

B.S. CIVIL ENGINEERING - ENGINEERING MATH 2020

<u>FRESHMAN</u>		<u>SOPHOMORE</u>		<u>JUNIOR</u>		<u>SENIOR</u>	
Fall (17 hrs)	Spring (16 hrs)	Fall (15.5 hrs)	Spring (14 hrs)	Fall (17 hrs)	Spring (17 hrs)	Fall (15 hrs)	Spring (15 hrs)
CVEEN 1000 Intro to Civil & Environmental Engineering F 2	CVEEN 1400 Computer-Aided Design SP 3	CVEEN 2000 Seminar F 0.5	CVEEN 2010 ↓ CVEEN 2140 Strength of Materials F/SP 3	CVEEN 2140 ↓ CVEEN 3210 Structural Loads & Analysis (QI) F/SP 3	WRTG 2010 ↓ CVEEN 3100 Technical Communication (CW) F/SP 3	CVEEN 3100 ↓ CVEEN 4900 Professional Practice F/SP 3	CVEEN 4900 & 2 Design Technical Electives ↓ CVEEN 4910 Design Capstone F/SP 3
MATH (1050 & 1060) or MATH 1080 ↓ MATH 1310 Engineering Calculus I (QR) F/SP 4	MATH 1310 ↓ MATH 1320 Engineering Calculus II F/SP/SU 4	MATH 1310 & PHYS 2210 ↓ CVEEN 2010 Statics F/SP 3	MATH 1310 ↓ CVEEN 2750 Computer Tools SP 2	CVEEN 2140 & 2310 ↓ CVEEN 3410 Hydraulics (QI) 3 CVEEN 3415 Lab 1	CVEEN 2140 & 2310 ↓ CVEEN 3310 Geotech I (QI) 3 CVEEN 3315 Lab 1	Design Technical Elective F/SP 3	Technical Elective F/SP 3
General Ed. Requirement F/SP/SU 3	MATH 1310 ↓ PHYS 2210 Physics for Sci & Engineers I F/SP/SU 4	CVEEN 2300 Engineering Economics F/SP 2	CVEEN 2010, PHYS 2210 & MATH 2250 ↓ ME EN 2030 Dynamics F/SP/SU 3	CVEEN 2140 & 2310 ↓ CVEEN 3510 Materials 3 CVEEN 3515 Lab 1	CHEM 1210 & CVEEN 2140 ↓ CVEEN 3610 Environmental 3 CVEEN 3615 Lab 1	Technical Elective F/SP 3	Technical Elective F/SP 3
WRTG 1010 ↓ WRTG 2010 Intermediate Writing F/SP/SU 3	See catalog for individual prerequisites ↓ CHEM 1220 Gen Chemistry II or PHYS 2220 Physics for Sci & Engineers II F/SP/SU 4	MATH 1310 ↓ CVEEN 2310 Probability & Statistics F/SP 3	General Ed. Requirement/DV F/SP/SU 3	CVEEN 2310 & 2140 ↓ CVEEN 3520 Transportation F/SP 3	Design Technical Elective F/SP 3	Technical Elective F/SP 3	General Ed. Requirement F/SP/SU 3
MATH 1050 ↓ CHEM 1210 Gen Chemistry I 4 CHEM 1215 Lab 1	See catalog for individual prerequisites ↓ CHEM 1225 Gen Chemistry II Lab or PHYS 2215 Physics for Sci & Engineers I Lab or PHYS 2225 Physics for Sci & Engineers II Lab F/SP/SU 1	MATH 1320 & PHYS 2210 ↓ MATH 2250 Diff Equations & Linear Algebra F/SP/SU 4	Additional Science Requirement F/SP/SU 3	General Ed. Requirement F/SP/SU 3	General Ed. Requirement F/SP/SU 3	American Institutions F/SP/SU 3	General Ed. Requirement/IR F/SP/SU 3
		MATH 1060 ↓ MG EN 2400 Surveying F/SU 3					

Have you completed 3 of the 4 shaded courses? Is your EGPA ≥ 2.50? If yes, apply for Full Major Status!

□ The **Additional Science Requirement** is satisfied by taking any 1000+ course in the following departments: Biology, Geology & Geophysics, and Atmospheric Sciences.

Recommended General Education Courses

LEAP 1501 Social & Ethical Engineering (BF) - Fall only
LEAP 1500 Humanities for Engineers (HFDV) - Spring only

KEY

Full Major Status Required

Prerequisite
Corequisite



TECHNICAL ELECTIVES

Congratulations on reaching the *Technical Electives*! These delve deeper into the various areas covered in the 3000-level courses. A total of **6** Technical Electives, with the exception of Fastrax students, are required. While you are able to take courses in your areas of interest, further specialization is achieved by pursuing Graduate School.

Primary Technical Electives

To graduate with a Bachelor of Science Degree in Civil Engineering you must:

1. Take at least **one** course from **3 of the 5** emphasis areas in the Primary section. Three different checkboxes **must** be marked to fulfill this requirement.
 2. Complete at least **two** Design courses from **different emphasis areas**. These are designated by a **shaded box**. *Example: CVEEN 4221 and CVEEN 5420*
- As long as these requirements are satisfied, you may take the remaining **3** technical electives in either section.

Environmental



CVEEN 3610 & 3615 & 2140 ↓

CVEEN 5605
 Water and Wastewater
 Treatment
 F 3

Structures



CVEEN 3210 ↓

CVEEN 4221
 Concrete I
 F 3

CVEEN 3210 ↓

CVEEN 4222
 Steel I
 SP 3

Geotech & Materials



CVEEN 3310 & 3315 ↓

CVEEN 5305
 Introduction to
 Foundations
 F 3

CVEEN 3510 & 3515 ↓

CVEEN 5500
 Sustainable
 Materials
 SP 3

CVEEN 3510, 3515 & 3520 ↓

CVEEN 5570
 Pavement Design
 F 3

Transportation



CVEEN 3520 & 2140 ↓

CVEEN 5510
 Highway Design
 SP 3

CVEEN 3520 & 2140 ↓

CVEEN 5560
 Transportation
 Planning
 SP 3

Water Resources



CVEEN 3410 & 3415 ↓

CVEEN 5410
 Engineering
 Hydrology
 F 3

CVEEN 3410 & 3415 ↓

CVEEN 5420
 Open-Channel
 SP 3

Secondary Technical Electives

With the exception of *Construction*, where only **one** course may be taken, you may take multiple courses in a single emphasis area — up to a **total of 3** courses.

Environmental

CVEEN 3610 & 3615 & 2140 ↓

CVEEN 5610
 Water Chemistry
 F 3

Structures

CVEEN 3210 ↓

CVEEN 5210
 Structural Analysis II
 SP 3

CVEEN 4222 ↓

CVEEN 5230
 Steel II
 F 3

CVEEN 4221 ↓

CVEEN 5220
 Concrete II
 SP 3

CVEEN 3210 ↓

CVEEN 5240
 Reinforced
 Timber/Masonry
 F 4

Construction Management (Max 1)

CVEEN 3100 ↓

CVEEN 5710
 Cost Estimation &
 Proposal Writing
 F 20/22 3

CVEEN 3100 ↓

CVEEN 5730
 Project Management &
 Contract Administration
 SP 20/22 3

CVEEN 3100 ↓

CVEEN 5720
 Project Scheduling
 F 3

CVEEN 3100 ↓

CVEEN 5750
 Engineering Law &
 Contracts
 SU 20/22 3

Nuclear Engineering

CHEM 1220, PHYS 2220, MATH 1220 ↓

NUCL 3000
 Nuclear Principles in
 Engineering & Science
 F 3

NUCL 3000 ↓

NUCL 3100
 Neutron Based
 Engineering
 SP 3

Other (Max 1)

Any 3000+ level
 course from the
 College of
 Engineering or an
 ABET accredited
 program
 3+