### B.S. CONSTRUCTION ENGINEERING – TRADITIONAL MATH 2024

**FRESHMAN**

**Fall (14 hrs)**
- CVEEN 1000 Intro to Civil & Environmental Engineering (3)
- MATH 1050 or 1060 or MATH 1080 (3)
- CHEM 1210 Gen Chemistry I (PS) (4)

**Spring (15 hrs)**
- CVEEN 1400 Computer-Aided Design (3)
- PHYS 2210 Physics for Sci & Engineers I (3)
- CHEM 1210 Gen Chemistry I Lab (1)

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**SOPHOMORE**

**Fall (16 hrs)**
- CVEEN 2000 Seminar (3)
- CHEM 1220 Calculus II (4)
- MATH 2210 Calculus III (3)

**Spring (16 hrs)**
- CVEEN 2140 Strength of Materials (3)
- CHEM 2310 Probability & Statistics (3)
- MATH 2220 Calculus III (3)

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**JUNIOR**

**Fall (16 hrs)**
- CVEEN 2140 Structural Loads & Analysis (QL) (3)
- CHEM 2310 Probability & Statistics (3)
- MATH 3210 Linear Algebra (3)

**Spring (16 hrs)**
- CVEEN 3100 Technical Communication (CW) (3)
- CHEM 3310 Geotech (QI) (3)
- MATH 3250 Diff Equations & Linear Algebra (4)

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**SENIOR**

**Fall (15 hrs)**
- CVEEN 3210 Concrete I (3)
- CHEM 3315 Materials (QI) (3)
- MATH 3750 Diff Equations & Linear Algebra (4)

**Spring (15 hrs)**
- CVEEN 4221 Design Capstone (3)
- CHEM 3315 Materials (QI) (3)
- MATH 3750 Diff Equations & Linear Algebra (4)

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**Total Required Credit Hours: 123**

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### Requirements

- **Corequisite:**
  - MATH 1210 & PHYS 2210

- **Additional Science:**
  - CHEM 1210 Gen Chemistry I Lab (1)
  - PHYS 2215 Physics for Sci & Eng. I Lab (1)

- **Prerequisite:**
  - MATH 1210 & PHYS 2210

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### Additional Notes

- **Science Exploration:**
  - CHEM 1210 Gen Chemistry I Lab
  - PHYS 2215 Physics for Sci & Eng. I Lab

- **Course Used to Satisfy the Science Exploration:**
  - CHEM 1210 Gen Chemistry I Lab

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

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### Key

- **KEY:**
  - Full Major Status
  - Required Prerequisite
  - Corequisite

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**Updated March 8, 2024**
**TECHNICAL ELECTIVES**

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. 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 any section.

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### PRIMARY TECHNICAL ELECTIVES

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course Title</th>
<th>Pre-reqs</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVEEN 3410/15</td>
<td>Hydraulics</td>
<td>CVEEN 2140 &amp; 2310</td>
<td>F/SP</td>
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<tr>
<td>CVEEN 3610/15</td>
<td>Environmental Engineering</td>
<td>CHEM 1210 &amp; CVEEN 2140</td>
<td>F/SP</td>
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<tr>
<td>CVEEN 4222</td>
<td>Steel I</td>
<td>CVEEN 3210</td>
<td>SP</td>
</tr>
<tr>
<td>CVEEN 4999</td>
<td>Honors Thesis</td>
<td>Dept. Consent</td>
<td>F/SP</td>
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<td>CVEEN 5210</td>
<td>Structural Analysis II</td>
<td>CVEEN 3210</td>
<td>SP</td>
</tr>
<tr>
<td>CVEEN 5220</td>
<td>Concrete II</td>
<td>CVEEN 4221</td>
<td>SP (even)</td>
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<tr>
<td>CVEEN 5230</td>
<td>Steel II</td>
<td>CVEEN 4222</td>
<td>F (even)</td>
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<tr>
<td>CVEEN 5240</td>
<td>Reinforced Timber/Masonry</td>
<td>CVEEN 3210</td>
<td>F</td>
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<tr>
<td>CVEEN 5410</td>
<td>Engineering Hydrology</td>
<td>CVEEN 3410/15</td>
<td>SP</td>
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<tr>
<td>CVEEN 5420</td>
<td>Open Channel Flow</td>
<td>CVEEN 3410/15</td>
<td>F</td>
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<tr>
<td>CVEEN 5500</td>
<td>Sustainable Materials (IR)</td>
<td>CVEEN 3510/15</td>
<td>SP</td>
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<tr>
<td>CVEEN 5570</td>
<td>Pavement Design</td>
<td>CVEEN 3510/15</td>
<td>F</td>
</tr>
<tr>
<td>CVEEN 5605</td>
<td>Water &amp; Wastewater Treat.</td>
<td>CVEEN 3610/15</td>
<td>SP</td>
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### DESIGN TECHNICAL ELECTIVES

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course Title</th>
<th>Pre-reqs</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVEEN 5610</td>
<td>Water Chemistry</td>
<td>CVEEN 2140, 3610/15</td>
<td>F</td>
</tr>
<tr>
<td>CVEEN 5920</td>
<td>Special Topics</td>
<td>Dept. Consent</td>
<td>Varies</td>
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<tr>
<td>NUCL 3000</td>
<td>Nuclear Principles</td>
<td>CHEM 1220, MATH 1220, CVEEN 2010</td>
<td>SP (online)</td>
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<td>NUCL 3100</td>
<td>Radiation Interactions</td>
<td>CHEM 1220, MATH 1220, CVEEN 2010</td>
<td>SP</td>
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<tr>
<td>NUCL 3200</td>
<td>Radiochemistry</td>
<td>CHEM 1220, MATH 1220, CVEEN 2010</td>
<td>F (online)</td>
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<td>CVEEN 6XXX</td>
<td>CVEEN Graduate Courses</td>
<td>3.20 GPA &amp; Instructor Consent</td>
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<tr>
<td></td>
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<td>Any 3+ credit, 3000+ level course from the College of Engineering or an ABET accredited program</td>
<td>Varies</td>
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### ADDITIONAL TECHNICAL ELECTIVES

- CVEEN 5710: Cost Estimation & Proposal Writing (F)
- CVEEN 5730: Project Management & Contract Admin (SP)
- CVEEN 5750: Engineering Law & Contracts (SU 24/26)
- CVEEN 5305: Introduction to Foundations (F)
- CVEEN 5510: Highway Design (SP)

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*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.*