

# B.S. CIVIL ENGINEERING - TRADITIONAL MATH 2024


<b>FRESHMAN</b>		<b>SOPHOMORE</b>		<b>JUNIOR</b>		<b>SENIOR</b>	
<i>Fall (14 hrs)</i>	<i>Spring (15 hrs)</i>	<i>Fall (16 hrs)</i>	<i>Spring (16 hrs)</i>	<i>Fall (14 hrs)</i>	<i>Spring (17 hrs)</i>	<i>Fall (15 hrs)</i>	<i>Spring (15 hrs)</i>
<b>CVEEN 1000</b> Intro to Civil & Environmental Engineering F 3	<b>CVEEN 1400</b> Computer-Aided Design SP 3	<b>CVEEN 2000</b> Seminar F 1	CVEEN 2010 ↓ <b>CVEEN 2140</b> Strength of Materials F/SP 3	CVEEN 2140 ↓ <b>CVEEN 3210</b> Structural Loads & Analysis (QI) F/SP 3	WRTG 2010 ↓ <b>CVEEN 3100</b> Technical Communication (CW) F/SP 3	CVEEN 3100 ↓ <b>CVEEN 4900</b> Professional Practice & Design I F/SP 3	CVEEN 4900 & 2 Design Technical Electives ↓ <b>CVEEN 4910</b> Professional Practice & Design II F/SP 3
MATH (1050 & 1060) or MATH 1080 ↓	MATH 1210 ↓	MATH 1210 & PHYS 2210 ↓	See catalog for individual prerequisites ↓	CVEEN 2140 & 2310 ↓	CVEEN 2140 & 2310 ↓		
<b>MATH 1210</b> Calculus I (QL) F/SP 4	<b>MATH 1220</b> Calculus II F/SP/SU 4	<b>CVEEN 2010</b> Statics F/SP 3	<b>CVEEN 2750</b> Computer Tools or <b>COMP 1010</b> Programming For All F/SP 3	<b>CVEEN 3510</b> Materials (QI) 3 <b>CVEEN 3515</b> Lab 1	<b>CVEEN 3310</b> Geotech (QI) 3 <b>CVEEN 3315</b> Lab 1	<b>Design Technical Elective</b> F/SP 3	<b>Technical Elective</b> F/SP 3
MATH 1050 ↓	MATH 1210 ↓		CVEEN 2010, PHYS 2210 & MATH 2250 ↓	CVEEN 2310 & 2140 ↓	CVEEN 2140 & 2310 ↓		
<b>CHEM 1210</b> Gen Chemistry I (PS) F/SP/SU 4	<b>PHYS 2210</b> Physics for Sci & Engineers I F/SP/SU 4	<b>CVEEN 2310</b> Probability & Statistics F/SP 3	<b>ME EN 2030</b> Dynamics F/SP/SU 3	<b>CVEEN 3520</b> Transportation F/SP 3	<b>CVEEN 3410</b> Hydraulics (QI) 3 <b>CVEEN 3415</b> Lab 1	<b>Technical Elective</b> F/SP 3	<b>Technical Elective</b> F/SP 3
WRTG 1010 ↓	See catalog for individual prerequisites ↓		MATH 2210 & PHYS 2210 ↓	CHEM 1210 & CVEEN 2140 ↓			
<b>ENGL 2010</b> or <b>WRTG 2010</b> Intermediate Writing (WR2) F/SP/SU 3	□ Science Exploration F/SP/SU 3+	<b>CVEEN 2320</b> Economics & Management F/SP 3	<b>MATH 2250</b> Diff Equations & Linear Algebra F/SP/SU 4	<b>CVEEN 3610</b> Environmental 3 <b>CVEEN 3615</b> Lab 1	<b>Design Technical Elective</b> F/SP 3	<b>Technical Elective</b> F/SP 3	<b>General Ed. Requirement (BF)</b> F/SP/SU 3
	See catalog for individual prerequisites ↓	See catalog for individual prerequisites ↓					
	<b>CHEM 1215</b> Gen Chemistry I Lab or <b>PHYS 2215</b> Physics for Sci & Eng. I Lab F/SP/SU 1	<b>CVEEN 2410</b> Geomatics or <b>MG EN 2400</b> Surveying F/SP 3	* Additional Science <b>CVEEN 1060</b> Life Science in Eng. or <b>BIOL 1010</b> Bio in 21st Century (DV) or <b>BIOL 1030</b> Human Biology or <b>BIOL 1610</b> Fund. of Biology I (LS) F/SP/SU 3+	<b>General Ed. Requirement + DV (HF + DV)</b> F/SP/SU 3	<b>American Institutions (AI)</b> F/SP/SU 3	<b>General Ed. Requirement + IR (FF + IR)</b> F/SP/SU 3	
□ Science Exploration is satisfied by taking CHEM 1220 or PHYS 2220 or any 1000+ course in the following departments: Biology, Geology & Geophysics, and Atmospheric Sciences.		MATH 1220 ↓					
		<b>MATH 2210</b> Calculus III F/SP/SU 3					


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

\* The course used to satisfy the Science Exploration cannot be double counted to satisfy the Additional Science and vice versa.

**Recommended General Education Courses**  
LEAP 1501 Social & Ethical Engineering (BF) - Fall only  
LEAP 1500 Humanities for Engineers (HF + DV) - Spring only

**KEY**

Full Major Status Required 

Prerequisite 

Corequisite

# TECHNICAL ELECTIVES

Students must fulfill 6 technical elective requirements, ensuring they meet the following sub-criteria:

1. Complete at least **one** course in **4 of the 6** different areas within Complex Engineering.
2. Complete at least **two** design courses from **different areas**. These are designated by a **shaded box**.

As long as these requirements are met, students have the flexibility to choose the remaining **two** technical electives from either section.

## COMPLEX ENGINEERING ELECTIVES

<u>Environmental</u>	<u>Structures</u>	<u>Geotechnical</u>	<u>Materials</u>	<u>Transportation</u>	<u>Water Resources</u>
<p style="font-size: small;">CVEEN 3610, 3615 &amp; 2140 ↓</p> <div style="border: 2px solid black; border-radius: 15px; padding: 10px; width: 80%; margin: auto;"> <p style="font-size: x-large; font-weight: bold;">CVEEN 5605</p> <p style="font-size: small;">Water and Wastewater Treatment <span style="float: right;">3</span></p> <p style="font-size: x-small;">SP</p> </div>	<p style="font-size: small;">CVEEN 3210 ↓</p> <div style="border: 2px solid black; border-radius: 15px; padding: 10px; width: 80%; margin: auto;"> <p style="font-size: x-large; font-weight: bold;">CVEEN 4221</p> <p style="font-size: small;">Concrete I <span style="float: right;">3</span></p> <p style="font-size: x-small;">F</p> </div>	<p style="font-size: small;">CVEEN 3310 &amp; 3315 ↓</p> <div style="border: 2px solid black; border-radius: 15px; padding: 10px; width: 80%; margin: auto;"> <p style="font-size: x-large; font-weight: bold;">CVEEN 5305</p> <p style="font-size: small;">Introduction to Foundations <span style="float: right;">3</span></p> <p style="font-size: x-small;">F</p> </div>	<p style="font-size: small;">CVEEN 3510 &amp; 3515 ↓</p> <div style="border: 2px solid black; border-radius: 15px; padding: 10px; width: 80%; margin: auto;"> <p style="font-size: x-large; font-weight: bold;">CVEEN 5500</p> <p style="font-size: small;">Sustainable Materials (IR) <span style="float: right;">3</span></p> <p style="font-size: x-small;">SP</p> </div>	<p style="font-size: small;">CVEEN 3520 &amp; 2140 ↓</p> <div style="border: 2px solid black; border-radius: 15px; padding: 10px; width: 80%; margin: auto;"> <p style="font-size: x-large; font-weight: bold;">CVEEN 5510</p> <p style="font-size: small;">Highway Design <span style="float: right;">3</span></p> <p style="font-size: x-small;">SP</p> </div>	<p style="font-size: small;">CVEEN 3410 &amp; 3415 ↓</p> <div style="border: 2px solid black; border-radius: 15px; padding: 10px; width: 80%; margin: auto;"> <p style="font-size: x-large; font-weight: bold;">CVEEN 5410</p> <p style="font-size: small;">Engineering Hydrology <span style="float: right;">3</span></p> <p style="font-size: x-small;">SP</p> </div>
	<p style="font-size: small;">CVEEN 3210 ↓</p> <div style="border: 2px solid black; border-radius: 15px; padding: 10px; width: 80%; margin: auto;"> <p style="font-size: x-large; font-weight: bold;">CVEEN 4222</p> <p style="font-size: small;">Steel I <span style="float: right;">3</span></p> <p style="font-size: x-small;">SP</p> </div>		<p style="font-size: small;">CVEEN 3510, 3515 &amp; 3520 ↓</p> <div style="border: 2px solid black; border-radius: 15px; padding: 10px; width: 80%; margin: auto;"> <p style="font-size: x-large; font-weight: bold;">CVEEN 5570</p> <p style="font-size: small;">Pavement Design <span style="float: right;">3</span></p> <p style="font-size: x-small;">F</p> </div>	<p style="font-size: small;">CVEEN 3520 &amp; 2140 ↓</p> <div style="border: 2px solid black; border-radius: 15px; padding: 10px; width: 80%; margin: auto;"> <p style="font-size: x-large; font-weight: bold;">CVEEN 5560</p> <p style="font-size: small;">Transportation Planning <span style="float: right;">3</span></p> <p style="font-size: x-small;">SP</p> </div>	<p style="font-size: small;">CVEEN 3410 &amp; 3415 ↓</p> <div style="border: 2px solid black; border-radius: 15px; padding: 10px; width: 80%; margin: auto;"> <p style="font-size: x-large; font-weight: bold;">CVEEN 5420</p> <p style="font-size: small;">Open-Channel <span style="float: right;">3</span></p> <p style="font-size: x-small;">F</p> </div>

## ADDITIONAL TECHNICAL ELECTIVES

<u>Course #</u>	<u>Course Title</u>	<u>Pre-reqs</u>	<u>Semester</u>	<u>Course #</u>	<u>Course Title</u>	<u>Pre-reqs</u>	<u>Semester</u>
CVEEN 3700	Principles of Construction	CVEEN 2750	F	CVEEN 5780	Façade Engineering	CVEEN 3210	SP
CVEEN 3710	Contracts Specifications	Major Status	SP	CVEEN 5790	Vertical Construction	CVEEN 3210	F
CVEEN 4999	Honors Thesis	Dept. Consent	F/SP	CVEEN 5920	Special Topics	Dept. Consent	Varies
CVEEN 5210	Structural Analysis II	CVEEN 3210	SP	NUCL 3000	Nuclear Principles	CHEM 1220, MATH 1220, CVEEN 2010	SP (online)
CVEEN 5220	Concrete II	CVEEN 4221	SP (even)	NUCL 3100	Radiation Interactions	CHEM 1220, MATH 1220, CVEEN 2010	SP
CVEEN 5230	Steel II	CVEEN 4222	F (even)	NUCL 3200	Radiochemistry	CHEM 1220, MATH 1220, CVEEN 2010	F (online)
CVEEN 5240	Reinforced Timber/Masonry	CVEEN 3210	F	CVEEN 6XXX	CVEEN Graduate Courses	Dept. Consent & 3.20 EGPA	F/SP
CVEEN 5610	Water Chemistry	CVEEN 2140, 3610/15	F		Any 3+ credit, 3000+ level course from the College of Engineering or an ABET accredited program	Varies	F/SP
CVEEN 5710	Cost Estimating	CVEEN 3100	F				
CVEEN 5720	Project Scheduling	CVEEN 3100	F				
CVEEN 5730	Project Management	CVEEN 3100	SP				
CVEEN 5740	Horizontal Construction	CVEEN 3310/15	SP				
CVEEN 5750	Engineering Law & Contracts	CVEEN 3100	SU (even)				

*Semester availability is subject to change at the discretion of the department and does not create a binding contractual nexus or obligation between the student and the University of Utah*