

Technical Electives ABET Accredited in Environmental Engineering

Environmental Engineering students will complete a **minimum of 12 technical elective credit hours**. (*Students beginning the major prior to autumn 2012 may have a different minimum credit hour requirement through the semester transition*). Select at least **one course from Area 1** and **6 credit hours from Area 2**, with the remaining course work coming from any Area.

- **Area 1:** **Chemistry-based**
- **Area 2:** **Civil & Environmental Engineering**
- **Area 3:** **Additional Electives**

Up to **3 hours** of CE 2193, CE4193 (*Independent Study*), and CE4998(H), CE4999(H) (*Undergraduate Research*) can be used towards the required technical electives hours with the Undergraduate Studies Chair and Faculty Advisor approval.

Choose at least one course from below:

1. Chemistry-based

| Subject Course # | Course Title | Crd Hrs | Offered | Prerequisites |
|------------------|---------------------------------------|---------|--------------|--|
| Chem. 2210 | Analytical Chemistry | 5 | AU/SP | Chem. 1220 |
| Chem. 2520 | Organic Chemistry II | 4 | SP | Chem. 2510 |
| Chem. 4200 | Physical Chemistry | 3 | AU | Chem. 2210 or 2510; and Math 1152; and Physics 1251 or POI |
| Chem. 6550 | Atmospheric Chemistry | 3 | SP | Chem. 1220 and 4200 or POI |
| EarthSci 5621 | Introduction to Geochemistry | 3 | AU | Chem 1220 or above; Sr standing; or POI |
| EarthSci 5622 | Stable Isotope Biogeochemistry | 3 | TBD | Sr standing; or POI |
| EarthSci 5718 | Aquatic Geochemistry | 3 | SP (even) | Chem. 1220 and Math 1151 |
| EarthSci 5719 | Environmental Organic Geochemistry | 3 | AU | EarthSci 5718 and Chem. 4200 or POI |
| ENR 5262 | Soil Chemical Processes & Env Quality | 3 | AU | Chem. 1220, or 1250 |

Choose at least 6 credit hours from area 2:

2. Civil and Environmental

| Subject Course # | Course Title | Crd Hrs | Offered | Prerequisites |
|------------------------------|--|---------|--------------|----------------------------|
| ENE 5120 | Advanced Environmental Biotechnology | 3 | SP (odd) | Micro 4000, ENE 5110 |
| ENE 5210 | Advanced Physical Chemical Treatment Processes | 3 | AU (odd) | ENE 3210 |
| ENE 5310 | Ecological Engineering and Science | 3 | SP | Jr or Sr standing |
| ENE 5410 | Hazardous Waste Management and Remediation | 2 | AU (even) | ENE 3200, or 511, or 520 |
| ENE 5430/ PubHEHS 7365 | Principles of Risk Assessment (course is cross listed with Public Health) | 3 | SP | ENE 3200 |
| CE 5001 | Intro to GIS | 3 | AU | CE 2050 |
| CE 2410 | Intro to Geomatics/Surveying | 3 | AU | Can take w/o prerequisite |
| CE 5420 | Remote Sensing in the Environment | 3 | SP | Can take w/o prerequisite |
| CE 5130 | Applied Hydrology | 3 | AU | CE 3160 |
| CE 5230 | Transport Phenomena In Water Resources Engineering | 3 | SP (even) | CE 3160; Math 2177 or 2173 |
| CE 3540 | Geotechnical Engineering | 3 | SP | ME 2010 or 2040; CE 2050 |
| CE 5422 | Terrain Analysis | 3 | AU | CE 2050 |
| | | | | |

3. Additional Electives

| Subject Course # | Course Title | Crd Hrs | Offered | Prerequisites |
|------------------|--|---------|---------|---|
| CHBE 5772 | Principles of Sustainable Energy | 3 | SP | Permission of Instructor |
| ISE 5450 | Industrial Ecology | 3 | TBD | Permission of Instructor |
| Earth Sci 5651 | Hydrogeology | 4 | AU | Earth Sci 1121; Math 1152 or POI |
| EarthSci 5655 | Land surface Hydrology | 3 | AU | Math 1152; Chem. 1210; Physics 1250 |
| ENR 5560 | Rehabilitation/Restoration of Ecosystems | 2 | AU | Sr standing; ENR 2100 or 201 an 2300 or 203; or POI |

**The Ohio State University
Civil, Environmental, and Geodetic Engineering**

UNDERGRADUATE TECHNICAL ELECTIVE APPROVAL FORM

ENVIRONMENTAL ENGINEERING

Name: _____

OSU E-Mail Address: _____ . _____ @buckeyemail.osu.edu

Faculty Advisor (please print): _____

The following has been planned with the assistance of my Faculty Advisor:

| The following courses meet the Area requirements | *HRS | Other Technical Electives | *HRS |
|--|-------|---------------------------|-------|
| Area 1: _____ | _____ | _____ | _____ |
| Area 2: _____ | _____ | _____ | _____ |
| Area 3: _____ | _____ | _____ | _____ |

INSTRUCTIONS: Environmental students will complete TE coursework selected from approved major Technical Electives List as outlined in the CEG Undergraduate Student Handbook. **Select at least 1 course from each of the 3 areas of concentration,** with the remaining hours coming from a combination of any other areas on the approved TE List. Please include any courses taken under quarters and TE hours required after the semester transition (as indicated on our TAP Worksheet on file with Advising Office).

Faculty Advisor's Recommendation (Signature): _____ Date: _____

Follow up meeting with the Faculty Advisor: _____ Date: _____

The professor who signs your Technical Elective Approval Form must be your Faculty Advisor. Your Faculty Advisor is visible on your 'Student Center' page. Please return this signed form to the Academic Advising Office to be included in your student file.

Please do not write below this line.

Original copy: Date Received: _____

Updated version: Date Received: _____

Advisor Notes: