

CIVE 401 HYDRAULIC ENGINEERING

COLORADO STATE UNIVERSITY

Spring 2018

Instructor: Dr. Timothy K. Gates, B209 Engineering, 970-491-5043, tkg@engr.colostate.edu
Office Hours: 10 - 11 Monday, 2:30 – 4 Wednesday, or by appointment.

Teaching Assistant: To be announced

Objectives: To introduce students to the basic approach and methods for effective application of fluid mechanics principles in the analysis and design of hydraulic systems.

Tentative Schedule:

Date	Topic
17 January	Introduction to the Course
19 – 22 January	Principles of Hydraulic Systems Analysis and Modeling
22 January – 28 February	Analysis and Design of Open-Channel Flow Systems; Specific Energy and Channel Transitions; Hydraulic Jumps; Regulating Structures, Control Structures, and Measurement Structures
2 March	<i>Midterm Exam I</i>
5 – 9 March	Energy Grade Line and Hydraulic Grade Line in Pipe Flow; Parallel and Branched Flow in Pipelines
10 - 18 March	Spring Break
19 - 26 March	Analysis and Design of Pipe Network Flow Systems
28 March - 11 April	Pumps and Pumping Systems
13 April	<i>Midterm Exam II</i>
16 April – 2 May	Dams and Spillways; Stilling Basins and other Energy Dissipation Structures
4 May	Course Review
10 May	<i>Final Exam (11:50AM – 1:50PM)</i>

Text: Chin, D. A. (2013). *Water Resources Engineering*. 3rd Ed., Pearson.

Website: CIVE 401 is published on the **Canvas** online learning system.

Homework: Typically, eight to ten problems will be assigned each week. Usually, problems will be posted each Friday on the class website and will be due on the following Friday. Though *all problems must be turned in*, three problems out of each homework assignment will be indicated by the instructor as candidates for grading

and only one of those three will be thoroughly graded. Points will be deducted for problems that were assigned but the student failed to work.

This course will adhere to the Academic Integrity Policy of the Colorado State University General Catalog and the Student Conduct Code

(<http://tilt.colostate.edu/integrity/pledge/>). The Honor Pledge (attached) with a place for the student's signature must be applied to every exam and assignment turned in for this course. Please make sure that you read, understand, and comply with the **Policy on Academic Integrity in Homework in CIVE 401** published on the **Canvas** class website. **Late homework will not be accepted except in the case of a warranted emergency.**

Solutions to all assigned problems will be posted on the website after about a week. Reading assignments also will be made, for which students will be held responsible.

Grading: Homework Problems – 20% of grade; two Midterm Exams – 25% each; Final Exam – 30%.

A: 90-100%
B: 80-89%
C: 70-79%
D: 60-69%
F: <60%

Term grades for this course will use the +/- grading system as described in the CSU catalog.