

FRESHMAN		SOPHOMORE		JUNIOR		SENIOR	
FALL	SPRING	FALL	SPRING	FALL	SPRING	FALL	SPRING
BTGE 1725 3 The Bible and the Gospel [a]	BTGE 2730 3 Old Testament Literature [a] [b]	EGCE 2320 2 Principles of Surveying [D] [G]	BIO 2210 4 Microbiology	BTGE 3755 3 Theology I [c] [d]	3 Approved Social Science Elective	3 Approved Technical Elective	3 Approved Technical Elective
COM 1100 3 Fundamentals of Speech	CHEM 1110 4 General Chemistry I [C]	EGCE 2410 4 Civil Engineering Materials [D] [H]	BTGE 2740 3 New Testament Literature [b] [c]	EGCE 3210 3 Intro to Hydraulic Engineering [F] [K]	EGCE 4 CE Concentration Design Elective [L]	BTGE 3765 3 Theology II [d]	EGCE 3 CE Concentration Capstone
EGGN 1910 1 Engr. Comp. & Christian Vocation [A]	EGCE 1920 2 Intro to Civil Engineering [A] [D]	EGCE 2910 2 Civil Engineering Management [D]	EGCE 2820 3 CE Applied Math [E]	EGCE 3410 3 Construction Engineering [G]	EGCE 3110 4 Geotechnical Engineering [H] [K] [M]	EGCE 4 CE Concentration Design Elective	EGCE 4 CE Design Elective
ENG 1400 3 Composition	MATH 1715 4 Calculus II [B] [E]	EGGN 2510 3 Statics [B] [D] [J]	EGGN 2520 3 Mechanics of Materials [E] [J] [K]	EGCE 3510 3 Structural Analysis [K]	EGGN 3110 3 Professional Ethics	EGCE 4810 3 CE Senior Design I [L] [M] [N]	EGCE 4820 2 CE Senior Design II [N]
MATH 1705 4 Calculus I [B]	PHYS 2110 4 General Physics I [E] [F]	HUM 1400 3 Introduction to Humanities	4 Math or Science Elective	EGCE 3610 4 Environmental Engineering [C] [H]	PEF 1990 2 Physical Activity and Healthy Living	HIST 3 History Elective	EGCE 4910 1 Civil Engineering Practice
GSS 1100 3 Politics and American Culture		MATH 2740 3 Differential Equations [E]					LIT 2XXX 3 Literature Elective
17	17	17	17	16	16	16	16

Program accredited by:



Engineering Accreditation Commission

GUIDE KEY	Left Side	Middle	Right Side	
	Required prerequisite ID	Required corequisite ID	This course prerequisite ID	ENGR & COMP SCI
				MATH & SCIENCE
				GENERAL EDUCATION
	A	is a prerequisite for	A	Credit hours 3

TOTAL PROGRAM HOURS:

132

Program, concentration, and elective information on reverse side

Civil Engineering Program Information

WHAT IS CIVIL ENGINEERING?

Civil engineering focuses on designing and developing infrastructure—the physical environment in which people live. As a broad field, it includes activities ranging from building design and traffic signal timing to managing large construction projects and treating wastewater before it returns to natural waterways. Civil engineers ultimately serve society by improving the health, safety, and welfare of the communities where they live and work.

WHAT KINDS OF JOBS CAN I GET WITH A CIVIL ENGINEERING DEGREE?

Civil engineers are in high demand and work across many sub-disciplines, including structural, water resources, environmental, transportation, geotechnical, urban planning, site development, construction management, and international missions. Graduates may work for private engineering firms, public agencies, or pursue advanced study. Many eventually seek professional licensure, which broadens career and advancement opportunities.

WHY CHOOSE CEDARVILLE?

The School of Engineering and Computer Science education at Cedarville is based on three pillars, aimed at helping students:

1. *Discover their purpose*
2. *Know their people*
3. *Prepare to change their world*

Addressing these topics from a biblical perspective is critical for developing not only an understanding of their pursuit of their career, but also their life-long roles as followers of Jesus Christ!

Civil Engineering Program Concentrations

Students in the civil engineering program at Cedarville University declare and complete one of five concentration options:

STRUCTURAL ENGINEERING

CE Concentration Design Electives (4 hrs each)

- »EGCE-3520 Design of Steel Structures
- »EGCE-4510 Reinforced Concrete Design

Civil Engineering Concentration Capstone (3 hrs)

- »EGCE-4520 Design of Wood Structures

ENVIRONMENTAL ENGINEERING

CE Concentration Design Electives (4 hrs each)

- »EGCE-3620 Air Pollution Management & Design
- »EGCE-4610 Design of Water Treatment Systems

Civil Engineering Concentration Capstone (3 hrs)

- »EGCE-4620 Environmental Management & Policy Dev.

WATER RESOURCES ENGINEERING

CE Concentration Design Electives (4 hrs each)

- »EGCE-3220 Design of Water Distribution Systems
- »EGCE-4610 Design of Water Treatment Systems

Civil Engineering Concentration Capstone (3 hrs)

- »EGCE-4220 Hydrology

GENERAL CIVIL ENGINEERING

CE Concentration Design Electives (4 hrs each)

- »EGCE-3220 Design of Water Distribution Systems
- »EGCE-3520 Design of Steel Structures

Civil Engineering Concentration Capstone (3 hrs)

- »EGCE-4710 Transportation Engineering

INTERNATIONAL INFRASTRUCTURE

CE Concentration Design Electives (4 hrs each)

- »EGCE-3520 Design of Steel Structures
- »EGCE-4610 Design of Water Treatment Systems

Civil Engineering Concentration Capstone (3 hrs)

- »EGCE-4920 Infrastructure for Developing Contexts

Civil Engineering Program Electives

MATH OR SCIENCE ELECTIVE

- »MATH-2705 Calculus IIIA (3 hrs)
- »MATH-2715 Calculus IIIB (3)
- »MATH-3610 Linear Algebra (3)
- »MATH-3760 Numerical Analysis (3)
- »BIO-2500 General Botany (4)
- »CHEM-1120 General Chemistry II (4)
- »ESCI-2310 Introduction to Oceanography (4)
- »ESCI-2410 General Meteorology (4)
- »GEOL-1110 Intro to Physical Geology (4)
- »PHYS-2120 General Physics II (4)

APPROVED SOCIAL SCIENCE ELECTIVE

- »ECON-2110 Essentials of Economics (3 hrs)
- »PUAD-3100 Public Budgeting (3)
- »PUAD-3390 Public Finance (3)
- »PUAD-3600 Public Administration (3)
- »PUAD-3690 Public Policy (3)

APPROVED TECHNICAL ELECTIVES

- »Any EGCE-3XXX or 4XXX not already used
- »Any EGCP, EGEE, EGGN, or EGME 3XXX or 4XXX course
- »CS-1210 Intro to Programming Using C++ (3 hrs)
- »EGCP-1010 Digital Logic Design (3)
- »EGEE-2050 Circuits and Instrumentation (4)
- »EGME-2050 Computational Methods (4)
- »EGME-2630 Dynamics (3)
- »A selection of additional Math & Science courses (See Catalog) (3-4)
- »Up to 3 hrs (6 hrs if Gen Civil Conc and completing CM minor):
 - MGMT-3690 Construction Contracts & Delivery Methods (3)
 - MGMT-4580 Construction Planning and Scheduling (3)
 - MGMT-4590 Construction Estimating (3)

Civil Engineering Critical Path

The below sequence of courses is most critical for students' timely completion of the program due to prerequisites.

