




# B.S. CIVIL ENGINEERING - TRADITIONAL MATH 2017

| <u>FRESHMAN</u>  |  | <u>SOPHOMORE</u>   |   | <u>JUNIOR</u>   |   | <u>SENIOR</u>                               |  |
|--|--|--|---|---|---|---|--|
| Fall (17 hrs)  | Spring (16 hrs)  | Fall (14.5 hrs)  | Spring (19 hrs)   | Fall (15.5 hrs)   | Spring (16 hrs)   | Fall (15.5 hrs)                             | Spring (15 hrs)  |
| <b>CVEEN 1000</b><br>Intro to Civil & Environmental Engineering<br>F 2   | <b>General Ed. Requirement/DV</b><br>F/SP/SU 3   | MATH 1210 & PHYS 2210 ↓<br><b>CVEEN 2010</b><br>Statics<br>F/SP 3  | CVEEN 2010 ↓<br><b>CVEEN 2140</b><br>Strength of Materials<br>F/SP 3              | <b>CVEEN 3000</b><br>Seminar<br>F 0.5   | WRTG 2010 ↓<br><b>CVEEN 3100</b><br>Technical Communication (CW)<br>F/SP 3  | <b>CVEEN 4000</b><br>Seminar<br>F 0.5       | CVEEN 3100 & 2 Design Technical Electives ↓<br><b>CVEEN 4910</b><br>Design Capstone<br>F/SP 3  |
| MATH (1050 & 1060) or MATH 1080 ↓<br><b>MATH 1210</b><br>Calculus I (QR)<br>F/SP/SU 4  | MATH 1210 ↓<br><b>MATH 1220</b><br>Calculus II<br>F/SP/SU 4  | <b>CVEEN 2300</b><br>Engineering Economics<br>F/SP 2   | <b>CVEEN 1400</b><br>Computer-Aided Design<br>SP 3                                | CVEEN 2140 ↓<br><b>CVEEN 3210</b><br>Structural Loads & Analysis (QI)<br>F/SP 3             | CVEEN 2140 & 2310 ↓<br><b>CVEEN 3310</b><br>Geotech I (QI) 3<br><b>CVEEN 3315</b><br>Lab 1  | <b>Design Technical Elective</b><br>F/SP 3  | <b>Technical Elective</b><br>F/SP 3  |
| <b>General Ed. Requirement</b><br>F/SP/SU 3  | MATH 1210 ↓<br><b>PHYS 2210</b><br>Physics for Sci & Engineers I<br>F/SP/SU 4  | MATH 1210 ↓<br><b>CVEEN 2310</b><br>Probability & Statistics<br>F/SP 2   | CVEEN 2010, PHYS 2210 & MATH 2250 ↓<br><b>ME EN 2030</b><br>Dynamics<br>F/SP/SU 3 | CVEEN 2140 & 2310 ↓<br><b>CVEEN 3410</b><br>Hydraulics (QI) 3<br><b>CVEEN 3415</b><br>Lab 1 | CHEM 1210 & CVEEN 2140 ↓<br><b>CVEEN 3610</b><br>Environmental I<br>F/SP 3  | <b>Technical Elective</b><br>F/SP 3         | <b>Technical Elective</b><br>F/SP 3  |
| WRTG 1010 ↓<br><b>WRTG 2010</b><br>Intermediate Writing<br>F/SP/SU 3   | See catalog for individual prerequisites ↓<br><b>CHEM 1220</b><br>Gen Chemistry II or<br><b>PHYS 2220</b><br>Physics for Sci & Engineers II<br>F/SP/SU 4   | MATH 1060 ↓<br><b>MG EN 2400</b><br>Surveying<br>F/SU 3  | MATH 1210 ↓<br><b>CS 1000</b><br>Engineering Computing<br>SP 3                    | CVEEN 2140 & 2310 ↓<br><b>CVEEN 3510</b><br>Materials<br><b>CVEEN 3510</b><br>Lab 3         | <b>Design Technical Elective</b><br>F/SP 3  | <b>Technical Elective</b><br>F/SP 3         | <b>General Ed. Requirement</b><br>F/SP/SU 3  |
| MATH 1050 ↓<br><b>CHEM 1210</b><br>Gen Chemistry I 4<br><b>CHEM 1215</b><br>Lab 1  | See catalog for individual prerequisites ↓<br><b>CHEM 1225</b><br>Gen Chemistry II Lab or<br><b>PHYS 2215</b><br>Physics for Sci & Engineers I Lab or<br><b>PHYS 2225</b><br>Physics for Sci & Engineers II Lab<br>F/SP/SU 1 | MATH 1220 ↓<br><b>MATH 2210</b><br>Calculus III<br>F/SP/SU 3   | MATH 2210 ↓<br><b>MATH 2250</b><br>Diff Equations & Linear Algebra<br>F/SP/SU 4   | CVEEN 2140 & 2310 ↓<br><b>CVEEN 3520</b><br>Transportation<br>F/SP 3                        | <b>Additional Science Requirement</b><br>F/SP/SU 3  | <b>American Institutions</b><br>F/SP/SU 3   | <b>General Ed. Requirement/IR</b><br>F/SP/SU 3   |
|  <b>Department of Civil &amp; Environmental Engineering</b><br>THE UNIVERSITY OF UTAH |  | See catalog for individual prerequisites ↓<br><b>MSE 2170</b><br>Elements of MSE or<br><b>CH EN 2300</b><br>Thermodynamics<br>F/SP 1.5 | <b>General Ed. Requirement</b><br>F/SP/SU 3                                       | MATH 2250 ↓<br><b>MATH 3150</b><br>PDE's<br>F/SP 2  | The <b>Additional Science Requirement</b> is satisfied by taking any 1000+ course in the following departments:<br>Biology, Geology & Geophysics, and Atmospheric Sciences. | <b>General Ed. Requirement</b><br>F/SP/SU 3 | <b>KEY</b><br>Full Major Status Required<br>Prerequisite Corequisite<br><br> |

# 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:**

- 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.
  - 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 ↓

#### CVEEN 5605

Water and Wastewater  
Treatment 3

### Structures



CVEEN 3210 ↓

#### CVEEN 4221

Concrete I 3

CVEEN 3210 ↓

#### CVEEN 4222

Steel I 3

### Geotech & Materials



CVEEN 3310 & 3315 ↓

#### CVEEN 5305

Introduction to  
Foundations 3

CVEEN 3510 & 3515 ↓

#### CVEEN 5500

Sustainable  
Materials 3

CVEEN 3510, 3515 & 3520 ↓

#### CVEEN 5570

Pavement Design 3

### Transportation



CVEEN 3520 ↓

#### CVEEN 5510

Highway Design 3

CVEEN 3520 ↓

#### CVEEN 5560

Transportation  
Planning 3

### Water Resources



CVEEN 3410 & 3415 ↓

#### CVEEN 5410

Engineering  
Hydrology 3

CVEEN 3410 & 3415 ↓

#### CVEEN 5420

Open-Channel 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 ↓

#### CVEEN 5610

Water Chemistry 3

### Structures

CVEEN 3210 ↓

#### CVEEN 5210

Structural Analysis II 3

CVEEN 4222 ↓

#### CVEEN 5230

Steel II 3

CVEEN 4221 ↓

#### CVEEN 5220

Concrete II 3

CVEEN 3210 ↓

#### CVEEN 5240

Reinforced  
Timber/Masonry 4

### Construction (Max 1)

CVEEN 3100 ↓

#### CVEEN 5710

Cost Estimation &  
Proposal Writing 3

CVEEN 3100 ↓

#### CVEEN 5730

Project Management &  
Contract Administration 3

CVEEN 3100 ↓

#### CVEEN 5720

Project Scheduling 3

CVEEN 3100 ↓

#### CVEEN 5750

Engineering Law &  
Contracts 3

### Nuclear Engineering

CHEM 1220, PHYS 2220, MATH 1220 ↓

#### NUCL 3000

Nuclear Principles in  
Engineering & Science 3

NUCL 3000 ↓

#### NUCL 3100

Neutron Based  
Engineering 3

### Other

CVEEN 1400 & MG EN 2400 ↓

#### CVEEN 5110

GIS in Civil  
Engineering 3