

B.S CONSTRUCTION ENGINEERING - ENGINEERING MATH 2026

Freshman		Sophomore		Junior		Senior	
Fall (14 hrs)	Spring (15 hrs)	Fall (14 hrs)	Spring (15 hrs)	Fall (16 hrs)	Spring (16 hrs)	Fall (15 hrs)	Spring (15 hrs)
MATH 1060 or 1080 or 1210 or 1310 ↓ MATH 1060 or 1080 or 1210 or 1310 ↓		CVEEN 2010 ↓		CVEEN 2140 ↓ WRTG 2010 ↓		CVEEN 3210 ↓ CVEEN 3700, 5720, & 1 Design TE & 1 Design TE ↓	
CVEEN 1000 Intro to Civil & Environmental Engineering F (3)	CVEEN 1400 Computer-Aided Design SP (3)	CVEEN 2000 Seminar F (1)	🔒 CVEEN 2140 Strength of Materials F/SP (3)	🔒 CVEEN 3210 Structural Loads & Analysis (QI) F/SP (3)	🔒 CVEEN 3100 Technical Communication (CW) F/SP (3)	🔒 CVEEN 4221 Concrete I F (3) CVEEN 4222 Steel I SP (3)	🔒 CVEEN 4920 Construction Capstone SP (3)
WRTG 1010 ↓		MATH 1310 & PHYS 2210 ↓ CVEEN 2010 ↓		CVEEN 2140 & 2310 ↓ CVEEN 2140 & 2310 ↓		CVEEN 3100 ↓ CVEEN 3100 ↓	
WRTG 1010 Introduction to Writing (WR1) F/SP/SU (3)	ENGL 2010 or WRTG 2010 Intermediate Writing (WR2) F/SP/SU (3)	CVEEN 2010 Statics F/SP (3)	🔒 CVEEN 2320 Economics & Management F/SP (3)	🔒 CVEEN 3310 Geotech (QI) F/SP (3)	🔒 CVEEN 3410 Hydraulics (QI) or CVEEN 3520 Transportation F/SP (3)	🔒 CVEEN 5720 Project Scheduling F (3)	🔒 CVEEN 5710 Cost Estimating & Proposal Writing SP (3)
MATH 1310 ↓		CVEEN 2010 ↓ See catalog for individual prerequisites ↓		CVEEN 2140 & 2310 ↓ CVEEN 2750 ↓		CVEEN 3210 ↓ CVEEN 3310 ↓	
CHEM 1210 General Chemistry I (PS) F/SP/SU (4)	PHYS 2210 Physics for Sci & Engineers I F/SP/SU (4)	🔒 CVEEN 2310 Probability & Statistics F/SP (3)	🔒 CVEEN 2750 Computer Tools or COMP 1010 Programming for All F/SP (3)	🔒 CVEEN 3510 Materials (QI) F/SP (3)	🔒 CVEEN 3710 Contract Specifications SP (3)	🔒 CVEEN 5790 Vertical Construction F (3)	🔒 CVEEN 5740 Horizontal Construction SP (3)
CHEM 1210 or PHYS 2210 ↓		□ Science Exploration * Additional Science		CVEEN 3310 or 3510 ↓		Technical Elective Technical Elective	
CHEM 1215 Gen Chemistry I Lab or PHYS 2215 Physics for Sci & Eng. I Lab F/SP/SU (1)		□ Science Exploration F/SP (3)	* Additional Science CVEEN 1060 Life Science in Eng. (LS) SP (3)	🔒 CVEEN 3015 Exploring Geo/Materials Lab F/SP (1)	🔒 Design Technical Elective F/SP (3)	🔒 Technical Elective F/SP (3)	🔒 Technical Elective F/SP (3)
MATH (1050 & 1060) or MATH 1080 ↓ MATH 1310 ↓		MATH 1320 ↓ See catalog for individual prerequisites ↓		CVEEN 2750 ↓		American Institutions (AI) General Ed. Requirement + IR (FF + IR)	
MATH 1310 Engineering Calculus I (QL) F/SP (4)	MATH 1320 Engineering Calculus II F/SP/SU (4)	MATH 2250 Diff Equations & Linear Algebra F/SP/SU (4)	🔒 CVEEN 2410 Geomatics or MG EN 2400 Surveying F/SP/SU (3)	🔒 CVEEN 3700 Principles of Construction F (3)	General Ed. Requirement + DV (HF + DV) F/SP/SU (3)	American Institutions (AI) F/SP/SU (3)	General Ed. Requirement + IR (FF + IR) F/SP/SU (3)
□ Science Exploration can be satisfied by taking one of the following: CHEM 1220 or PHYS 2220 or any 1000+ course in the following departments: Astronomy, Biology, Geology, and Atmospheric Sciences.		* Additional Science can be satisfied by taking CVEEN 1060 or one of the following: ATMOS 1120, BIOL 1010 (DV), 1030, 1040, 1050, 1120, 1610, 1620, 2420, GEO 1040, 1100, 1120, 1130, 1180. The course used to satisfy the Science Exploration cannot be double counted to satisfy the Additional Science and vice versa.		General Ed. Requirement (BF) F/SP/SU (3)	Elective Credit F/SP/SU (1)	Key Major Status Required 🔒 Prerequisite Corequisite ↓	

TECHNICAL ELECTIVE COURSES

Students must fulfill 4 technical elective requirements, ensuring they meet the following sub-criteria:

1. Complete at least **one** course from the primary technical elective section.
2. Complete at least **one** course from the design technical elective section.

As long as these requirements are met, students have the flexibility to choose the remaining **one** technical elective from any section.

PRIMARY TECHNICAL ELECTIVES			DESIGN TECHNICAL ELECTIVES			
CVEEN 3100 ↓	CVEEN 3100 ↓	CVEEN 3100 ↓	CVEEN 3310 ↓	CVEEN 3410 ↓	CVEEN 2140 & 3520 ↓	CVEEN 3510 & 3520 ↓
CVEEN 5730 Project Management & Contract Admin. <small>SP (3)</small>	CVEEN 5735 Advanced Construction Project Management <small>F (3)</small>	CVEEN 5750 Engineering Law & Contracts <small>SU 24/26 (3)</small>	CVEEN 5305 (D) Intro to Foundations <small>F (3)</small>	CVEEN 5420 (D) Open Channel Flow <small>F (3)</small>	CVEEN 5510 (D) Highway Design <small>SP (3)</small>	CVEEN 5570 (D) Pavement Design <small>F (3)</small>

ADDITIONAL TECHNICAL ELECTIVES

Course #	Course Title	Pre-Reqs	Semesters	Course #	Course Title	Pre-Reqs	Semesters
CVEEN 3410	Hydraulics	CVEEN 2140 & 2310	F/SP	CVEEN 5560	Transportation Planning	CVEEN 2140, 3520	F
CVEEN 3520	Transportation	CVEEN 2310 & <u>2140</u>	F/SP	CVEEN 5565	Civil Machine Learning	MATH 2250, CVEEN 2750 or COMP 1010	SP
CVEEN 3610	Environmental Engineering	CHEM 1210 & CVEEN <u>2140</u>	F/SP	CVEEN 5600	Waste Management & Remediation	CVEEN 2140, 3610	F
CVEEN 4605	Intro Data Science Civil	1 core CVEEN 3000-level course	F	CVEEN 5605	Water & Wastewater Treatment	CVEEN 2140, 3610	SP
CVEEN 4221	Concrete I	CVEEN 3210	F	CVEEN 5610	Water Chemistry	CVEEN 2140, 3610	F
CVEEN 4222	Steel I	CVEEN 3210	SP	CVEEN 5615	Emerging Enviro Issues	CVEEN 2140, 3610	SP
CVEEN 4999	Honors Thesis	Dept. Consent	F/SP	CVEEN 5920	Special Topics	Dept. Consent	Varies
CVEEN 5210	Structural Analysis II	CVEEN 3210	Varies	NUCL 3000	Intro to Nuclear Engineering	MATH 1220 & CVEEN 2010	SP
CVEEN 5220	Concrete II	CVEEN 4221	Varies	NUCL 3100	Radiation Interactions	CHEM 1210, MATH 1220, CVEEN 2010	SP
CVEEN 5230	Steel II	CVEEN 4222	Varies	NUCL 3200	Radiochemistry	CHEM 1210, MATH 1220, CVEEN 2010	F
CVEEN 5240	Timber/Reinforced Masonry	CVEEN 3210	Varies	CVEEN 6XXX	CVEEN Graduate Courses	3.20 GPA & Instructor Consent	F/SP
CVEEN 5410	Engineering Hydrology	CVEEN 3410	SP	Any 3+ credit, 3000-5999 course from the following departments: ASTR, ATMOS, BIOL, BIOEN, CHEM, CH EN, CMP, CS, CVEEN, ECE, ENGIN, GEOG, GEO, MATH, ME EN, MET E, MG EN, MSE, NUCL, or PHYS.			
CVEEN 5460	Carbon Capture	3410, MATH 2250	SP				
CVEEN 5500	Sustainable Materials (IR)	CVEEN 3510	SP				