**GRADUATE CERTIFICATE IN GEOENVIRONMENTAL ENGINEERING**

The certificate program in geoenvironmental engineering is designed to provide the necessary background for civil engineers to practice in the field of geoenvironmental engineering. The program will offer an in-depth understanding of the issues that a geoenvironmental engineer may encounter in practice.

Upon completion of the certificate program in geoenvironmental engineering, students will be able to design, analyze, and evaluate systems in geoenvironmental engineering. Students will be learn to understand soil mineralogy, clay–water–electrolyte systems, soil composition, fabric, structure, volume change behavior, permeability, coupled phenomena, and in-situ evaluation of soil behavior. Students will also learn about hazardous waste regulations, including RCRA and Superfund. Students will be able to analyze sites for transport and fate of hazardous substances, including elements of environmental toxicology, risk assessment, and hazard ranking, as well as monitoring, data collection, and evaluation. Finally, students will learn to design engineered processes for waste minimization, and containment systems for waste disposal and remediation.

To obtain the certificate in geoenvironmental engineering, students must complete a total of four courses, including three required courses and one elective course.

Visit the program website (https://www.cee.seas.gwu.edu/certificate-geotechnical-engineering/) for additional information.

**ADMISSIONS**

<table>
<thead>
<tr>
<th>Admission deadlines:</th>
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<tbody>
<tr>
<td>Fall – January 15</td>
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<tr>
<td>Spring – September 1</td>
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<tr>
<td>Summer – March 1</td>
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</tbody>
</table>

Standardized test scores: The Test of English as a Foreign Language (TOEFL), the Academic International English Language Testing System (IELTS), or the PTE Academic is required of all applicants except those who hold a bachelor’s, master’s, or doctoral degree from a college or university in the United States or from an institution located in a country in which English is the official language, provided English was the language of instruction. Minimum scores:

- Academic IELTS: an overall band score of 6.0 with no individual score below 5.0; or
- TOEFL: 550 on paper-based or 80 on Internet-based; or
- PTE Academic: 53.

**For more information on the admission process,** please visit the SEAS Frequently Asked Questions page. (http://graduate.seas.gwu.edu/apply/faq/)

**Contact for questions:** engineering@gwu.edu - 202-994-1802 (phone) - 202-994-1651 (fax) 9:00 – 5:00 pm, Monday through Friday

**REQUIREMENTS**

The following requirements must be fulfilled: 12 credits, including 9 credits in required courses and one 3-credit course.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CE 6401</td>
<td>Fundamentals of Soil Behavior</td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td>Title</td>
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<tr>
<td>CE 6509</td>
<td>Introduction to Hazardous Wastes</td>
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<tr>
<td>CE 6800</td>
<td>Special Topics (Containment Systems for Waste Disposal and Remediation Systems for Subsurface Contamination)</td>
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**Elective**

One course selected from following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>CE 6501</td>
<td>Aquatic Chemistry</td>
</tr>
<tr>
<td>CE 6504</td>
<td>Wastewater Treatment Design and Reuse</td>
</tr>
<tr>
<td>CE 6507</td>
<td>Advanced Technologies in Environmental Engineering</td>
</tr>
<tr>
<td>CE 6605</td>
<td>Ground Water and Seepage</td>
</tr>
<tr>
<td>CE 6610</td>
<td>Pollution Transport Systems</td>
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</tbody>
</table>