

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 and project management, 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 UK Core and College of Engineering requirements.

Freshman Year

First Semester	Hours
EGR 101 Engineering Exploration I § Δ	1
EGR 102 Fundamentals of Engineering Computing	2
CIS/WRD 110 Composition and Communication I	3
MA 113 Calculus I	4
CHE 105 General College Chemistry I	4

Second Semester

EGR 103 Engineering Exploration II § Δ	2
CIS/WRD 111 Composition and Communication II	3
MA 114 Calculus II	4
PHY 231 General University Physics	4
PHY 241 General University Physics Laboratory	1
UK Core – Social Sciences	3

Sophomore Year

First Semester	Hours
CE 211 Surveying	4
CHE 107 General College Chemistry II	3
EM 221 Statics	3
MA 213 Calculus III	4
CE 106 Computer Graphics and Communication	3

Second Semester

EM 302 Mechanics of Deformable Solids	3
MNG 303 Deformable Solids Laboratory	1
MA 214 Calculus IV	3
PHY 232 General University Physics	4
PHY 242 General University Physics Laboratory	1
STA 381 Engineering Statistics – A Conceptual Approach (or approved CE equivalent)	3

Junior Year

First Semester	Hours
WRD 204 Technical Writing*	3
EES 220 Principles of Physical Geology	4
CE 303 Introduction to Construction Engineering	3
CE 341 Introduction to Fluid Mechanics	4
CE 381 Civil Engineering Materials I	3

Second Semester

CE 331 Transportation Engineering	3
CE 351 Introduction to Environmental Engineering	3
CE 382 Structural Analysis	3
Engineering Science Elective [1]	3
Math Elective or Science Elective [2]	3

Senior Year

First Semester	Hours
CE 461G Water Resources Engineering	4
CE 471G Soil Mechanics	4
CE 48X Structures Elective [3]	3
CE Design Elective [4]	3
UK Core – Citizenship - US	3

Second Semester

CE 401 Seminar	1
CE 429 Civil Engineering Systems Design	3
CE Design Elective [4]	3
Technical Elective [5]	3
UK Core – Humanities	3
UK Core – Global Dynamics	3

§ Transfer students who declare a major will take EGR 215, *Introduction to the Practice of Engineering for Transfer Students*, in place of EGR 101 and EGR 103.

Δ Students must complete both EGR 101 and EGR 103 to fulfill the UK Core Arts and Creativity requirement. Transfer students may satisfy the UK Core Arts and Creativity requirement by taking EGR 215.

*Graduation Composition and Communication Requirement (GCCR) course.

[1] ME 220 or EM 313.

[2] Math or Science Elective Options: MA 321, MA 322, MA 416G, MA 432G, BIO 208, CHE 230, CHE 236, EE 305, GEO 409, EES 550, EES 585, MNG 551, or the other half of the Engineering Science Elective in [1]. NOTE: MA 322 is required for a math minor.

[3] CE 482 or CE 486G.

[4] Students are required to select two design electives from different areas. Choose from: CE 508, CE 531 or CE 533, CE 534, CE 549, CE 551, CE 579, CE 589. **Design elective courses are typically taught once a year.**

[5] 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. **Engineering elective courses are typically taught once a year.**