanics and Hydraulics	3
CVE 2613	Civil Engineering Construction	3
ICT 2013	Computational Thinking and Coding	3
Credit Hours		16

Semester 4

CVE 2013	CAD tools in Civil Engineering	3
CVE 2113	Quantity Surveying and Estimating	3
CVE 2303	Soil Mechanics	3
CVE 2903	Sophomore Design Project	3
CVE 3203	Structural Analysis	3
Credit Hours		15

Summer

EGN 2806	Work Placement I	6
Credit Hours		6

Year 3**Semester 5**

AES 1003	Emirati Studies	3
AES 1033	Islamic Culture	3
CVE 3503	Foundation Engineering	3
EGN 3012	Project Management	2
EGN 3212	Economics for Engineering	2
LSS 1123	Basic Research Methods	3
Credit Hours		16

Semester 6		
EGN 3812	Work Placement	12
LSC 2223	Future Skills Capstone	3
Credit Hours		15
Summer		
BUS 2403	Innovation and Entrepreneurship	3
CVE 3303	Highway Engineering	3
Credit Hours		6
Year 4		
Semester 7		
CVE 3403	Water Resources and Supply	3
CVE 3513	Concrete Design I	3
CVE 4902	Capstone Design Project I	2
EGN 2712	Applied Programming for Engineers	2
MTH 2503	Introduction to Differential Equations	3
Credit Hours		13
Semester 8		
CVE 4413	Environmental Engineering	3
CVE 4503	Steel Design	3
CVE 4912	Capstone Design Project II	2
2 Elective Courses		6
Credit Hours		14
Total Credit Hours		138

Faculty and Academic Staff

Abu Dhabi Men's

Ahmed Al-qarawi, PhD Civil Engineering, Western Sydney University, Australia

Anf Ziadat, PhD Civil Engineering, South Dakota School Mines and Technology, USA

Nassir Eltinay, Masters Architectural Engineer, The University of Kansas, USA

Sokrates Ioannou, PhD, Civil Engineering, Bath University, UK

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