

Graduate International Pathway: Civil Engineering — Geotechnical track

Course Options

- **CE 5523. Retaining Structures. (3-0) 3 Credit Hours.**
 - **Course description:** This course covers lateral earth pressure theories and their applications in various retaining wall designs. The included types of retaining walls are mechanically stabilized earth (MSE) wall, soil nail wall, tie-back wall, soldier pile wall, and drilled shaft wall. Students will be required to design and analyze different types of retaining structures using the learned theories. In addition, popular computer software packages will also be introduced in this course as design tools.

- **CE 5533. Slope Stability. (3-0) 3 Credit Hours.**
 - **Course description:** The course includes advanced theories of soil strength and failure, theories of lateral earth pressure with applications, infinite slope analysis, limit equilibrium slope analysis, finite element slope analysis, and mechanics and analysis of reinforced slopes using finite element software and spreadsheet applications.

- **CE 5543. Ground Improvement. (3-0) 3 Credit Hours.**
 - **Course description:** This course covers the fundamental principles and concepts of ground improvement methods. How to use these concepts for design and analysis of various ground improvements. The content of this course focus on the applicability of various ground improvement, design and analysis methods and construction details.