



Civil Engineering

College of Engineering

The student of civil engineering has a broad field of study to provide a strong foundation for entry into the profession or graduate school. Major areas include construction engineering, environmental engineering, geotechnical engineering, materials engineering, structural engineering, transportation engineering, and water resources engineering.

Admission to the degree program is selective. Students should refer to the UK *Bulletin* for general information concerning admission and graduation requirements.

Degree Requirements

The following curriculum meets the requirements for a B.S. in Civil Engineering, provided the student satisfies University Studies and College of Engineering requirements.

Freshman Year

| First Semester | Hours |
|--|-------|
| CE 120 Introduction to Civil Engineering | 1 |
| CHE 105 General College Chemistry I | 3 |
| ENG 101 Writing I | 3 |
| MA 113 Calculus I | 4 |
| USP Humanities Elective | 3 |
| USP Social Sciences Elective | 3 |

| Second Semester | Hours |
|--|-------|
| CE 106 Computer Graphics and Communication | 3 |
| CHE 107 General College Chemistry II | 3 |
| ENG 102 Writing II | 3 |
| GLY 220 Principles of Physical Geology | 4 |
| MA 114 Calculus II | 4 |

Sophomore Year

| First Semester | Hours |
|--|-------|
| CE 211 Surveying | 4 |
| CE 303 Introduction to Construction Engineering* | 4 |
| MA 213 Calculus III | 4 |
| PHY 231 General University Physics | 4 |
| PHY 241 General University Physics Laboratory | 1 |

| Second Semester | Hours |
|---|-------|
| CE 221 Applied Uncertainty and Risk Analysis in Civil Engineering | 3 |
| COM 252 Introduction to Interpersonal Communication | 3 |
| or | |
| COM 281 Communication in Small Groups | 3 |
| EM 221 Statics | 3 |
| MA 214 Calculus IV | 3 |
| PHY 232 General University Physics | 4 |
| PHY 242 General University Physics Laboratory | 1 |

Junior Year

| First Semester | Hours |
|---|-------|
| CE 331 Transportation Engineering* | 3 |
| CE 341 Fluid Mechanics I | 4 |
| CE 381 Civil Engineering Materials I* | 3 |
| EM 302 Mechanics of Deformable Solids | 3 |
| MNG 303 Deformable Solids Laboratory | 1 |
| Engineering Science Elective** | 3 |

| Second Semester | Hours |
|---|-------|
| CE 321 Civil Engineering Systems | 2 |
| CE 351 Introduction to Environmental Engineering* | 3 |
| CE 382 Structural Mechanics | 3 |
| CE 471G Soil Mechanics* | 4 |
| CS 221 First Course in Computer Science for Engineers | 2 |
| HIS 107 Western Culture: Science and Technology II (recommended USP humanities course) | 3 |

Senior Year

| First Semester | Hours |
|---|-------|
| CE 401 Seminar* | 1 |
| CE 461G Hydrology | 3 |
| Structures Elective† | 3 |
| Technical Electives*** | 6 |
| ECO 201 Principles of Economics I (recommended USP social sciences course) | 3 |

| Second Semester | Hours |
|--|-------|
| CE 429 Civil Engineering Systems Design* | 4 |
| CE Technical Design Elective†† | 3 |
| Supportive Elective††† | 3 |
| Technical Elective*** | 3 |
| USP Cross-Cultural Elective | 3 |

*CE communication throughout the curriculum component.

**To be chosen from ME 220 or EM 313.

***Technical Electives are to be chosen from any of the courses at the 300-level or above that carry a CE prefix and in which a student is qualified to enroll, exclusive of required courses. CHE 230 or CHE 236 and EM 531 are acceptable. **Engineering elective courses are typically taught once per year.**

†To be selected from: CE 482 or CE 486G and CE 487G (one of these will count as a technical elective).

††Choose from: CE 403, 451, 505, 533, 539, 549, 579, or 589. (NOTE: CE 579 is a co-requisite for CE 589.)

†††Each CE area has at least one recommendation for the supportive elective; please review the Optional Specialization section in the Civil Engineering Undergraduate Handbook.