

CIVIL ENGINEERING

Department of Civil and Environmental Engineering



Sample Four-Year Plan

First Year

1st Semester		sh	2nd Semester		sh
ALL	RHET:1030 Rhetoric	4	ALL	General Education Course	3
F/S	MATH:1550 Math I: Single Variable Calculus <i>(P: ALEKS score ≥ 75 or MPT Level 3 score ≥ 9)</i>	4	ALL	MATH 1560 Math II: Multivariable Calculus <i>(P: MATH:1550)</i>	4
ALL	CHEM:1110 Principles of Chemistry I <i>(P: ALEKS score ≥ 55 or MPT Level 3 score ≥ 9)</i>	4	ALL	MATH:2550 Math III: Matrix Algebra <i>(P: MATH:1550)</i>	2
F	ENGR:1100 Intro to Engineering Problem Solving	3	ALL	PHYS:1611 Introductory Physics I / Lab <i>(C: MATH:1550)</i>	4
F	ENGR:1000 Engineering Success for First-Year Students <i>(First semester standing)</i>	1	F/S	ENGR:1300 Intro to Engineering Computing <i>(C: MATH:1550)</i>	3
		16			16

Second Year

3rd Semester		sh	4th Semester		sh	
ALL	MATH:2560 Math IV: Differential Equations <i>(P: MATH:1560 & MATH:2550)</i>	3	ALL	General Education Course	3	
F/S	PHYS:1612 Introductory Physics II / Lab <i>(P: PHYS:1611; C: MATH:1560)</i>	4	ALL	STAT:2020 Probability & Statistics For Engr & Phys Sci <i>(P: MATH:1560)</i>	3	
ALL	CHEM:1120 Principles of Chemistry II <i>(P: CHEM:1110 with a minimum grade of C-)</i>	4	OR	ALL*	ENGR:2710 Dynamics <i>(P: ENGR:2110 & MATH:1550)</i>	3
ALL	ENGR:2110 Statics <i>(P: MATH:1550; C: MATH:1560 & PHYS:1611)</i>	2	ALL*	ENGR:2750 Mechanics of Deformable Bodies <i>(P: ENGR:2110; C: MATH:2560)</i>	3	
ALL	ENGR:2130 Thermodynamics <i>(P: CHEM:1110 & PHYS:1611; C: MATH:1560)</i>	3	S	CEE:3763 Principles of Transportation Engineering <i>(sophomore standing)</i>	3	
ALL	CEE:1030 Intro to Earth Science (no lab required)	3	S	CEE:2010 Professional Practice and Ethics	1	
F	CEE:2015 Civil Engineering Tools	2	S	CEE:3002 Technical Communication in CEE <i>(sophomore standing)</i>	1	
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Third Year

5th Semester		sh	6th Semester		sh
F/S	ENGR:2510 Fluid Mechanics <i>(P: MATH:2560 & ENGR:2710; C: ENGR:2130)</i>	4	ALL	General Education Course	3
F	CEE:3530 Geomechanics <i>(P: ENGR:2750)</i>	4	S	CEE:3155 Principles of Environmental Engineering <i>(P: CHEM:1110)</i>	4
F	CEE:3533 Principles of Structural Engineering <i>(P: ENGR:2750)</i>	4	S	CEE:3371 Principles of Hydraulics and Hydrology <i>(P: ENGR:2510)</i>	3
ALL	Elective: Focus Area, Minor, Certificate, etc.	3	S	CEE:3586 Civil Engineering Materials <i>(P: ENGR:2750)</i>	3
F	CEE:3001 Leadership Skills for Engineers <i>(junior standing)</i>	1	ALL	Elective: Focus Area, Minor, Certificate, etc.	3
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Fourth Year

7th Semester		sh	8th Semester		sh
ALL	General Education Course	3	ALL	General Education Course	3
F	Civil and Env. Engr Design Course*	3	F/S	CEE:4850 Project Design & Management in CEE <i>(P: final semester; C: CEE:3003)</i>	3
F	Civil and Env. Engr Design Course*	3	ALL	Elective: Focus Area, Minor, Certificate, etc.	3
ALL	Elective: Focus Area, Minor, Certificate, etc.	3	ALL	Elective: Focus Area, Minor, Certificate, etc.	3
ALL	Elective: Focus Area, Minor, Certificate, etc.	3	ALL	Elective: Focus Area, Minor, Certificate, etc.	3
F	CEE:3003 Project Management Skills <i>(senior standing)</i>	1			
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CIVIL ENGINEERING

Engineering Student Development Center
Academic and Career Advising
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CAREERS

- **City/County Engineer:** Plans and manages civil engineering projects for a city or county.
- **Civil Engineer:** Conceives, designs, builds, supervises, constructs and maintains infrastructure projects and systems in the public and private sector (i.e., buildings, roads, bridges, canals, water and sewage systems, and railways).
- **Construction Engineer:** Works as a member of the construction company to manage all aspects of construction projects, including cost estimating, scheduling, construction activities, and site safety.
- **Geotechnical Engineer:** Uses principles of soil and rock mechanics to investigate subsurface conditions and materials; evaluates stability of natural slopes and man-made soil deposits; and monitors assesses risks posed by site conditions.
- **Project Engineer/Manager:** Plans and manages projects for the construction or repair of buildings and infrastructure projects. Monitors construction and supervises field personnel assigned to a task, data collection or a specific project.
- **Regulator:** Works for a local, state, or federal agency to review proposed projects for compliance with codes and standards.
- **Structural Engineer:** Responsible for engineering design and structural analysis of buildings, bridges, pipelines, industrial, tunnels, vehicles, ships, aircraft and spacecraft.
- **Transportation Engineer:** Designs, constructs, and maintains transportation infrastructures (i.e., streets, canals, rail systems, airports, and mass transit) to allow for the safe, efficient, and economical movement of people and goods.
- **Water Resources Engineer:** Engaged in the analysis and design of stormwater drainage systems, detention ponds and wetlands to reduce flooding, mapping flood prone areas, control of erosion and sedimentation, and restoring the natural function of streams and rivers.

*Some of these positions may require an advanced degree.

SPECIALIZATIONS WITHIN THE FIELD

- Building construction
- Civil engineering materials
- Community development
- Geotechnical
- Highway design & planning
- Infrastructure systems
- Land Development
- Municipal transportation
- Pollution control
- Public works projects
- Railroads
- Solid waste & recycling
- Surveying
- Sustainable development
- Transportation
- Urban planning
- Water resources

EMPLOYERS

- Ament Design
- Andrews Engineering
- Arc Design Resources, Inc
- Baisch Engineering
- Burns McDonnell
- Chastain Associates, LLC
- Collins Engineers
- Dept of Transportation
- FedEx
- Gilbane Building Co
- Geotech Inc
- HBK Engineering
- HR Green
- Kansas Dept of Transportation
- Manhard Consulting
- Oneida Total Integrated Enterprises
- Shive Hattery
- Shoemaker Haaland Prof Engineers
- Snyder Associates

<https://careers.uiowa.edu/post-graduation-data#employment-report>

Engineering Career Services
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