

Clackamas Community College
Online Course/Outline Submission System

Show changes since last approval in red

Print

Edit

Delete

Back

Reject

Publish

Section #1 General Course Information

Department: Engineering Science

Submitter

First Name: Matt

Last Name: LaForce

Phone: 3148

Email: laforce

Course Prefix and Number: MTH - 082B

Credits: 1

Contact hours

Lecture (# of hours): 11

Lec/lab (# of hours):

Lab (# of hours):

Total course hours: 11

For each credit, the student will be expected to spend, on average, 3 hours per week in combination of in-class and out-of-class activity.

Course Title: Waterworks Math I

Course Description:

Problem solving for waterworks applications. Introduction to basic algebra and mathematical concepts, conversions, and calculations encountered in the waterworks industry.

Type of Course: Developmental Education

Can this course be repeated for credit in a degree?

No

Are there prerequisites to this course?

No

Are there corequisites to this course?

Yes

Co-reqs: WET-111

Are there any requirements or recommendations for students taken this course?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ Fall

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

Upon successful completion of this course, students should be able to:

1. explain powers and scientific notation and how it is used in the water industry,
2. explain and use dimensional analysis to solve mathematical problems,
3. describe how to use rounding and estimating in the water industry,
4. demonstrate proficiency in using fractions, percents, unit conversions, and decimals;
5. explain and complete basic hydraulic calculations used in the waterworks industry,
6. solve waterworks math problems equivalent to those on State of Oregon Level 1 and Washington OIT certification exams.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Review of "basic" math used in water industry problem solving. Formulas for determining areas and volumes of common geometric shapes.
2. Continued review of basic math. Methods for making unit conversions in waterworks problem solving.
3. Practice calculating area and volume.
4. Introduction to the Fundamental Flow Equation.
5. Applications of the Fundamental Flow Equation.
6. Waterworks applied hydraulics, hydrostatic pressure.
7. Waterworks applied hydraulics, hydraulic detention time.
8. Waterworks applied hydraulics: flow rate, pipe size and velocity.
9. Calculating chlorine disinfectant C X T values.

Does the content of this class relate to job skills in any of the following areas:

- | | |
|--------------------------------------|------------|
| 1. Increased energy efficiency | No |
| 2. Produce renewable energy | No |
| 3. Prevent environmental degradation | Yes |
| 4. Clean up natural environment | Yes |
| 5. Supports green services | No |

Percent of course: 100%

First term to be offered:**Next available term after approval**

:
