GRADUATE CERTIFICATE IN HYDRAULIC DESIGN

Whenever water must be managed, moved or stored, some form of hydraulic design is required to facilitate these processes. 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.

Students interested in graduate work should refer to the Graduate and Professional Bulletin (https://catalog.colostate.edu/general-catalog/graduate-bulletin/).

Learning Objectives

Upon successful completion, students will be able to:

1. Relate the definition, application, and essential importance of hydraulic engineering to the completion of many civil & environmental engineering projects.
2. Extend hydraulic-engineering knowledge substantially beyond the baccalaureate level.
3. Describe the roles of various hydraulic structures and systems.
4. Explain the main hydraulics processes associated with the performance of hydraulic structures and systems.
5. Choose pertinent instrumentation and methods for measuring and monitoring the hydraulics processes associated with hydraulic structures and systems.
6. Gain an advanced-level understanding of key concepts and tool sets required in hydraulic engineering as applied in the development of many engineering projects.