### Undergraduate Program Overview

#### Course Sequence
- **MAC 2281/2311**: Calculus I for Eng. (4)
- **CHM 1045**: General Chemistry I (3)
- **CHM 1045L**: General Chemistry I Lab (1)
- **SLS 1501**: Freshman Experience (1)
- **ENC 1101**: Writing & Rhetoric I (3)
- **UCC Social Science: Group One (3)**

#### Core Courses
- **MAC 2282/2312**: Calculus II for Eng. (4)
- **PHY 2048**: Physics with Calculus (4)
- **PHY 2048L**: General Physics Lab I (1)
- **EGN 1110C**: Engineering Drawing (3)
- **ENC 1102**: Writing & Rhetoric II (3)
- **CGN 2420**: Computer Tools for CE (3)
- **UCC Social Science: Group Two (3)**

#### Elective Courses
- **MAP 2302**: Differential Equations (3)
- **EGN 3311**: Statics (3)
- **PHY 2049**: Physics with Calculus II (4)
- **EGS 2030**: Ethics & Legal Issues (1)
- **GLY 1010 (3)** & **GLY 1010L (1)**
- **UCC Humanities: Group One (3)**

#### Advanced Courses
- **WWR 3201**: Geotechnical Engineering I (3)
- **EGM 3520**: Mechanics of Materials (3)
- **EGM 3520L**: Materials Testing Lab (1)
- **ENV 3001 (GL)**: Environmental Engineering (3)
- **ENV 3001L**: Environmental Lab I (1)
- **SUR 2101C**: Surveying (3)

#### Design Electives
- **CGN 4930**: Fundamentals of Pavement Design
- **CGN 2420**: Computer Tools for CE (3)
- **UCC Social Science: Group Two (3)**

#### Environmental and Water Resources Electives
- **CWR 4204**: Hydraulic Engineering
- **CWR 4530**: Modeling Appl. In Water Resources Eng.
- **EGN 4070**: Engineering for Global Sustainability and Environmental Protection (GL) (SPRING ONLY)
- **ENV 4024**: Bioremediation Engineering
- **ENV 4101**: Fundamentals of Air Pollution Engineering
- **ENV 4330**: Hazardous Waste Assessment & Remediation
- **ENV 4351**: Solid and Hazardous Waste Management
- **ENV 4401**: Water Supply Engineering
- **ENV 4513**: Chemistry for Environmental Engineers
- **ENV 4550**: Wastewater Treatment Engineering
- **ENV 4560**: Reactor Design
- **ENV 4930**: Special Topics: Indoor Air Quality

#### Additional Requirements
- **Civics Literacy**: ___________
- **Civics Literacy**: ___________
- **Summer Req.:** ___________
- **Design Electives (6)**: ___________

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**Legends**
- = Coreqs

**Academic Progression Standards** - Students who do not pass common prerequisites after 2 attempts will be advised to change their major into an area where they can be successful. Drops after the add/drop period, which result in a DR grade, are considered an attempt in the course and count as an unsuccessful enrollment.

**Global Learning (GL)** indicates Global Learning course. Students are required to take 2 GL courses, and at least 1 must be discipline-specific.

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- **CWR 3201**: Fluid Mechanics (3)
- **CWR 3201L**: Fluids Lab (1)
- **CES 3100**: Structural Analysis (3)
- **EGN 3613**: Engineering Economy (3)
- **STA 3033**: Prob. & Statistics (3)
- **UCC Arts (3)**

- **CWR 3540**: Water Resources (3)
- **CE Elective (3)**
- **TTE 4201**: Transportation & Traffic (3)

- **CCE 4031**: Project Planning For CE (3)
- **CE Elective (3)**
- **CEN 4802 CE**: Senior Design Project (3)
- **Engineering Design Elective (3)**
- **CE Elective (3)**
- **CGN 4980**: CE Seminar (1)

- **Environmental and Water Resources Electives**
  - **CWR 4204**: Hydraulic Engineering
  - **CWR 4530**: Modeling Appl. In Water Resources Eng.
  - **EGN 4070**: Engineering for Global Sustainability and Environmental Protection (GL) (SPRING ONLY)
  - **ENV 4024**: Bioremediation Engineering
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  - **ENV 4330**: Hazardous Waste Assessment & Remediation
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**Global Learning (GL)** indicates Global Learning course. Students are required to take 2 GL courses, and at least 1 must be discipline-specific.
MAC 2311/MAC 2281 Calculus I (4)  
Prereqs: MAC 1147 OR MAC 1140 & MAC 1114  
MAC 2312/MAC 2282 Calculus II (4)  
Prereq: MAC 2311 or MAC 2281  
MAC 2313/ MAC 2283 Multivariable Calculus (4)  
Prereq: MAC 2312 or MAC 2282  
MAP 2302 (3)  
Prereq: MAC 2312 or MAC 2282  
PHY 2048 Physics with Calculus I (4)  
Prereq: MAC 2312 or MAC 2282  
PHYS 2048L Physics with Calculus I Lab (1)  
Coreq: PHY 2048L  
PHY 2048 Physics with Calculus II (4)  
Prereq: PHY 2048 & MAC 2312 or MAC 2282  
CHM 1045L General Chemistry I Lab (1)  
Prereq: CHM 104  
CHM 1045 General Chemistry I (3)  
Coreq: CHM 1045L  
CHM 2420 Computer Tools (3)  
Prereq: MAC 2312 or MAC 2282, PHY 2048  
EGN 1100C Engineering Drawing (3)  
No Prereqs  
EGS 2030 Ethics & Legal Issues (1)  
No Prereqs  
EGN 3311 Statics (3)  
Prereqs: MAC 2312 or MAC 2282 & PHY 2048  
Coreq: MAC 2313 or MAC 2283  
EGN 3321 Dynamics (3)  
Prereq: EGN 3311  
EGN 3520 Mechanics of Materials (3)  
Prereqs: CGN 2420, MAC 2283 or MAC 2313, & EGN 3311  
Coreq: EGM 3520L, MAP 2302,  
EGN 3520L Mechanics of Materials Lab (1)  
Prereqs: MAC 2282 or MAC 2312, EGN 3311  
Coreq: EGM 3520  
ENVE 3001 Environmental Engineering (3)  
Prereqs: MAC 2283 or MAC 2313, CHM 1045, CHM 1045L  
Coreq: ENV 3001L  
ENVE 3001L Environmental Engineering Lab (1)  
Prereqs: MAC 2312 or MAC 2282, & CGN 2420  
Coreq: ENV 3001L  
SUR 2101C Surveying (3)  
Prereq: EGN 1100C  
CWR 3201 Fluid Mechanics (3)  
Prereqs: MAC 2312, MAP 2302, EGN 3321  
Coreq: CWR 3201L  
CWR 3201 Fluid Mechanics Lab (1)  
Prereq: MAP 2302, EGN 3321  
Coreq: CWR 3201  
CES 3100 Structural Analysis (3)  
Prereqs: EGM 3520, EGM 3520L  
EGN 3613 Engineering Economy (3)  
No Prereqs  
STA 3033 Probability & Statistics (3)  
Prereq: MAC 2312  
EGN 3615 Evaluation of Engineering Data (3)  
Prereq: MAC 2312  
EGM 4011 Geotechnical Engineering (3)  
Prereqs: GLY 1010, GLY 1010L, CWR 3201, CWR 3201L, EGM 3520, EGM 3520L  
Coreq: CEG 4011L  
EGG 4011L Geotechnical Engineering Lab (3)  
Prereq: CWR 3201, CWR 3201L, EGM 3520, EGM 3520L  
Coreq: CEG 4011L  
CWR 3540 Water Resources (3)  
Prereqs: CWR 3201, CWR 3201L, STA 3033 or ESI 3215  
TTE 4201 Transportation & Traffic (3)  
Prereqs: EGN 3321, SUR 2101C, STA 3033 or ESI 3215  
CCE 4031 Project Planning for CE (3)  
Prereq: CES 3100  
Coreq: CEG 4011  
CES 4702 Reinforced Concrete Design (3)  
Prereq: CES 3100  
CWR 3540 Water Resources (3)  
Prereqs: CWR 3201, CWR 3201L, STA 3033 or ESI 3215  
TTE 4201 Transportation & Traffic (3)  
Prereqs: EGN 3321, SUR 2101C, STA 3033 or ESI 3215  
CCE 4031 Project Planning for CE (3)  
Prereq: CES 3100  
Coreq: CEG 4011  
CGN 4802 CE Senior Design Project (3)  
Prereqs: CEG 4011, CEG 4011L, TTE 4201, CES 3100  
CGN 4980 CE Seminar to pass FE Exam (1)  
Prereqs: EGN 3613, ENV 3001, CES 3100, EGS 2030  
Coreq: CEG 4011, TTE 4201, CWR 3540  
ELECTIVES  
CCE 4001 Heavy Construction (3)  
Prereqs: CES 4702, CEG 4011  
CEG 4012 Geotechnical Engineering II (4)  
Prereqs: CEG 4011, CEG 4011L  
CEG 4126 Fundamentals of Pavement Design (3)  
Prereqs: TTE 4201, CEG 4011, CEG 4011L  
CES 3580 Hurricane Engineering (3)  
Prereq: PHY 2048  
CES 4605 Steel Design (3)  
Prereq: CES 3100  
CES 4711 Intro to Prestressed Concrete  
Prereq: CES 4702  
CGN 4011 Comp. Tech. & Visualization. for CE  
Prereqs: CGN 2420, CES 3100  
CGN 4510 Sustainable Building Engineering (3)  
Prereqs: CWR 3201, CWR 3201L  
CGN 4930 Spec. Topics: Intro to Const. Mgmt (3)  
Prereqs: CES 4702, CEG 4011  
CGN 4930 Spec. Topics: Numerical Methods (3)  
Prereq: Depends on Topic  
CGN 4321 GIS Application in Civil & Env Eng (3)  
Prereqs: TTE 4201 or ENV 3001 or CWR3540  
TTE 4102 Urban Transportation Planning (3)  
Prereq: TTE 4201  
TTE 4202 Traffic Engineering (3)  
Prereq: TTE 4201  
TTE 4203 Highway Capacity Analysis (3)  
Prereq: TTE 4201  
TTE 4804 Geometric Design of Highways (3)  
Prereq: TTE 4201  
CWR 4204 Hydraulic Engineering (3)  
Prereq: CWR 3201  
CWR 4530 Modeling Appl. In Water Res Eng. (3)  
Prereq: CWR 3201  
CWR 4530 Modeling Appl. In Water Res Eng. (3)  
Prereq: CWR 3201  
Coreq: CWR 3540  
EGN 4070 Eng. For Global Sustainability (3)  
Prereqs: ENV 3001 or PHY 2049 & CHM1045  
ENV 4024 Bioremediation (3)  
Prereqs: ENV 3001, ENV 3001L  
ENV 4101 Fundamentals of Air Pollution Eng. (3)  
Prereqs: CWR 3201, CWR 3201L, ENV 3001, ENV 3001L  
ENV 4330 Hazardous Waste Assessment (3)  
Prereqs: CHM 1045, CHM 1045L  
ENV 4351 Solid & Hazardous Waste Mgmt (3)  
Prereqs: CHM 1045, CHM 1045L  
ENV 4401 Water Supply Engineering (3)  
Prereqs: CWR 3201, CWR 3201L, ENV 3001, ENV 3001L  
ENV 4513 Chemistry for Env. Engineers (3)  
Prereqs: CHM 1045, CHM 1045L  
ENV 4551 Wastewater Treatment Engineering (3)  
Prereqs: CWR 3201, CWR 3201L, ENV 3001, ENV 3001L  
ENV 4560 Reactor Design (3)  
Prereqs: ENV 3001  
ENV 4930 Special Topics (3)  
Prereq: Depends on the topic