

# B.S CONSTRUCTION ENGINEERING - TRADITIONAL MATH 2025

## Freshman

Fall (14 hrs)

Spring (15 hrs)

## Sophomore

Fall (16 hrs)

Spring (16 hrs)

## Junior

Fall (16 hrs)

Spring (15 hrs)

## Senior

Fall (15 hrs)

Spring (15 hrs)

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| <b>CVEEN 1000</b><br>Intro to Civil & Environmental Engineering<br><small>F (3)</small> | <b>CVEEN 1400</b><br>Computer-Aided Design<br><small>SP (3)</small> |
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WRTG 1010 ↓

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| <b>WRTG 1010</b><br>Introduction to Writing (WR1)<br><small>F/SP/SU (3)</small> | <b>ENGL 2010 or WRTG 2010</b><br>Intermediate Writing (WR2)<br><small>F/SP/SU (3)</small> |
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MATH 1050 or MATH 1080 ↓

MATH 1210 ↓

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| <b>CHEM 1210</b><br>General Chemistry I (PS)<br><small>F/SP/SU (4)</small> | <b>PHYS 2210</b><br>Physics for Sci & Engineers I<br><small>F/SP/SU (4)</small> |
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CHEM 1210 or PHYS 2210 ↓

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| <b>CHEM 1215</b><br>Gen Chemistry I Lab or <b>PHYS 2215</b><br>Physics for Sci & Eng. I Lab<br><small>F/SP/SU (1)</small> |
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MATH (1050 & 1060) or MATH 1080 ↓

MATH 1210 ↓

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| <b>MATH 1210</b><br>Calculus I (Q1)<br><small>F/SP/SU (4)</small> | <b>MATH 1220</b><br>Calculus II<br><small>F/SP/SU (4)</small> |
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☐ 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, 1120, 1610, 1620, 2420, GEO 1040, 1120, 1100. The course used to satisfy the Science Exploration cannot be double counted to satisfy the Additional Science

CVEEN 2010 ↓

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| <b>CVEEN 2000</b><br>Seminar<br><small>F (1)</small> | <b>CVEEN 2140</b><br>Strength of Materials<br><small>F/SP (3)</small> |
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MATH 1210 & PHYS 2210 ↓

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| <b>CVEEN 2010</b><br>Statics<br><small>F/SP (3)</small> | <b>CVEEN 2320</b><br>Economics & Management<br><small>F/SP (3)</small> |
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See catalog for individual prerequisites ↓

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| <b>CVEEN 2310</b><br>Probability & Statistics<br><small>F/SP (3)</small> | <b>CVEEN 2750</b><br>Computer Tools or <b>COMP 1010</b><br>Programming for All<br><small>F/SP (3)</small> |
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| ☐ Science Exploration<br><small>F/SP (3)</small> | * Additional Science<br><b>CVEEN 1060</b><br>Life Science in Eng. (LS)<br><small>SP (3)</small> |
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MATH 1220 ↓

MATH 1220 & PHYS 2210 ↓

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| <b>MATH 2210</b><br>Calculus III<br><small>F/SP/SU (3)</small> | <b>MATH 2250</b><br>Diff Equations & Linear Algebra<br><small>F/SP/SU (4)</small> |
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See catalog for individual prerequisites ↓

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| <b>CVEEN 2410</b><br>Geomatics or <b>MG EN 2400</b><br>Surveying<br><small>F/SP/SU (3)</small> |
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CVEEN 2140 ↓      WRTG 2010 ↓

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| <b>CVEEN 3210</b><br>Structural Loads & Analysis (Q1)<br><small>F/SP (3)</small> | <b>CVEEN 3100</b><br>Technical Communication (CW)<br><small>F/SP (3)</small> |
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CVEEN 2140 & 2310 ↓

CVEEN 2310 & 2140 ↓

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| <b>CVEEN 3310</b><br>Geotech (Q1)<br><small>F/SP (3)</small> | <b>CVEEN 3520</b><br>Transportation<br><small>F/SP (3)</small> |
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CVEEN 2140 & 2310 ↓

CVEEN 2750 ↓

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| <b>CVEEN 3510</b><br>Materials (Q1)<br><small>F/SP (3)</small> | <b>CVEEN 3710</b><br>Contract Specifications<br><small>SP (3)</small> |
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CVEEN 3310 or 3510 ↓

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| <b>CVEEN 3015</b><br>Exploring Geo/Materials Lab<br><small>F/SP (1)</small> | <b>Design Technical Elective</b><br><small>F/SP (3)</small> |
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CVEEN 2750 ↓

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| <b>CVEEN 3700</b><br>Principles of Construction<br><small>F (3)</small> | <b>General Ed. Requirement + DV (HF + DV)</b><br><small>F/SP/SU (3)</small> |
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| <b>General Ed. Requirement (BF)</b><br><small>F/SP/SU (3)</small> |
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CVEEN 3210 ↓      CVEEN 3700, 5720, & 1 Design TE & 1 Design IE ↓

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| <b>CVEEN 4221</b><br>Concrete I<br><small>F (3)</small> | <b>CVEEN 4920</b><br>Construction Capstone<br><small>SP (3)</small> |
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CVEEN 3100 ↓

CVEEN 3310 ↓

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| <b>CVEEN 5720</b><br>Project Scheduling<br><small>F (3)</small> | <b>CVEEN 5740</b><br>Horizontal Construction<br><small>SP (3)</small> |
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CVEEN 3210 ↓

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| <b>CVEEN 5790</b><br>Vertical Construction<br><small>F (3)</small> | <b>Technical Elective</b><br><small>F/SP (3)</small> |
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| <b>Technical Elective</b><br><small>F/SP (3)</small> | <b>Technical Elective</b><br><small>F/SP (3)</small> |
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| <b>American Institutions (AI)</b><br><small>F/SP/SU (3)</small> | <b>General Ed. Requirement + IR (FF + IR)</b><br><small>F/SP/SU (3)</small> |
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**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 **two** technical electives from any section.

## PRIMARY TECHNICAL ELECTIVES

CVEEN 3100 ↓

**CVEEN 5710**  
Cost Estimation & Proposal Writing  
F (3)

CVEEN 3100 ↓

**CVEEN 5730**  
Project Management & Contract Admin.  
SP (3)

CVEEN 3100 ↓

**CVEEN 5750**  
Engineering Law & Contracts  
SU 24/26 (3)

## DESIGN TECHNICAL ELECTIVES

CVEEN 3310 ↓

**CVEEN 5305**  
Intro to Foundations  
F (3)

CVEEN 2140 & 3520 ↓

**CVEEN 5510**  
Highway Design  
SP (3)

CVEEN 3510 & 3520 ↓

**CVEEN 5570**  
Pavement Design  
F (3)

## 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 3610 | Environmental Engineering  | CHEM 1210 & CVEEN 2140         | 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 4222 | Steel I                    | CVEEN 3210                     | SP        |  | CVEEN 5610  | Water Chemistry                | CVEEN 2140, 3610                 | F         |
| CVEEN 4999 | Honors Thesis              | Dept. Consent                  | F/SP      |  | CVEEN 5615  | Emerging Enviro Issues         | CVEEN 2140, 3610                 | SP        |
| CVEEN 5210 | Structural Analysis II     | CVEEN 3210                     | Varies    |  | CVEEN 5920  | Special Topics                 | Dept. Consent                    | Varies    |
| CVEEN 5220 | Concrete II                | CVEEN 4221                     | Varies    |  | NUCL 3000   | Nuclear Principles             | MATH 1220 & PHYS 2210            | SP        |
| CVEEN 5230 | Steel II                   | CVEEN 4222                     | Varies    |  | NUCL 3100   | Radiation Interactions         | CHEM 1220, MATH 1220, CVEEN 2010 | SP        |
| CVEEN 5240 | Timber/Reinforced Masonry  | CVEEN 3210                     | Varies    |  | NUCL 3200   | Radiochemistry                 | CHEM 1220, MATH 1220, CVEEN 2010 | F         |
| CVEEN 5410 | Engineering Hydrology      | CVEEN 3410                     | SP        |  | CVEEN 6XXX  | CVEEN Graduate Courses         | 3.20 GPA & Instructor Consent    | F/SP      |
| CVEEN 5420 | Open Channel Flow          | CVEEN 3410                     | F         |  | Any 3+ credit, 3000-5999 course from the following departments: ASTR, ATMOS, BIOL, CHEM, CH EN, CMP, CS, ECE, ENGINE, GEO, MATH, ME EN, MET E, MG EN, MSE, NUCL, or PHYS. |                                |                                  |           |
| CVEEN 5500 | Sustainable Materials (IR) | CVEEN 3510                     | SP        |  |   |                                |                                  |           |