

# Geological Engineering

(ABET Accredited)  
Class of 2011

**Mathematics & Basic Science Requirements (9 Courses)**

CHM 201 or 207	MAT 103, 104	COS 126
PHY 103, 104	MAT 201, 202, or 203, 204	MAE 305

**Engineering Science Requirements (9 Courses out of 10)**  
(Core Courses)

CEE 205	CEE 308 or GEO 300	GEO 235
CEE 303	CEE 361	GEO 424 or 418
CEE 306 or 307	GEO 316 and/or CEE 365	ORF 245

**Engineering Design Requirements (4 Courses)**

CEE 471	CEE 477	CEE 478 – Senior Thesis (Counts as two courses)
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<i>Freshman Year</i>	
Fall	Spring
1. CHM 201 or 207	1. COS 126
2. MAT 104	2. MAT 201
3. PHY 103	3. PHY 104
4. _____	4. _____
5. _____	5. _____

<i>Sophomore Year</i>	
Fall	Spring
1. CEE 205	1. CEE 303
2. GEO 235	2. MAE 305
3. MAT 202	3. GEO 316
4. _____	4. _____
5. _____	5. _____

<i>Junior Year</i>	
Fall	Spring
1. CEE 361	1. CEE 306
2. ORF 245	2. CEE 308
3. GEO 424 or 418	3. _____
4. _____	4. _____
5. _____	5. _____

<i>Senior Year</i>	
Fall	Spring
1. CEE 471/477/461	1. CEE 478 (thesis)
2. CEE 478 (thesis)	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____

<i>Program Electives (4 or more)</i>	
1. _____	6. _____
2. _____	
3. _____	
4. _____	
5. _____	

<i>Humanities Electives (7 or more)</i>	
1. _____	6. _____
2. _____	7. _____
3. _____	8. _____
4. _____	9. _____
5. _____	

## Recommended Program Electives

Four or more Program Electives must be chosen from the list below. Three courses must provide a coherent sequence in the student's area of interest. Only one 200-level course may be chosen as a Program Elective. Any course listed under Engineering Science Requirements not used to fulfill that requirement may be used as a Program Elective. The single bullet (●) indicates course that are highly recommended.

### ***Civil and Environmental Engineering***

- CEE 262 Structures and the Urban Environment
- CEE 263 Rivers and the Regional Environment
- CEE 362 Structural Dynamics and Earthquake Engineering
- CEE 364 Materials in Civil Engineering
- CEE 366 Design of Reinforced concrete Structures
- CEE 375/376 Independent Research Project
- CEE 460 Risk Assessment and Management
- CEE 461 Design of Large-Scale Structures: Buildings
- CEE 472 Hydrometeorology and Remote Sensing
- CEE 477 Environmental and Civil Engineering Systems Planning and Design

### ***Other Engineering***

- MAE 221 Thermodynamics
- MAE 222 Mechanics of Fluids
- MAE 323 Advanced Solid Mechanics and Structural Design
- ORF 301 Elements of Interactive Computer Graphics
- ORF 307 Optimization

### ***Chemistry/Geology***

- CHM 303 Organic Chemistry I
- CHM 306 Physical Chemistry II
- CHM 305 Evolution and Catastrophes
- GEO 308 Sedimentology and Stratigraphy
- GEO 312 Introduction to Mineralogy and Petrology
- GEO 314 Igneous and Metamorphic Geology
- GEO 320 Introduction to Geophysics
- GEO 322/ENV 322 Biogeochemical Cycles and Global Change
- GEO 331 Introduction to Geochemistry
- GEO 336 Environmental Isotope Geochemistry
- GEO 399 Environmental Decision Making
- GEO 416 Evolution of the Continents
- GEO 417 Environmental Microbiology
- GEO 418 Environmental Aqueous Geochemistry
- GEO 419 The Earth as a Physical System
- GEO 424 Introductory Seismology and Oil Exploration
- GEO 425 Introduction to Physical Oceanography
- GEO 427 Introduction to Terrestrial and Planetary Atmospheres
- GEO 428 Biological Oceanography
- GEO 470 Environmental Chemistry of Soils
- GEO 499 Investigating Natural Hazards

- Highly recommended