GRADUATE CERTIFICATE IN TAILINGS ENGINEERING

This certificate will give students an introduction to tailings and mine waste concepts and practices with this four-course series that instills key core competencies and skills needed to practice as a tailings engineer. Students learn how, and why, to apply aspects of tailings engineering. This certificate program prepares engineers or other professionals in the geotechnical and geoenvironmental engineering needed to practice the environmental stewardship of mine waste from planning through implementation to post closure.

Learning Outcomes

Upon successful completion, students will be able to:

1. Identify fundamental components tailings management.

2. Define fundamental properties of tailings and mine waste that govern engineering behavior.

3. Analyze engineering performance of tailings and mine waste storage facilities.

4. Assess strength, volume change, and fluid flow behavior of tailings.

5. Collaborate on environmental, social, and governance (ESG) aspects of tailings management.

Program Requirements Effective Fall 2023

Additional coursework may be required due to prerequisites.

Code	Title	Credits
CIVE 555	Mining Geotechnics	3
Select 3 courses from the following:		9
CIVE 556	Slope Stability, Seepage, and Earth Dams	
CIVE 558	Containment Systems for Waste Disposal	
CIVE 559	Special Topics in Geotechnical Engineering	
CIVE 655	Advanced Soil Mechanics	
CIVE 659	Advanced Topics in Geo-Engineering	
Program Total Credits:		**12**

*This certificate may have courses in common with other graduate certificates. A student may earn more than one certificate, but a given course may be counted only in one certificate program.