Civil Engineering Basic Science Electives

Students must complete one basic science elective selected from any Biological Science or Earth Systems Science course with approved GE II designation.

Civil Engineering Lower-Division Technical Elective

Select two courses; one from two of the following sections:

<table>
<thead>
<tr>
<th>Section A</th>
<th>Section B</th>
<th>Section C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engr 7A &amp; 7B*</td>
<td>CHEM 1LE</td>
<td>EECS 70A</td>
</tr>
<tr>
<td></td>
<td>CHEM 1C &amp; 1LC</td>
<td>ENGR 54</td>
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<td>ENGRCEE 80</td>
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<td>ENGRMAE 91</td>
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Notes:

- *ENGR 7A & 7B must both be taken to count as a lower division technical elective. ENGR 7A & 7B are available only to first year students in Fall & Winter quarters.
- CHEM 1LE cannot be completed after CHEM 1C & 1LC.
- Basic Science Electives and Lower-Division Technical Electives are taken in addition to a selected area of specialization. Refer to catalogue for specialization requirements.
**Specialization Information**

One specialization is required for Civil Engineering students. For each specialization, 3 of the 4 required courses must be specialization specific, but the 4th course can be any upper-division ENGRCEE course.

**Environmental Hydrology and Water Resources (4 courses):**
- Focuses on the hydrologic cycle, and the design and operation of systems for collecting, moving, and cleaning water. Includes courses in hydrology, watershed modeling, open channel design, wastewater treatment design, etc.
- Recommended specialization if you enjoyed ENGRCEE 170 and 171

**Structural Engineering (4 courses):**
- Focuses on the analysis and design of structural components to resist loads. Courses available include steel design, timber design, foundation design, earthquake engineering, etc.
- ENGRCEE 155 is required
- Recommended specialization if you enjoyed ENGRCEE 30, 150, 151A, and 151C

**Transportation Systems Engineering (4 courses):**
- Focuses on the planning, design, and operation of transportation systems. Courses available include network analysis, freeway operations, control systems, etc.
- ENGRCEE 122 and 123 are required
- Recommended specialization if you enjoyed ENGRCEE 121

**General Civil Engineering (4 courses):**
- Recommended if you want to learn about all 3 specializations
- Students select 3 courses: 1 from the 4 categories based on the different specializations. The last course can be from any category.

Notes: CEE 199 & 198 cannot count as a specialization course. Students can complete more than one specialization, but the courses cannot overlap (each specialization must have 4 unique courses).

For full course requirements and course descriptions visit Civil Engineering, B.S. < University of California Irvine (uci.edu)