GRADUATE CERTIFICATE IN HYDRAULIC DESIGN

This certificate will give students an introduction to applied hydraulic design concepts and practices with this three-course series that instills the key core competencies and skills needed to practice as a hydraulic engineer. Students learn how, and why, to apply aspects of hydraulic structures. This certificate program prepares engineers or other professionals in the water, energy, or environmental resources to lead hydraulic design projects from concept creation to implementation. Whenever water must be managed, moved or stored, some form of hydraulic design is required to facilitate these processes.

Learning Outcomes

1. Relating the definition, application, and essential importance of hydraulic engineering to the completion of many civil & environmental engineering projects

2. Extending hydraulic-engineering knowledge substantially beyond the baccalaureate level

3. Understanding the roles of various hydraulic structures and systems

4. Understanding the main hydraulics processes associated with the performance of hydraulic structures and systems

5. Choosing pertinent instrumentation and methods for measuring and monitoring the hydraulics processes associated with hydraulic structures and systems

Students will gain an advanced-level understanding of key concepts and tool sets required in hydraulic engineering as applied in the development of many engineering projects.

Requirements
Effective Fall 2023

Additional coursework may be required due to prerequisites.

Code	Title	Credits
Select 9 credits from the following:		9
CIVE 511	Coastal Engineering	
CIVE 512	Irrigation Systems Design	
CIVE 513	Morphodynamic Modeling	
CIVE 514	Hydraulic Structures/Systems	
CIVE 556	Slope Stability, Seepage, and Earth Dams	
CIVE 571	Pipeline Engineering and Hydraulics	
CIVE 612	Open Channel Flow	
CIVE 613	River Restoration Design	
Program Total Credits:		**9**

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