Curriculum Committee Agenda

May 16, 2025 (8-9:30am)

	Presenter	Action
1. Welcome	**Chair**	
2. Approval of Minutes	**Chair**	Approval
3. Consent Agenda a. Course Number Changes b. Course Title Change c. Reviewed Outlines for Approval	**Chair**	Approval
4. Course and Program Approvals		
a. **Automotive Course Inactivations** a. AB-101, AB-105, AM-100, AM-106, AM-116, AM-118	*Dustin Bates*	Approval/25.SU
b. **PHB-112 Instructional Hours Change**	**Virginia Chambers**	Approval/25.SU
c. **Employment Skills Training CC Amendment**	**Sub-Committee**	Approval/25.SU
d. **AS, English, PSU Suspension**	**Amanda Coffey**	Approval/25.SU
5. Old Business a.		
6. New Business a.		
7. Closing Comments		

Curriculum Committee Minutes

May 2, 2025 (8-9:30am)

Present: ASG (Cadence Gillespie), Keely Baca, Nora Brodnicki (Co-Chair), Debra Carino, Elizabeth Carney, Virginia Chambers, Amanda Coffey, Juan Cortes, Ephanie Debey, SD DeWaay, Megan Feagles (Recorder), Erin Gravelle, Dawn Hendricks, Kari Hiatt, Kara Leonard, Gentiana Loeffler, Kelly Mercer (Co-Chair), Deanna Myers, Carrie Sandberg, Charles Siegfried, AJ Smith, April Smith, Aundrea Snitker, Sarah Steidl, Chris Sweet, Dru Urbassik
Guests: Christopher Konieczka
Absent: Dustin Bare, Armetta Burney, Sue Goff, Jordan Gulley, Danielle Hoffman, Frank Kilders, Eric Lee, Mike Mattson, Tracy Nelson, David Plotkin, Ashley Sears, Wryann Van Riper

1. **Welcome**
2. **Approval of Minutes**
    a. Approval of the April 18, 2025 minutes

    Motion to approve, approved

3. **Consent Agenda**
    a. Course Number Changes
    b. Course Title Change
    c. Reviewed Outlines for Approval

    Motion to approve, approved

4. **Course and Program Approvals**
    a. HOR-212 Instructional Method/Hours Change
        a. Christopher Konieczka presented
        b. Changing from 44 LE/LA to 20 LE/A, 10 LECT. Remains at 2 credits.
        c. Long-time AF instructor is retiring and we are re-focusing the course to meet current interests in flower design and sale that will be taught by new AF. Part of this is removing the focus on plant ID and targeting season extension and sales instead. Moving to 5 weeks matches with spring class HOR-214 Cut Flower Farming (new this year!) and creates a mini-series that may become part of an additional floral production certificate in the future. It also maximizes the fall field time in October when flowers are still growing and of harvestable quality.

        Motion to approve, approved

    b. **Early Childhood Education & Family Studies CC Amendment**
        a. Dawn Hendricks presented
        b. The program is changing names to avoid confusion with the Career Pathway. The new name is Early Learning CC. The program code is changing to CC.EARLYLEARNING.

        Motion to approve, approved
5. **Old Business**
    a.
6. **New Business**
    a. **General Education Sub-Committee Update**
        i. Aundrea Snitker presented
        ii. Looking for volunteers for the Sub-Committee. Hoping for 1-2 people from each division. You don't have to be a Curriculum Committee member.
        iii. New Gen Ed courses should be submitted in the fall by the 3rd Wednesday.
        iv. The Sub-Committee will hold monthly meetings. There will potentially be training during In-Service.
7. **Closing Comments**

-Meeting Adjourned-

Next Meeting: May 16, 2025 (8-9:30am)

Clackamas Community College

CONSENT AGENDA

1. Course Title Change

Course	Current Title	Proposed Title

2. Course Number Change

Course	Title	Proposed Course Number

3. Outlines Reviewed for Approval

Course	Title	Implementation
ART-121	Digital Tools	2025/SU
HS-282	Human Services Generalist III: CWE/Practicum	2025/SU
MTH-060	Algebra I	2025/SU
MTH-065	Algebra II	2025/SU
MTH-095	Algebra III	2025/SU
MUP-141	College Orchestra	2025/SU
MUS-219	MPT Seminar II	2025/SU
WET-010	Wastewater Operations I	2025/SU
WET-011	Waterworks Operations I	2025/SU
WET-020	Wastewater Operations II	2025/SU
WET-030	Wastewater Operations III	2025/SU
WET-031	Water Treatment	2025/SU
WET-110	Wastewater Operations I	2025/SU
WET-111	Waterworks Operations I	2025/SU
WET-112	Computer Applications for Water and Wastewater Operations	2025/SU
WET-120	Wastewater Operations II	2025/SU
WET-121	Waterworks Operations II	2025/SU
WET-125	High Purity Water Production I	2025/SU
WET-130	Wastewater Operations III	2025/SU
WET-130L	Wastewater Operations III Lab	2025/SU
WET-131	Water Treatment	2025/SU
WET-132	Collection & Distribution Lab	2025/SU
WET-180	Water & Environmental Projects I	2025/SU
WET-241	Aquatic Microbiology	2025/SU
WET-242	Hydraulics for Water & Wastewater	2025/SU
WET-245	Instrumentation & Control	2025/SU
WET-280	Water & Environmental Projects II	2025/SU
WR-246	Publishing Literature: Reading and Revising for Publication	2025/SU
WR-248	Publishing Literature: Editing and Marketing for Publication	2025/SU

Course Change Request

Date Submitted: 03/03/25 3:53 pm

Viewing: ART-121 : Digital Tools

Last approved: 11/01/23 5:10 am

Last edit: 03/04/25 7:05 am

Changes proposed by: Nora Brodnicki (norab)

Catalog Pages referencing this course

Art (ART)

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 03/04/25 7:05 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/07/25 9:39 pm Charles Siegfried (csiegfried): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 1, 2023 by Megan Feagles (megan.feagles)

Are you the Faculty Contact Person?	Yes
Course Prefix	ART - Art
Course Number	121
Department	Art
Division	Arts and Sciences
Course Title	Digital Tools

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	2.00
Variable Credit	No

Contact hours

Lecture	
Lec/Lab	44.00
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	

Community Education/Adult

Total 44

Proposed Effective Term Spring 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

An introductory course exploring digital systems used by artists and designers to create, see, process and communicate in a quickly changing world. Students will use phone and computer technologies to research ideas and create work related to the self, the world, spaces and places. They will also use technology to develop a personal aesthetic and art practice. Digital experience related to art practice and the world around us will be considered. Projects and critiques will introduce students to cultural themes and principles of design.

Type of Course (ACTI Code)

100 - Lower Division Collegiate

Select at least one of the following:

Discipline Studies

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Not Offered Every Year ~~Winter~~

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	demonstrate design concepts, elements and principles;
2	visualize and illustrate ideas and concepts in a variety of ways using digital technology;
3	describe art, design and digital tool concepts, within a larger cultural and art historical context;
4	utilize digital tools and design to engage and interact with others;
5	analyze personal work and values through self- and group-critiques.

Major Topic Outline

1 Taking projects through the design process (Research, Brainstorming, Sketching, Recording, Prototyping, Output, Critique) 2. Art/ Design Practice: Design Blog / Social Media.. Digital Asset Management / Archiving 3. Signs and Symbols / Form and Content. 4. Personal Aesthetic -

Visual Unity Across platforms: Style Sheet / Brand Guidelines. Typography, Digital 5. Meaning in Material - Compare same concept in a range of materials. 6. Artist/ Designer's role in Social Justice. 7. Online presentation of work.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Course Transferability

OUS school to which the course will transfer

OSU - Oregon State University

Comparable course(s)

OSU ART-121- Digital Core Studio ~~PSU ART-104 Digital Tools OSU ART-121- Foundations: Computers in Visual Arts~~

How does it transfer?

general education or distribution requirement
general elective
required or support for major

Evidence of transferability

Other. Please explain.

Explanation of other evidence of transferability

website

OUS school to which the course will transfer

PSU - Portland State University

Comparable
course(s)

PSU ART-104 Digital Tools ~~OSU ART-121- Foundations: Computers in Visual Arts~~

How does it transfer?

general education or distribution requirement
general elective
required or support for major

Evidence of transferability

Other. Please explain.

Explanation of other evidence of transferability

website

OUS school to which the course will transfer

~~UO - University of Oregon~~

Comparable
course(s)

~~PSU ART-104 Digital Tools OSU ART-121- Foundations: Computers in Visual Arts~~

How does it transfer?

~~general education or distribution requirement~~
~~general elective~~
~~required or support for major~~

Evidence of transferability

Please attach documentation

Reviewer Comments

Key: 183

Preview Bridge

Course Change Request

Date Submitted: 04/22/25 12:01 pm

Viewing: HS-282 : Human Services Generalist III: CWE/Practicum

Last approved: 03/22/24 3:50 am

Last edit: 04/22/25 12:01 pm

Changes proposed by: Yvonne Smith (yvonnes)

Catalog Pages referencing this course

Human Services (HS)

Programs referencing this course

AAS.HUMANSERVGEN: Human Services Generalist

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DTPS Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/22/25 12:22 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/02/25 2:18 pm Erin Gravelle (erin.gravelle): Approved for DTPS Curriculum Committee Outline Review Team

History

1. Jun 9, 2023 by Megan Feagles (megan.feagles)
2. Feb 21, 2024 by Megan Feagles (megan.feagles)
3. Mar 22, 2024 by Megan Feagles (megan.feagles)

Is Topic Shell Course?

Are you the Faculty Contact Person?	Yes
Course Prefix	HS - Human Services
Course Number	282
Department	Education, Human Services and Criminal Justice
Division	Technology, Applied Science and Public Services (TAPS)
Course Title	Human Services Generalist III: CWE/Practicum

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	2.00
Variable Credit	Yes
Max Credit	6.00
Variable Credit Increment	1

Contact hours

Lecture	
Lec/Lab	
Lab	

Activity	
Clinical	
Field	216.00
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	216
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Yes

Course Description

Cooperative work experience level III. Supervised experience in human services including but not limited to: social service; early childhood care; criminal/juvenile justice; gerontology, and other related occupations. May be repeated for up to 12 credits. Required: Student Petition.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

Yes

Up to how many credits can this course be repeated to satisfy a degree requirement?	12

Course Requisites

Required

Prerequisites

HS-170. HS-280 or HS-281

Corequisites

HS-270 ~~CWE-281~~

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

Yes

Show course in Schedule

Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Summer/Fall/Winter/Spring

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

Yes

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	engage in internship responsibilities with increasing independence;
2	research current employment and transfer opportunities in human services fields;
3	develop additional individualized learning objectives with the CWE instructor and fieldwork supervisor.

Major Topic Outline

Topics are dependent on the type of agency and the individual student's professional and academic aspirations.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Course Change Request

Date Submitted: 05/07/25 9:55 am

Viewing: MTH-060 : Algebra I

Last approved: 11/07/23 5:03 am

Last edit: 05/12/25 8:36 am

Changes proposed by: Kelly Mercer (kelly.mercer)

Catalog Pages referencing this course

- Biology (BI)
- Computer Science (CS)
- Course Descriptions
- Economics (EC)
- Emergency Medical Technology (EMT)
- Engineering (ENGR)
- Environmental Science (ESR)
- Math Course Pathways and Prerequisites
- Mathematics (MTH)
- Medical Assistant (MA)

Programs referencing this course

- CC.MEDASST: Medical Assistant
- CC.MEDBILLCODE: Medical Billing and Coding
- CC.EMTECH: Emergency Medical Technician

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

In Workflow

1. **Curriculum Office**
2. **DAFC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 05/07/25 9:57 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/12/25 9:59 am Juan Cortes (juan.cortes): Approved for DAFC Curriculum Committee Outline Review Team

History

1. Nov 7, 2023 by Megan Feagles (megan.feagles)

Are you the Faculty Contact Person?	Yes
Course Prefix	MTH - Mathematics
Course Number	060
Department	Mathematics
Division	Academic Foundations and Connections (AFAC)
Course Title	Algebra I

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	44.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers	

Ed

Community Education/Adult

Total 44

Proposed Effective Term Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Yes

Course Description

An introduction to the algebra sequence. This class starts from foundational skills of arithmetic to build a rich understanding of linear models. Variables are introduced to represent changing quantities in applications and are used in tables, graphs, expressions, equations, inequalities, and systems. Multiple algebraic representations and strategies are used both with and without technology. ~~Designed for review or for the beginner, this course is an introduction to topics in Algebra. Expressions, equations, inequalities, graphing, and functions are explored.~~

Type of Course (ACTI Code)

351 - Post Secondary Remedial Math

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

MTH-020 with a C or better, or placement in MTH-060

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Summer/Fall/Winter/Spring

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	critically assess progress as learners using self-reflection through the lenses of growth mindset, belonging, social-emotional health, and student skills; ~~perform basic arithmetic (review) for an application or situation and interpret the results;~~
2	apply properties of arithmetic to evaluate operations on numbers in applications, including with fractions and units; ~~simplify basic algebraic expressions for an application or situation and interpret the results;~~
3	utilize algebraic terminology and properties to read and manipulate expressions with variables; ~~solve linear equations and inequalities for an application or situation and interpret the results;~~
4	graph ordered pairs and linear relationships in a rectangular coordinate system; ~~graph linear equations in two variables for an application or situation and interpret the results;~~

	Upon successful completion of this course, students should be able to:
5	solve linear equations, inequalities, and systems algebraically and graphically; ~~apply the concepts of slope, intercepts, linear forms, vertical and horizontal lines, parallel and perpendicular lines for an application or situation and interpret the results.~~
6	interpret graphical, numerical, verbal, and symbolic models to answer questions in applications.

Major Topic Outline

Operations on integers and fractions
Order of operations with real numbers
Geometric models and formulas
Dimensional analysis
Understanding and using variables
Identifying parts of an algebraic expression
Evaluating algebraic expressions, including geometric applications
Solving linear equations
Graphing ordered pairs
Graphing and creating tables for linear relations
Interpreting points of interest in the graph of a linear relation and recognizing the importance of different forms of linear models
Modeling linear relations from applications
Using interval notation
Solving linear inequalities and graphing their solution(s)
Interpreting a system of two linear equations and solving graphically, numerically, and algebraically ~~1.1 Arithmetic with Negative Numbers 1.2 Fraction and Fraction Arithmetic 1.4 Absolute Value and Scientific Notation 1.5 Order of Operation 1.6 Set Notation and Types of Numbers 1.7 Comparison Symbols and Notation for Intervals 2.1 Variables and Evaluating Expressions 2.2 Geometry Formulas 2.3 Combining Like Terms 2.4 Equations and Inequalities as T/F Statements 2.5 Solving One Step Equations 2.6 Solving One Step Inequalities 2.7 Percentages 2.8 Modeling with Equations and Inequalities 2.9 Simplifying Expressions 3.1 Solving Multi-step Linear Equations 3.2 Solving Multi-step Linear Inequalities 3.3 Linear equations and Inequalities with Fractions 3.4 Isolating a Linear Variable 3.6 Ratios and Proportions 4.1 Cartesian Coordinates 4.2 Graphing Equations 4.3 Exploring Two Variable Data and Rate of Change 4.4 Slope of a Line 4.5 Slope-Intercept Form of a Line 4.6 Point-Slope Form of a Line 4.7 Standard Form 4.8 Horizontal, Vertical, Parallel and Perpendicular Lines 4.9 Summary of Graphing Lines~~

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1117

Preview Bridge

Course Change Request

Date Submitted: 05/07/25 9:56 am

Viewing: MTH-065 : Algebra II

Last approved: 09/15/23 4:34 am

Last edit: 05/12/25 8:37 am

Changes proposed by: Kelly Mercer (kelly.mercer)

Catalog Pages referencing this course

- Medical Assistant, Certificate
- Auto Body/Collision Repair and Refinishing Technology, AAS
- Automotive Service Technology, AAS
- Biology (BI)
- Chemistry (CH)
- Computer Science (CS)
- Computer-Aided Manufacturing, AAS
- Course Descriptions
- Dental Assistant, Certificate
- Digital Media Communications, AAS
- Early Childhood Education & Family Studies, AAS
- Early Childhood Education & Family Studies, Certificate
- Early Learning, Certificate
- Electronics Engineering Technology (EET)
- Emergency Medical Technology (EMT)
- Emergency Medical Technology, Certificate
- Environmental Science (ESR)
- Fitness Specialist, Certificate
- Front-End Web Development, Certificate
- Full-Stack Web Development, AAS
- General Science (GS)
- Geology (G)
- Gerontology, Certificate
- Horticulture, AAS
- Horticulture, Certificate
- Human Resource Management, Certificate
- Human Services Generalist, AAS
- Human Services Generalist, Certificate

In Workflow

1. **Curriculum Office**
2. **DAFC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 05/07/25 9:59 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/12/25 10:00 am Juan Cortes (juan.cortes): Approved for DAFC Curriculum Committee Outline Review Team

History

1. Sep 15, 2023 by Megan Feagles (megan.feagles)

Industrial Maintenance Technology Mechanical Maintenance, Certificate
Industrial Maintenance Technology, AAS
Industrial Maintenance Technology, Certificate
Landscape Management, AAS
Landscape Management, Arboriculture Option, AAS
Machine Tool Technology, AAS
Machine Tool Technology, Certificate
Math Course Pathways and Prerequisites
Mathematics (MTH)
Music Performance & Technology, AAS
Music Technology, AAS
Music Technology, Certificate
Organic Farming, Certificate
Physics (PH)
Project Management, AAS
Related Instruction
Renewable Energy Technology, AAS
Renewable Energy Technology, Certificate
Wildland Fire Management, AAS
Wildland Fire Science, Certificate

Programs referencing this course

CC.IMTMECHMAIN: Industrial Maintenance Technology Mecha Maintenan
AAS.INDMAINTECH: Industrial Maintenance Technology
CC.INDMAINTECH: Industrial Maintenance Technology
AAS.LANDSCAPEMGMT: Landscape Management
AAS.LANDMGMTARBOR: Landscape Management AAS, Arboric Option
AAS.AUTOSERTECH: Automotive Service Technology
AAS.MACHTECH: Machine Tool Technology
CC.MACHTECH: Machine Tool Technology
AAS.MUSICPERFTECH: Music Performance & Technology
CC.MUSICTECH: Music Technology
CC.ORGANICFARM: Organic Farming
AAS.PROJECTMNGT: Project Management
AAS.RNEWNRGYTECH: Renewable Energy Technology
CC.RNEWNRGYTECH: Renewable Energy Technology
AAS.FULLSTACK: Full-Stack Web Development
CC.FRONTENDDEV: Front-End Web Development
AAS.WLDLNDMGMT: Wildland Fire Management
CC.FSWILDLAND: Wildland Fire Science

CC.EMTECH: Emergency Medical Technician
AAS.MUSICTECH: Music Technology
CC.CNCOPERATOR: CNC Operator
CC.CAD: Computer-Aided Drafting (CAD)
AAS.COMPAIDEMFG: Computer-Aided Manufacturing
CC.DENTALASST: Dental Assistant
AAS.DMC1: Digital Media Communications
AAS.EARLYCHILDFAM: Early Childhood Education & Family Studies
CC.EARLYLEARNING: Early Learning
EFA.TEACHEDUC: EFA, Teaching & Education
CC.EMT: Emergency Medical Technology
CC.ENSYSMAIN: Energy Systems Maintenance
AGS.GENERAL: Associate of General Studies
CC.FITNESSSPEC: Fitness Specialist
AAS.ABCOLRRTECH: Auto Body/Collision Repair and Refinishing Technology
CC.GERONTOLOGY: Gerontology
AAS.HORT1: Horticulture
CC.HORT: Horticulture
CC.HUMANRESMNGT: Human Resource Management
AAS.HUMANSERVGEN: Human Services Generalist
CC.HUMANSERVGEN: Human Services Generalist

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

Are you the Faculty Contact Person?

Yes

Course Prefix	MTH - Mathematics
Course Number	065
Department	Mathematics
Division	Academic Foundations and Connections (AFAC)

Course Title	Algebra II

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	44.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	44
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Yes

Course Description

A second term in an algebra sequence, this course bridges foundational algebra skills to formal analysis of algebraic models. Linear and non-linear applications, including radical, absolute value, squaring, and polynomial relations are modeled graphically, numerically, and symbolically. Expressions, equations, and inequalities are utilized throughout. Multiple algebraic representations and strategies are used both with and without technology. ~~The second term of topics in algebra using the rule-of-four approach: graphs, tables, words, and equations. This course emphasizes algebraic skills, as well as problem solving and graphical techniques with the use of a graphing utility.~~

Type of Course (ACTI Code)

351 - Post Secondary Remedial Math

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

MTH-060 with a C or better, or placement in MTH-065

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Summer/Fall/Winter/Spring

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

Yes

Related Instruction Area: Computation

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	critically assess progress as learners using self-reflection through the lenses of growth mindset, belonging, social-emotional health, and student skills; ~~solve a linear system graphically or algebraically for an application or situation and interpret the results;~~
2	apply the properties of arithmetic and algebra to rearrange and evaluate expressions in numerical, linear, and non-linear forms; ~~perform exponential and polynomial arithmetic for an application or situation and interpret the results;~~
3	use exponent properties to evaluate expressions, including numbers in scientific notation and radical expressions; ~~perform factoring techniques and use them to solve polynomial equations for an application or situation, and interpret the results;~~
4	solve equations, inequalities, and systems graphically, symbolically, and numerically, including linear systems and radical, absolute value relations; ~~perform rational expression arithmetic for an application or situation and interpret the results;~~
5	solve polynomial and other non-linear equations and inequalities graphically; ~~apply function notation and use it interchangeably with y-notation for an application or situation and interpret the results.~~

	Upon successful completion of this course, students should be able to:
6	analyze real-world scenarios using algebraic, graphical, and numerical forms and strategies.

Major Topic Outline

Evaluating and simplifying expressions using the order of operations, including fractions
Performing operations on polynomials
Solving formulas for a variable to create a more useful form of the formula
Evaluating and simplifying expressions with exponents including products and quotients of exponential expressions, taking an exponential expression to a power, and working with negative exponents,
Converting between scientific notation and standard notation
Simplifying expressions with rational exponents
Simplifying radicals with square roots and cube roots
Applying arithmetic to radical expressions
Rationalizing the denominator with a single radical
Solving radical equations graphically and algebraically
Using radicals in applications
Solving absolute value equations and inequalities graphically and algebraically
Interpreting special solution cases
Using interval notation to write solutions
Showing solutions graphically
Using absolute value equations and inequalities in applications
Solving special forms of quadratic equations using the square root property
Solving non-linear equations and inequalities graphically
Using polynomials to solve applications ~~5.1 Solving Systems of Equations by Graphing 5.2 Solving Systems of Equations using Substitution 5.3 Solving Systems of Equations by Elimination 5.4 Applications of Systems of Linear Equations 6.1 Intro to Exponent Rules 6.2 Exponent Rules 6.3 Scientific Notation 6.4 Add/Sub Polynomials 6.5 Multiplying Polynomials 6.6 Special Cases of Mult Polynomials 6.7 Dividing Polynomials by a Monomial 7.1 Great Common Factor 7.2 Factor by Grouping 7.3 Factor Trinomials when a=1 7.4 Factor Trinomials ac-method 7.5 Factoring Special Polynomials 7.6 Factoring Strategies 7.7 Solving Quad Equations by Factoring with Applications 8.1 Intro to Functions 8.2 Rational Functions 8.3 Mult/Div Rational Expressions 8.4 Add/Sub Rational Expressions~~

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1118

Preview Bridge

Course Change Request

Date Submitted: 05/07/25 9:59 am

Viewing: MTH-095 : Algebra III

Last approved: 11/07/23 5:03 am

Last edit: 05/07/25 10:00 am

Changes proposed by: Kelly Mercer (kelly.mercer)

Catalog Pages referencing this course

- Chemistry (CH)
- Course Descriptions
- Electronics Engineering Technology (EET)
- General Science (GS)
- Geology (G)
- Math Course Pathways and Prerequisites
- Mathematics (MTH)
- Microelectronics Systems Technology, AAS
- Microelectronics Systems Technology, Certificate
- Music (MUS)
- Nursing (RN), AAS
- Physics (PH)
- Registration
- Zoology (Z)

Programs referencing this course

- CC.IMTMECHMAIN: Industrial Maintenance Technology Mechanical Maintenan
- AAS.INDMAINTECH: Industrial Maintenance Technology
- CC.INDMAINTECH: Industrial Maintenance Technology
- AAS.MACHTECH: Machine Tool Technology
- CC.MACHTECH: Machine Tool Technology
- CC.MECHATRONICS: Mechatronics
- AAS.MICROSYSTECH: Microelectronics Systems Technology
- CC.MICROSYSTECH: Microelectronics Systems Technology
- AAS.NURSING: Nursing (RN)

In Workflow

1. **Curriculum Office**
2. **DAFC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 05/07/25 10:01 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/12/25 10:00 am Juan Cortes (juan.cortes): Approved for DAFC Curriculum Committee Outline Review Team

History

1. Nov 7, 2023 by Megan Feagles (megan.feagles)

AAS.COMPAIDEMFG: Computer-Aided Manufacturing
AGS.GENERAL: Associate of General Studies
AS.PSUGEOLOGY: AS, Geology, PSU

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

Are you the Faculty Contact Person?

Yes

Course Prefix	MTH - Mathematics
Course Number	095
Department	Mathematics
Division	Academic Foundations and Connections (AFAC)
Course Title	Algebra III

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	44.00
Lec/Lab	

Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	44
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Yes

Course Description

This course focuses on foundational skills and ways of thinking that prepare a student for future STEM coursework. Linear, quadratic, and rational relations are approached through applications with a strong emphasis on modeling as a problem-solving technique. Multiple algebraic representations and strategies are used both with and without technology. ~~The third term of topics in algebra using the rule-of-four approach is designed to prepare students for transfer-level math courses. This course emphasizes problem-solving and graphical techniques with the use of a graphing utility.~~

Type of Course (ACTI Code)

351 - Post Secondary Remedial Math

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

MTH-065 with a C or better, or placement in MTH-095

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule

Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Summer/Fall/Winter/Spring

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

Yes

Related Instruction Area: Computation

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	critically assess progress as learners using self-reflection through the lenses of growth mindset, belonging, social-emotional health, and student skills; ~~solve and graph quadratic equations, including complex solutions, for an application or situation and interpret the results;~~
2	connect different ways of representing relations, including equations, graphs, tables, and verbal descriptions; ~~apply function notation as well as domain and range for an application or situation and interpret the results;~~
3	construct models – including linear, absolute value, piecewise, quadratic, and rational – to investigate real-world situations; ~~solve absolute value equations and inequalities, as well as compound inequalities, for an application or situation and interpret the results;~~
4	factor quadratic and rational expressions to simplify or solve problems; ~~simplify radical expressions and solve radical equations, to include converting between radical notation and rational exponent notation for an application or situation and interpret the results;~~
5	identify key graphical features of a linear, quadratic, or rational relation by using algebra to rewrite or simplify; ~~demonstrate the ability to work with introductory exponential and logarithmic functions for an application or situation and interpret the results.~~
6	solve equations and inequalities using both algebraic and graphical strategies.

Major Topic Outline

Writing linear expressions
Slope as constant rate of change
Simplifying and evaluating linear expressions
Identifying contextual domain restrictions
Graphing linear functions and identifying important features
Solving linear inequalities graphically and algebraically (including domain restrictions)
Sketching solutions to 2-variable linear inequalities and systems of linear inequalities
Piecewise linear expressions and absolute value
Using function notation
Absolute value equations and inequalities
Writing quadratic expressions, including factoring and recognizing Solving quadratic equations, including using the quadratic formula and factoring
Graphing quadratic equations including the use of standard form, factored form, vertex form and completing the square
Solving quadratic inequalities graphically

Modeling quadratic relations
Writing and evaluating rational expressions, including domain restrictions
Combining rational expressions through multiplication and division and using these techniques to solve rational equations, including graphical exploration and factoring
Combining rational expressions through addition and subtraction and using these techniques to solve rational equations
Modeling with rational relations
Solving mixed equations and inequalities graphically ~~8.1 Introduction to Functions 8.2 Rational Functions 9.1 Square Root Properties 9.2 Solving Quad Eq by Using Square Root Method 9.3 The Quadratic Formula 9.5 Strategies for Solving Quadratic Equations 9.6 Properties of Quadratic Functions 9.7 Graphing Quadratic Functions 10.1 Function Basics 10.2 Domain and Range 10.3 Simplifying Expressions with Function Notation 11.1 Graphs and Vertex Form 11.2 Completing the Square 11.3 More on Complex Solutions to Quadratic Equations 12.1 Introduction to Absolute Value Functions 12.2 Compound Inequalities 12.3 Absolute Value Equations and Inequalities 13.1 Introduction to Radical Functions 13.2 Radical Expressions and Rational Exponents 13.3 Radical Expression Operations 14.1 Exponential Functions 14.2 Logarithmic Functions~~

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Course Change Request

Date Submitted: 04/21/25 12:47 pm

Viewing: MUP-141 : College Orchestra

Last approved: 06/09/23 5:25 am

Last edit: 04/21/25 12:47 pm

Changes proposed by: Lars Campbell (lars.campbell)

Catalog Pages
referencing this
course

Music Performance (MUP)

Programs
referencing this
course

AS.PSUMUSIC: AS, Music, PSU

CC.MUSICTECH: Music Technology

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

Are you the Faculty Contact Person?

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/21/25 12:50 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/02/25 8:43 am Debra Carino (dcarino): Approved for DASC Curriculum Committee Outline Review Team

History

1. Jun 9, 2023 by Megan Feagles (megan.feagles)

	Yes
Course Prefix	MUP - Music Performance
Course Number	141
Department	Music
Division	Arts and Sciences
Course Title	College Orchestra

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	1.00
Variable Credit	No

Contact hours

Lecture	
Lec/Lab	22.00
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	

Community Education/Adult	
Total	22
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Performance and study of orchestral literature. College students may earn credit for playing in one of several approved orchestral groups. Minimum of one performance per term. May be repeated for up to 8 credits. Required: Student Petition.

Type of Course (ACTI Code)

100 - Lower Division Collegiate

Select at least one of the following:

Elective Only

Can this course be repeated for credit in a degree?

Yes

Up to how many credits can this course be repeated to satisfy a degree requirement?	8

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

Yes

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall/Winter/Spring

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	demonstrate comprehension of common orchestral styles;
2	demonstrate an understanding of basic orchestral phrasing;
3	demonstrate basic skills necessary to perform in an orchestra.

Major Topic Outline

1. Music sight reading. a. Determine strengths/weaknesses of the ensemble. 2. Performance repertoire selection. a. Based on results of sight reading. b. Parts assigned. c. Recorded examples researched. 3. Performance repertoire rehearsal. a. Sectional rehearsals. b. Ensemble rehearsals. c. Listening to recorded examples. 4. Performance of repertoire. a. Public concerts.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Course Transferability

OUS school to which the course will transfer

EOU - Eastern Oregon University

Comparable course(s)

Orchestra

How does it transfer?

general elective
required or support for major

Evidence of transferability

OUS school to which the course will transfer

OSU - Oregon State University

Comparable course(s)

Orchestra

How does it transfer?

general elective
required or support for major

Evidence of transferability

OUS school to which the course will transfer

OSU-C - OSU-Cascade

Comparable
course(s)
Orchestra

How does it transfer?

general elective
required or support for major

Evidence of transferability

OUS school to which the course will transfer

PSU - Portland State University

Comparable
course(s)
Orchestra

How does it transfer?

general elective
required or support for major

Evidence of transferability

OUS school to which the course will transfer

SOU - Southern Oregon University

Comparable
course(s)

Orchestra

How does it transfer?

general elective
required or support for major

Evidence of transferability

OUS school to which the course will transfer

UO - University of Oregon

Comparable
course(s)

Orchestra

How does it transfer?

general elective
required or support for major

Evidence of transferability

OUS school to which the course will transfer

WOU - Western Oregon University

Comparable
course(s)

Orchestra

How does it transfer?

general elective

required or support for major

Evidence of transferability

Please attach documentation

Reviewer Comments

Key: 1159

Preview Bridge

Course Change Request

Date Submitted: 04/23/25 1:57 pm

Viewing: MUS-219 : MPT Seminar II

Last approved: 11/02/24 6:52 am

Last edit: 05/02/25 9:05 am

Changes proposed by: Kathleen Hollingsworth (kathleen.hollingswor)

Catalog Pages referencing this course

Course Descriptions

Music (MUS)

Programs referencing this course

AAS.MUSICPERFTECH: Music Performance & Technology

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/23/25 1:59 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/02/25 9:03 am Deanna Myers (deanna.myers): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 7, 2023 by Megan Feagles (megan.feagles)
2. Nov 2, 2024 by Kathleen Hollingsworth (kathleen.hollingswc

Is Topic Shell Course?

Are you the Faculty Contact Person?	Yes
Course Prefix	MUS - Music
Course Number	219
Department	Music
Division	Arts and Sciences
Course Title	MPT Seminar II

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	No
Min Credit	1.00
Variable Credit	No

Contact hours

Lecture	11.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	

Community Education/Drivers Ed	
Community Education/Adult	
Total	11
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Second in a three-part series. For second year Music Performance and Technology AAS ~~MPT~~ students only. Seminar will cover writing, arranging, production, performance and music theory through experiential learning. Students will produce, write and arrange for each CME/Songwriters concert and will produce the Annual MPT/Garage Band Festival ~~MPT festival~~ each spring.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

MUS-218

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Winter

Will this class use library resources?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	demonstrate ability to write and arrange for the class and other projects;
2	produce and promote the CME Concert;
3	play keyboard exercises from memory;
4	read, think and converse about the philosophy of music.

Major Topic Outline

1. Writing 2. Arranging 3. Production 4. Promotion 5. Keyboard skills 6. Philosophy

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

	No
Clean up Natural Environment	
	No
Supports Green Services	
	No
Percent of Course	0

Reviewer Comments

Key: 1286

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:17 pm

Viewing: WET-010 : Wastewater Operations I

Last approved: 01/29/25 4:53 am

Last edit: 05/06/25 11:05 am

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course

Course Descriptions

Water & Environmental Technology (WET)

Programs
referencing this
course

AAS.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:18 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/06/25 11:00 am Gentiana Loeffler (gentiana.loeffler): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Mar 29, 2024 by Megan Feagles (megan.feagles)
3. Jan 29, 2025 by Megan Feagles (megan.feagles)

Is Topic Shell Course?

Are you the Faculty Contact Person?	
	Yes
Course Prefix	WET - Water & Environmental Technology
Course Number	010
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Wastewater Operations I

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	3.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	

Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	33
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

For professional upgrade only. Does not meet the requirements for the ~~college~~ certificate or ~~the associates of science~~ degree. Introduction to the fundamentals of wastewater operations. Includes collections systems, preliminary and primary treatment, waste characteristics including organic removals, and solids profiles.

Type of Course (ACTI Code)

220 - Career Technical Supplemental

CIP Code

15.0506 - Water Quality and Wastewater Treatment Management and Recycling Technology/Technician.

Select one of the following career areas:

Agriculture, Food & Natural Resources Systems

Target Population:

Water Quality Industry

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	identify the concepts and equipment involved with Primary Wastewater Treatment;
2	become familiar with how wastewater is categorized both for its strength (BOD and TSS) and treatability;
3	understand the solids profile and organic profile of wastes.

Major Topic Outline

1. Monitoring of Flows. a. Flumes, i.e. Palmer Bowlus. b. Flow Continuity: Velocity x Area Approach, Q = AV. c. Manning's Equation discussion for open channel flow. 2. Sanitary Wastewater Composition. a. Solids Profiling: TS, TSS, TDS, etc. b. Organic Composition: BOD/COD/TOC. c. pH, Acid/Alkaline, 0-14 scale. d. Organic vs. Inorganic Contaminants in Wastewater. e. Compatible vs. Incompatible Contaminants in Wastewater. 3. Collection System Basics/Description. a. Domestic Wastewater. b. Industrial Wastewater. c. Sanitary Wastewater. d. Combined Sewage Systems and CSO/SSO definitions/explanations. e. Storm Sewers and Surface Runoff. 4. Pumping Stations. a. P/S Placement and its importance as a part of the Sewerage System. b. Design Descriptions. 5. Bar Screens and Bar Racks; both manual and mechanical. 6. Comminutors and Barminutors. 7. Flow Equalization/ On-line or Off-line. 8. Flowrate/ Indication, Recording, Totalizing. 9. Grit Removal Systems and Rock Pockets. a. Grit Channels, Sutro and Flow Proportional control. b. Aerated. c. Swirl Concentration, i.e. Pista-Grit. 10. Description of the four types of sedimentation. 11. Process of Sedimentation vs. Clarification. 12. Clarifier/Sedimentation Basins. a. Circular shaped basins. a1. Center Feed. a2. Periphery Feed (Rim Feed). b. Rectangular. c. Square. 13. Screening Process and Screenings (debris).

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Course Change Request

Date Submitted: 04/29/25 1:18 pm

Viewing: WET-011 : Waterworks Operations I

Last approved: 01/29/25 4:54 am

Last edit: 04/29/25 1:18 pm

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course

Course Descriptions

Water & Environmental Technology (WET)

Programs
referencing this
course

AAS.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:19 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/07/25 11:33 am Nora Brodnicki (norab): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Mar 29, 2024 by Megan Feagles (megan.feagles)
3. Jan 29, 2025 by Megan Feagles (megan.feagles)

Is Topic Shell Course?

Are you the Faculty Contact Person?

No

Faculty Contact Email

jamesn@clackamas.edu

Course Prefix	WET - Water & Environmental Technology
Course Number	011
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Waterworks Operations I

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	3.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	
Clinical	

Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	33
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

For professional upgrade only. Does not meet the requirements for the certificate or degree. Introduction to municipal drinking water treatment and distribution systems. Basic waterworks hydraulics, drinking water regulations, waterworks math, waterworks microbiology, and introduction to water disinfection.

Type of Course (ACTI Code)

220 - Career Technical Supplemental

CIP Code: 15.0506 - Water Quality and Wastewater Treatment Management and Recycling Technology/Technician.

Select one of the following career areas:

Agriculture, Food & Natural Resources Systems

Target Population:

Water Quality Industry

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule

Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	explain state and federal drinking water regulations, and how the regulations affect water systems in Oregon;

	Upon successful completion of this course, students should be able to:
2	describe the fundamentals of water microbiology as it relates to waterborne infectious diseases;
3	explain the requirements for bacteriological testing of drinking water;
4	describe the fundamentals of water disinfection, with an emphasis on chlorination;
5	explain chlorine chemistry;
6	calculate and describe disinfection CT values and how they are used in the waterworks industry;
7	identify and explain the different sources of drinking water and their differences.

Major Topic Outline

1. Oregon Water Certification and Introduction to the Safe Drinking Water Act. 2. Drinking water regulations of importance in the Pacific NW. Health effects of drinking water contaminants. 3. Introduction to waterworks hydraulics. 4. Using hydraulic concepts to solve waterworks related problems. 5. Introduction to water microbiology. Fundamental biology of bacteria, viruses, and protozoa. 6. Introduction to the coliform group of bacteria and the coliform rule. 7. Introduction to chlorination chemistry. 8. Chlorination chemistry and the requirements of the disinfection rule. Introduction to the disinfection CT concept. 9. Chlorination equipment. 10. Chlorine handling practices and safety. 11. Introduction to pipe materials used in the waterworks industry.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1519

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:19 pm

Viewing: WET-020 : Wastewater Operations II

Last approved: 01/29/25 4:54 am

Last edit: 04/29/25 1:19 pm

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course

Course Descriptions

Water & Environmental Technology (WET)

Programs
referencing this
course

AAS.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:20 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/06/25 10:58 am Gentiana Loeffler (gentiana.loeffler): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Jan 29, 2025 by Megan Feagles (megan.feagles)

Is Topic Shell Course?

Are you the Faculty Contact Person?	Yes
Course Prefix	WET - Water & Environmental Technology
Course Number	020
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Wastewater Operations II

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	3.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	

Community Education/Drivers Ed	
Community Education/Adult	
Total	33
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

For professional upgrade only. Does not meet the requirements for the certificate or degree. Secondary wastewater treatment alternatives with municipal application. Fixed and suspended film systems and clarification process. Includes biological sludge treatment.

Type of Course (ACTI Code)

220 - Career Technical Supplemental

CIP Code

15.0506 - Water Quality and Wastewater Treatment Management and Recycling Technology/Technician.

Select one of the following career areas:

Agriculture, Food & Natural Resources Systems

Target Population:

Water Quality Industry

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

WET-010

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog: No

When do you plan to offer this course?

Winter

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	define the principles involved with the fixed film processes, trickling Filters, rotating Biological Contactors, and activated Bio-filters;
2	define the principles and practices in the operation of suspended film processes, activated Sludge and ponds and Lagoons;
3	define the problem solving methods that allow for quantification of the operational strategies as applied to the biological treatment of wastewater, resolution of pounds formula, and mass flux of waste materials, sludge Ages (SATSS, SABOD¬) and organic Loading Rate (OLR), mean Cell Residence Time (MCRT) and food to Micro-organism Ration (F/M), hydraulic formulas that include:

	Upon successful completion of this course, students should be able to:
	recirculation Ratio (Rr), hydraulic Loading/Overflow Rates (HLR, HOR), surface Loading/Overflow Rate (SLR, SOR), weir Loading/Overflow Rate (WLR, WOR).

Major Topic Outline

1. Principles involved with the FIXED film processes: a. Trickling Filters (TF) b. Rotating Biological Contactors (RBC) b1. Mechanically Operated b2. Air actuated b3. Submerged c. Activated Bio-Filters (ABF) 2. Principles and practices in the operation of SUSPENDED film processes: a. Packaged Plants and Oxidation Ditches b. Conventional Activated Sludge Process c. Modifications to the A/S Process d. Lagoons and Ponds d1. Facultative Lagoons d2. Anaerobic Ponds 3. Biological volume reduction of sludges and the solids handling process. a. Aerobic and Anaerobic Sludge Treatment b. Solids/Sludge Processing Equipment 4. Problem solving methods that allow for resolution of: a. Pounds Formula, Mass Flux of Material b. Sludge Ages, SATSS, SABOD c. Mean Cell Residence Time, MCRT d. Food to Micro-organism Ratio, F/M e. Recirculation Ratio, Rr f. Hydraulic Loading / Overflow Rate, HLR, HOR g. Organic Loading Rate, OLR h. Surface Loading / Overflow Rate, SLR, SOR i. Weir Loading / Overflow Rate, WLR, WOR.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Course Change Request

Date Submitted: 05/02/25 9:49 am

Viewing: WET-030 : Wastewater Operations III

Last approved: 11/08/23 4:57 am

Last edit: 05/06/25 8:29 am

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course

Course Descriptions

Water & Environmental Technology (WET)

Programs
referencing this
course

AAS.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:21 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/01/25 6:08 pm Debra Carino (dcarino): Rollback to Curriculum Office for DASC Curriculum Committee Outline Review Team
3. 05/02/25 6:30 am Megan Feagles (megan.feagles): Approved for Curriculum Office
4. 05/02/25 8:34 am Debra Carino (dcarino): Rollback to Initiator
5. 05/02/25 9:54 am Megan Feagles (megan.feagles):

Approved for Curriculum Office
6. 05/08/25 12:05 pm Debra Carino (dcarino): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)

Is Topic Shell Course?

Are you the Faculty Contact Person?	
	Yes
Course Prefix	WET - Water & Environmental Technology
Course Number	030
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Wastewater Operations III

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	3.00

Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	33
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

For professional upgrade only. Does not meet the requirements for the certificate or degree. Design, operation, process control and maintenance of treatment facilities. Current treatment processes discussed in detail with particular attention given to biological sludge handling process. ~~No lab requirement for this course.~~

Type of Course (ACTI Code)

220 - Career Technical Supplemental

CIP Code

15.0506 - Water Quality and Wastewater Treatment Management and Recycling Technology/Technician.

Select one of the following career areas:

Industrial and Engineering Systems

Target Population:

Water Quality Industry.

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

WET-020

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Spring

Will this class use library resources?

No ~~Yes~~

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	understand the principles involved with the disinfection processes for wastewater using available technologies, a. chlorination with gas, liquid, and solid forms, b. ultra-violet light (U-V), c. ozonation (O3);
2	understand sludge management/processing schemes, a. points of Generation, b. concentration, c. biological Reduction, d. heat Treatment, e. burning/Vaporizing; f. ultimate Disposal into the Environment;
3	understand the principles of sludge biological digestion, a. aerobic Process, Ambient Temperature, b. anaerobic Processes, bi. psychrophilic, bii. mesophilic, biii. thermophilic;
4	understand questions and probable answers for sludge/solids and disinfection related questions likely to appear on an Accredited Board of Certification exam as administered by the Oregon State Department of Environmental Quality.

Major Topic Outline

1. Solids (Residue) Discussion/Solids Handling. 2. Solids Side-stream Processing. 3. Solids Processing Flow Diagram. 4. Solids Management. 5. Solids Handling/Specific Gravities of Sludge Streams. 6. Aerobic & Anaerobic Digestion. 7. Plant Safety. 8. Pumps and Pump Application. 9. WWTP Maintenance.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services	No
Percent of Course	0

Reviewer Comments

Key: 1522

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:21 pm

Viewing: WET-031 : Water Treatment

Last approved: 01/29/25 4:54 am

Last edit: 05/02/25 7:00 am

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course

Course Descriptions

Water & Environmental Technology (WET)

Programs
referencing this
course

AAS.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:22 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/01/25 7:24 pm Keely Baca (keely.baca): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Mar 29, 2024 by Megan Feagles (megan.feagles)
3. Jan 29, 2025 by Megan Feagles (megan.feagles)

Is Topic Shell Course?

Are you the Faculty Contact Person?

No

Faculty Contact Email

jamesn@clackamas.edu

Course Prefix	WET - Water & Environmental Technology
Course Number	031
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Water Treatment

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	3.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	
Clinical	

Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	33
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

For professional upgrade only. Does not meet the requirements for the certificate or degree. Design, operation and process control of water treatment plants. Includes water chemistry, related math, coagulation, sedimentation, filtration and disinfection procedures. Review for Oregon Operator certification exams. ~~No lab requirement for this course. Lab includes field trips to local water treatment facilities.~~

Type of Course (ACTI Code)

220 - Career Technical Supplemental

CIP Code

15.0506 - Water Quality and Wastewater Treatment Management and Recycling Technology/Technician.

Select one of the following career areas:

Agriculture, Food & Natural Resources Systems

Target Population:

Water Quality Industry.

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog: No

When do you plan to offer this course? Spring

Will this class use library resources? Yes

Have you talked with a librarian regarding that impact? No

Course Certifications

Is this a Related Instruction course? No

Are you going to seek General Education Certification after course approval? No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	explain the type of treatment that is normally required to various types of source water;
2	explain drinking water standards required by the federal SDWA Amendment;
3	describe the processes involved in coagulation and flocculation;
4	explain the filtration process and the distinctive properties of the various types of filters;
5	describe the basics of water chemistry and the normal chemical make-up of surface and ground water in the northwest;
6	describe the variety of methods available for the treatment and removal of problem materials in water such as iron, sulfides, etc.;
7	perform standard water treatment calculations similar to those on advanced water certification exams.

Major Topic Outline

1. Unique physical and chemical characteristics of water. Introduction to water alkalinity and hardness. 2. Chemical characteristics of groundwater and surface water. 3. Understanding the carbonate cycle and the interaction of the pH of natural water bodies. 4. Introduction to water chemical stability: corrosion and scale. 5. Review of water chemical dosage problems and the normality equation. 6. Overview of conventional water treatment technology. 7. Introduction to coagulation chemistry. 8. Coagulation control methods used in the water industry. 9. Introduction to filter techniques used in the water industry. 10. Rapid sand filtration operation and troubleshooting.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services	No
Percent of Course	0

Reviewer Comments

Key: 1523

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:44 pm

Viewing: WET-110 : Wastewater Operations I

Last approved: 03/29/24 3:36 am

Last edit: 04/29/25 1:44 pm

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course

Mathematics (MTH)

Water & Environmental Technology (WET)

Programs
referencing this
course

AAS.WATERENVIRONTECH: Water & Environmental Technology

CC.WATERENVIRONTECH: Water & Environmental Technology

EFA.NATRESORCES: EFA, Natural Resources

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:50 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/08/25 1:50 pm Gentiana Loeffler (gentiana.loeffler): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Mar 29, 2024 by Megan Feagles (megan.feagles)

Is Topic Shell Course?

Are you the Faculty Contact Person?	Yes
Course Prefix	WET - Water & Environmental Technology
Course Number	110
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Wastewater Operations I

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	No
Min Credit	3.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	

Community Education/Drivers Ed	
Community Education/Adult	
Total	33
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Introduction to the fundamentals of wastewater character and operations. Includes collections systems, preliminary and primary treatment, waste characteristics including organic removals, and solids profiles.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

MTH-082A

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	explain concepts and equipment involved with Preliminary Wastewater Treatment;
2	explain the concepts and equipment involved with Primary Wastewater Treatment;
3	categorize wastewater strength (BOD and TSS) and treatability.

Major Topic Outline

1. Monitoring of Flows. a. Flumes, i.e. Palmer Bowlus. b. Flow Continuity: Velocity x Area Approach, Q = AV. c. Manning's Equation (optional, as time allows). 2. Sanitary Wastewater Composition. a. Solids Profiling: TS, TSS, TDS, etc. b. Organic Composition: BOD/COD/TOC. c. pH, Acid/Alkaline, 0-14 scale. d. Organic vs. Inorganic Contaminants in Wastewater. e. Compatible vs. Incompatible Contaminants in Wastewater. 3. Collection System Basics/Description. a. Domestic Wastewater. b. Industrial Wastewater. c. Sanitary Wastewater. d. Combined Sewage Systems and CSO/SSO definitions/explanations. e. Storm Sewers and Surface Runoff. 4. Pumping Stations. a. P/S Placement and its importance as a part of the

Sewerage System. b. Design Descriptions. 5. Bar Screens and Bar Racks; both manual and mechanical. 6. Comminutors and Barminutors. 7. Flow Equalization/ On-line or Off-line. 8. Flowrate/ Indication, Recording, Totalizing. 9. Grit Removal Systems and Rock Pockets. a. Grit Channels, Sutro and Flow Proportional control. b. Aerated. c. Swirl Concentration, i.e. Pista-Grit. 10. Description of the four types of sedimentation. 11. Process of Sedimentation vs. Clarification. 12. Clarifier/Sedimentation Basins. a. Circular shaped basins. a1. Center Feed. a2. Periphery Feed (Rim Feed). b. Rectangular. c. Square. 13. Screening Process and Screenings (debris).

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1526

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:45 pm

Viewing: WET-111 : Waterworks Operations I

Last approved: 11/08/23 4:57 am

Last edit: 04/29/25 1:45 pm

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course

Mathematics (MTH)

Water & Environmental Technology (WET)

Programs
referencing this
course

AAS.WATERENVIRONTECH: Water & Environmental Technology

CC.WATERENVIRONTECH: Water & Environmental Technology

EFA.NATRESORCES: EFA, Natural Resources

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

Are you the Faculty Contact Person?

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:49 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/07/25 11:35 am Nora Brodnicki (norab): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)

	No

Faculty Contact
Email
jamesn@clackamas.edu

Course Prefix	WET - Water & Environmental Technology
Course Number	111
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Waterworks Operations I

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	3.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	

Community Education/Drivers Ed	
Community Education/Adult	
Total	33
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Introduction to municipal drinking water treatment and distribution systems. Basic waterworks hydraulics, drinking water regulations, waterworks math, waterworks microbiology, and introduction to water disinfection.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

MTH-082B

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	explain state and federal drinking water regulations, and how the regulations affect water systems in Oregon;
2	describe the fundamentals of water microbiology as it relates to waterborne infectious diseases;
3	explain the requirements for bacteriological testing of drinking water;
4	describe the fundamentals of water disinfection, with an emphasis on chlorination;
5	explain chlorine chemistry;
6	calculate and describe disinfection CT values and how they are used in the waterworks industry;
7	identify and explain the different sources of drinking water and their differences.

Major Topic Outline

1. Oregon Water Certification and Introduction to the Safe Drinking Water Act. 2. Drinking water regulations of importance in the Pacific NW. Health effects of drinking water contaminants. 3. Introduction to waterworks hydraulics. 4. Using hydraulic concepts to solve waterworks related problems. 5. Introduction to water microbiology. Fundamental biology of bacteria, viruses, and protozoa. 6. Introduction to the coliform group of bacteria and the coliform rule. 7. Introduction to chlorination chemistry. 8. Chlorination chemistry and the requirements of the disinfection rule. Introduction to the disinfection CT concept. 9. Chlorination equipment. 10. Chlorine handling practices and safety. 11. Introduction to pipe materials used in the waterworks industry.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1527

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:46 pm

Viewing: WET-112 : Computer Applications for Water and Wastewater Operations

Last approved: 11/08/23 4:57 am

Last edit: 04/29/25 1:46 pm

Changes proposed by: Matt LaForce (laforce)

Catalog Pages referencing this course

Water & Environmental Technology (WET)

Programs referencing this course

AAS.WATERENVIRONTECH: Water & Environmental Technology

CC.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:49 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/02/25 9:00 am Deanna Myers (deanna.myers): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)

Are you the Faculty Contact Person?	
	Yes
Course Prefix	WET - Water & Environmental Technology
Course Number	112
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Computer Applications for Water and Wastewater Operations

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	No
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	22.00
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	

Community Education/Adult

Total 55

Proposed Effective Term Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Focuses on direct application of Microsoft Word, PowerPoint, and Excel for producing compliance reports, professional presentations, and data analysis. Emphasis will be put on the use of Excel for statistical analysis of water and wastewater plant data for state and federal compliance. Supervisory control and Data Acquisition (SCADA) will also be covered. Wastewater simulators will be explored and used to design and manipulate unit processes.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

WET-110 and WET-111

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall

Will this class use library resources?

No ~~Yes~~

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	use Microsfoft word to create a professional report for state and federal level compliance for water and wastewater applications;
2	demonstrate professional use of Microsoft Powerpoint for development and use for presentations;
3	apply the use of Microsoft Excel for data analysis of various water and wastewater data sets;
4	create a National Pollutant Discharge Elimination System (NPDES) report and presentation using specific computer software;
5	describe the functions and uses of a SCADA system within a water and wastewater facility;
6	apply and evaluate a wastewater modeling program for designing more efficient treatment options.

Major Topic Outline

1. Microsoft Word, Powerpoint, and Excel applications in the water and wastewater industry. 2. National Pollutant Discharge Elimination System (NPDES) report writing for state and federal level compliance. 3. Professional presentations for the water and wastewater industry. 4. Data

analysis using Excel on water and wastewater data sets. 5. Statistical analysis using Excel on water and wastewater data sets. 6. Water and wastewater simulations and modeling. 7. SCADA Systems

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1528

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:47 pm

Viewing: WET-120 : Wastewater Operations II

Last approved: 11/08/23 4:57 am

Last edit: 04/29/25 1:47 pm

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course

Mathematics (MTH)

Water & Environmental Technology (WET)

Programs
referencing this
course

AAS.WATERENVIRONTECH: Water & Environmental Technology

CC.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

Are you the Faculty Contact Person?

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:48 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/01/25 5:23 pm Debra Carino (dcarino): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)

	Yes
Course Prefix	WET - Water & Environmental Technology
Course Number	120
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Wastewater Operations II

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	3.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	

Community Education/Adult

Total 33

Proposed Effective Term Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Secondary wastewater treatment alternatives with municipal application. Fixed and suspended film systems with the associated clarification process will be presented.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

WET-110

Corequisites

MTH-082C

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Winter

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	define the principles involved with the fixed film processes, trickling Filters, rotating Biological Contactors, and activated Bio-filters;
2	define the principles and practices in the operation of suspended film processes, activated Sludge and ponds and Lagoons;
3	define the problem solving methods that allow for quantification of the operational strategies as applied to the biological treatment of wastewater, resolution of pounds formula, and mass flux of waste materials, sludge Ages (SATSS, SABOD¬) and organic Loading Rate (OLR), mean Cell Residence Time (MCRT) and food to Micro-organism Ration (F/M), hydraulic formulas that include: recirculation Ratio (Rr), hydraulic Loading/Overflow Rates (HLR, HOR), surface Loading/Overflow Rate (SLR, SOR), weir Loading/Overflow Rate (WLR, WOR).

Major Topic Outline

1. Understand the principles involved with the FIXED film processes: a. Trickling Filters (TF) b. Rotating Biological Contactors (RBC) b1. Mechanically Operated b2. Air actuated b3. Submerged c. Activated Bio-Filters (ABF) 2. Understand the principles and practices in the operation of SUSPENDED film processes: a. Packaged Plants and Oxidation Ditches b. Conventional Activated Sludge Process c. Modifications to the A/S Process d. Lagoons and Ponds d1. Facultative Lagoons d2. Anaerobic Ponds 3. Understand biological volume reduction

of sludges and the solids handling process. a. Aerobic and Anaerobic Sludge Treatment b. Solids/Sludge Processing Equipment 4. Understand the problem solving methods that allow for resolution of: a. Pounds Formula, Mass Flux of Material b. Sludge Ages, SATSS, SABOD c. Mean Cell Residence Time, MCRT d. Food to Micro-organism Ratio, F/M e. Recirculation Ratio, Rr f. Hydraulic Loading / Overflow Rate, HLR, HOR g. Organic Loading Rate, OLR h. Surface Loading / Overflow Rate, SLR, SOR i. Weir Loading / Overflow Rate, WLR, WOR.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1529

Preview Bridge

Course Change Request

Date Submitted: 04/30/25 6:49 am

Viewing: WET-121 : Waterworks Operations II

Last approved: 11/08/23 4:57 am

Last edit: 04/30/25 6:49 am

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course
Mathematics (MTH)
Water & Environmental Technology (WET)

Programs
referencing this
course
AAS.WATERENVIRONTECH: Water & Environmental Technology
CC.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/30/25 6:51 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/01/25 7:25 pm Keely Baca (keely.baca): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)

Are you the Faculty Contact Person?	
	Yes
Course Prefix	WET - Water & Environmental Technology
Course Number	121
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Waterworks Operations II

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	3.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	

Community Education/Adult

Total 33

Proposed Effective Term Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

An introduction to water distribution, with a focus on water regulations, operator math, water chemistry, and specific water distribution processes. Also examines distribution system design, water mains, hydrants and valves, water pumps, water system supply security, and public relations. Everything you need to know to pass the water distribution grade 1 state certification.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

WET-111

Corequisites

MTH-082D

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Winter

Will this class use library resources?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	explain USEPA drinking water regulations;
2	calculate various hydraulic water variables;
3	describe different water uses and overall water distribution system design;
4	explain the use of water mains, valves, hydrants, water storage components, and backflow techniques;
5	solve a variety of chemical dosage problems common to water treatment and disinfection;
6	describe the fundamentals of centrifugal pumps, including pump components and function, pump performance curves, pumping configurations, affinity laws, pump cavitation, packing and mechanical seals, and pump troubleshooting techniques;
7	understand the role of system mapping, GIS, safety and security, and public relations in regard to water systems.

Major Topic Outline

1. USEPA Drinking Water Regulations. 2. Water Use and System Desgin. 3. Hydraulics. 4. Pipes and Pipe Material Selection. 5. Water Main Installation and Rehabilitation. 6. Valves, Hydrants, Meters, and Water Storage. 7. Pumps and Pumping Stations 8. Chlorine Chemistry and

Chlorination 9. Water Quality Testing 10. Backflow Prevention and Cross Connection Control 11. Safety, Security and Public Relations.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1530

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:51 pm

Viewing: WET-125 : High Purity Water Production I

Last approved: 11/08/23 4:57 am

Last edit: 04/29/25 1:51 pm

Changes proposed by: Matt LaForce (laforce)

Catalog Pages referencing this course

- High Purity Water, Certificate
- Mathematics (MTH)
- Water & Environmental Technology (WET)

Programs referencing this course

- AAS.WATERENVIRONTECH: Water & Environmental Technology
- CC.HIPURITYWATER: High Purity Water

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:56 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/06/25 11:01 am Gentiana Loeffler (gentiana.loeffler): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)

Are you the Faculty Contact Person?	
	Yes
Course Prefix	WET - Water & Environmental Technology
Course Number	125
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	High Purity Water Production I

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	3.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	

Community Education/Adult

Total 33

Proposed Effective Term Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Fundamentals of high purity water chemistry, reverse osmosis treatment, ion exchange treatment, electrode ionization treatment, UV, ozonation, degasification and microfiltration as applied to the production of high purity water for the semiconductor, pharmaceutical and electric power generating industries.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

MTH-082E

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	describe the basic chemistry concepts of high purity water in the production of CMOS devices;
2	describe the characteristics and/or specifications for high purity water and understand basic methods used to produce high purity water for the microelectronics industry.

Major Topic Outline

1. Introduction to semiconductor manufacturing and high purity water production. 2. Applied water chemistry for high purity water including lab. 3. Introduction to Reverse Osmosis treatment. 4. Applications and operation of ion exchange deionization equipment used in high purity water production, including lab. 5. Introduction to electro-deionization treatment. 6. Introduction to water pretreatment and microfiltration. 7. High purity water applications of UV, ozone, and vacuum degasification.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1534

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:51 pm

Viewing: WET-130 : Wastewater Operations III

Last approved: 03/29/24 3:36 am

Last edit: 04/29/25 1:51 pm

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course
Water & Environmental Technology (WET)

Programs
referencing this
course
AAS.WATERENVIRONTECH: Water & Environmental Technology
CC.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 2:00 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/07/25 11:37 am Nora Brodnicki (norab): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Mar 29, 2024 by Megan Feagles (megan.feagles)

Are you the Faculty Contact Person?	
	Yes
Course Prefix	WET - Water & Environmental Technology
Course Number	130
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Wastewater Operations III

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	

Community Education/Drivers Ed	
Community Education/Adult	
Total	33
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Design, operation, process control and maintenance of treatment facilities. Current treatment processes discussed in detail with particular attention given to biological sludge treatment, and handling processes. Lab includes field trips to local wastewater facilities.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

WET-120

Corequisites

WET-130L

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Spring

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	summarize advanced wastewater treatment technologies that are currently being utilized in industry;
2	investigate tertiary treatment processes as it applies to environmental regulations;
3	describe the principles involved with the disinfection processes for wastewater using available technologies;
4	formulate questions and probable answers for sludge/solids and disinfection related questions likely to appear on an Accredited Board of Certification exam as administered by the Oregon State Department of Environmental Quality.

Major Topic Outline

1. Solids (Residue) Discussion/Solids Handling. 2. Solids Side-stream Processing. 3. Solids Processing Flow Diagram. 4. Solids Management. 5. Solids Handling/Specific Gravities of Sludge

Streams. 6. Aerobic & Anaerobic Digestion. 7. Plant Safety. 8. Pumps and Pump Application. 9. WWTP Maintenance.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1535

Preview Bridge

Course Change Request

Date Submitted: 04/30/25 7:06 am

Viewing: WET-130L : Wastewater Operations III Lab

Last approved: 04/30/25 4:44 am

Last edit: 04/30/25 7:06 am

Changes proposed by: Matt LaForce (laforce)

Catalog Pages referencing this course

Water & Environmental Technology (WET)

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/30/25 7:09 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/02/25 9:02 am Deanna Myers (deanna.myers): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Nov 21, 2024 by Megan Feagles (megan.feagles)
3. Apr 30, 2025 by Matt LaForce (laforce)

Is Topic Shell Course?

Are you the Faculty Contact Person?

Yes

Course Prefix	WET - Water & Environmental Technology
Course Number	130L
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Wastewater Operations III Lab

Grading

Grade Scheme	Non-Graded (Null)
Credit Type	Non-Transcripted Course
Allow Pass/No Pass	No
Audit	Yes
Min Credit	0.00
Variable Credit	No

Contact hours

Lecture	
Lec/Lab	
Lab	33.00
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	

Community Education/Drivers Ed	
Community Education/Adult	
Total	33
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

The course is devoted to comprehension of the wastewater treatment process via weekly exploration of a wastewater treatment plant. We will tour a treatment plant and then go over the treatment process in lecture. We will emphasis emerging wastewater technologies, (nitrification/denitrification), sludge and bio-solids management, volatile solids reduction through the digestion (aerobic and anaerobic) processes, sludge/solids processing, solids handling, and ultimate waste solids disposal. Fundamental principles of emerging wastewater treatment process, solids handling, including disinfection and dechlorination of wastewater will be emphasized.

Type of Course (ACTI Code)

211 - Standalone Career Technical Preparatory

CIP Code

15.0506 - Water Quality and Wastewater Treatment Management and Recycling Technology/Technician.

Select one of the following career areas:

Agriculture, Food & Natural Resources Systems

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

WET-110 and WET-120

Corequisites

WET-130

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Spring

Will this class use library resources?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	explore and investigate emerging wastewater technologies via weekly onsite inspection of a treatment plant;
2	describe the operation and maintenance requirements of the most popular and widely used pieces of modern wastewater treatment and sludge handling equipment;
3	describe the principles involved with the disinfection processes for wastewater using available technologies;
4	formulate questions and probable answers for sludge/solids and disinfection related questions likely to appear on an Accredited Board of Certification exam as

	Upon successful completion of this course, students should be able to:
	administered by the Oregon State Department of Environmental Quality.

Major Topic Outline

1. Emphasize New Emerging Wastewater Treatment Technologies 2. Bio solids Classification and Management(Residue)Discussion/Solids Handling. 3 Aerobic & Anaerobic Digestion. 4. Disinfection via UV or Chlorination and Dechlorination

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1536

Preview Bridge

Course Change Request

Date Submitted: 04/30/25 6:50 am

Viewing: WET-131 : Water Treatment

Last approved: 11/08/23 4:57 am

Last edit: 04/30/25 6:50 am

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course
Water & Environmental Technology (WET)

Programs
referencing this
course
AAS.WATERENVIRONTECH: Water & Environmental Technology
CC.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/30/25 6:51 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/01/25 6:07 pm Debra Carino (dcarino): Rollback to Curriculum Office for DASC Curriculum Committee Outline Review Team
3. 05/02/25 6:28 am Megan Feagles (megan.feagles): Approved for Curriculum Office
4. 05/02/25 8:34 am Debra Carino (dcarino): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)

Is Topic Shell Course?

Are you the Faculty Contact Person?

Yes

Course Prefix	WET - Water & Environmental Technology
Course Number	131
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Water Treatment

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	

Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	33
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Design, operation and process control of water treatment plants. Includes water chemistry, related math, coagulation, flocculation, sedimentation, filtration and disinfection procedures. Review for Oregon Operator grade 1 certification exams. Lab includes field trips to local water treatment facilities.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

WET-121

Corequisites

WET-131L

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Spring

Will this class use library resources?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	explain the type of treatment that is normally required to various types of source waters;
2	explain drinking water standards required by the federal SDWA and amendments;
3	describe the processes involved in coagulation, flocculation, and sedimentation;
4	explain the filtration process and the distinctive properties of the various types of filters;
5	describe the basics of water chemistry and the normal chemical make-up of surface and ground water sources;
6	describe the variety of methods available for the treatment and removal of various primary and secondary contaminants;

	Upon successful completion of this course, students should be able to:
7	perform standard water treatment calculations similar to those on advanced water certification exams.

Major Topic Outline

1. USEPA Water Quality Regulations Overview. 2. Basic Microbiology and Water Chemistry. 3. Water Sources and Treatment Options. 4. Groundwater Quality and Wells. 5. Surface Water Treatment 6. Pretreatment Processes. 7. Coagulation, Flocculation, and Sedimentation. 8. Clarifiers and Filtration. 9. Disinfection and CT Calculations. 10. Fluoridation 11. Iron and Manganese Treatment. 12. Corrosion Control 13. Specialized Treatment Techniques.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1537

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:53 pm

Viewing: WET-132 : Collection & Distribution Lab

Last approved: 03/29/24 3:36 am

Last edit: 04/29/25 1:52 pm

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course
Water & Environmental Technology (WET)

Programs
referencing this
course
AAS.WATERENVIRONTECH: Water & Environmental Technology
CC.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:55 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/01/25 7:26 pm Keely Baca (keely.baca): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Mar 29, 2024 by Megan Feagles (megan.feagles)

Is Topic Shell Course?

Are you the Faculty Contact Person?	
	Yes
Course Prefix	WET - Water & Environmental Technology
Course Number	132
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Collection & Distribution Lab

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	1.00
Variable Credit	No

Contact hours

Lecture	
Lec/Lab	
Lab	33.00
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	

Community Education/Drivers Ed	
Community Education/Adult	
Total	33
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Field exposure to water distribution systems and wastewater collection systems. Weekly field visits include inspection of cross-connection inspection, distribution valving, reservoirs, water metering/repair, pumping station operations, smoke testing, and CCTV.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Spring

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	describe the construction and maintenance methods used in water distribution and wastewater collection systems;
2	describe drinking water piping options to include materials, sizing, valving, maintaining pressures, underground locating, repair and replacement technologies, and conventional system operations;
3	apply strategies for cross-connection devices to include reduced pressure (RP) and double check (DC) valves;
4	assess components of reservoir construction, and operation together with pumping applications;
5	describe the reasoning for collection system smoke testing, flow monitoring, dye testing, and sampling methods as applied to collection systems.

Major Topic Outline

1. Construction and maintenance methods used in water distribution and wastewater collection systems. 2. Closed-Circuit TV pipeline inspection. 3. Flow monitoring with electronic equipment. 4. Live water main tapping using a “corp.” stop, pigtails, and connection to the water meter. 5. Cross-connection control/inspection. 6. Bio-Solids Disposal for agricultural purposes.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1539

Preview Bridge

Course Change Request

Date Submitted: 04/23/25 3:51 pm

Viewing: WET-180 : Water & Environmental Projects I

Last approved: 04/23/25 4:45 am

Last edit: 05/06/25 8:32 am

Changes proposed by: Dru Urbassik (dru.urbassik)

Catalog Pages referencing this course

Water & Environmental Technology (WET)

Programs referencing this course

AAS.WATERENVIRONTECH: Water & Environmental Technology

CC.WATERENVIRONTECH: Water & Environmental Technology

CC.HIPURITYWATER: High Purity Water

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/24/25 8:58 am Dru Urbassik (dru.urbassik): Approved for Curriculum Office
2. 05/06/25 11:03 am Gentiana Loeffler (gentiana.loeffler): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Feb 21, 2024 by Megan Feagles (megan.feagles)
3. Mar 22, 2024 by Megan Feagles (megan.feagles)

4. Mar 29, 2024 by Megan Feagles (megan.feagles)
5. Apr 23, 2025 by Megan Feagles (megan.feagles)

No

Is Topic Shell Course?

No

Are you the Faculty Contact Person?

No

Faculty Contact Email
laforce@clackamas.edu

Course Prefix	WET - Water & Environmental Technology
Course Number	180
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Water & Environmental Projects I

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	1.00
Variable Credit	Yes
Max Credit	5.00
Variable Credit Increment	1

Contact hours

Lecture	
Lec/Lab	
Lab	
Activity	
Clinical	
Field	180.00
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	180
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Cooperative work experience. Practical work experience in a municipal industrial treatment, distribution, or collection system. Placement in consulting firms, federal and state regulatory agencies, BLM, BPA, and other regulated governmental organizations.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

Yes

Up to how many credits can this course be repeated to satisfy a degree requirement?

Course Requisites

Required

Prerequisites

Corequisites

CWE-281

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Spring/Summer ~~Spring~~

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	describe the operation of all program components observed while interning at the host facility or district;
2	describe the operating procedures for all component programs/equipment being observed;
3	be acquainted with the O&M, laboratory component, pumping systems (as applicable), record keeping, PM program, legal considerations, time and equipment required for successful entry into the job marketplace.

Major Topic Outline

1. Discuss the municipal, state, federal, and private/corporate environments that provide career opportunities in the area of water and wastewater. 2. Provide general guidelines for working with groups, gender and age discrimination sensitivities, promptness, and refraining from participating in gossip. 3. Compare and contrast management styles, operation size versus number of employees, and proactive versus reactive maintenance methods. 4. Assist students in developing targeted skill packages to make them the most competitive applicants for open positions in their chosen job market.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1542

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:54 pm

Viewing: WET-241 : Aquatic Microbiology

Last approved: 03/29/24 3:36 am

Last edit: 05/07/25 2:03 pm

Changes proposed by: Matt LaForce (laforce)

Catalog Pages referencing this course

Water & Environmental Technology (WET)

Programs referencing this course

AAS.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:57 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/07/25 2:04 pm Nora Brodnicki (norab): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Mar 29, 2024 by Megan Feagles (megan.feagles)

Are you the Faculty Contact Person?

No

Faculty Contact Email

jamesn@clackamas.edu

Course Prefix	WET - Water & Environmental Technology
Course Number	241
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Aquatic Microbiology

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	33.00
Activity	
Clinical	
Field	
CWE Seminar	
CPR	

Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	66
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

A lecture and lab course with topics in applied microbiology. Methods to detect coliform group in water and wastewater. Identification of filamentous bacteria in activated sludge, and identification of indicator protozoa in activated sludge. A bacteriological stream survey project is included.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

BI-204

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall

Will this class use library resources?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	explain the beneficial and detrimental roles of microscopic life forms-the microlife-found in wastewater treatment processes;
2	identify properties of an ideal water quality indicator organism and discuss how current bacteriological indicator organisms are used to measure water quality;
3	describe and perform both historical and current laboratory techniques used in the water industry;
4	explain the chemical and biological actions of selective media used in water bacteriology;
5	describe the difference between sterilization and disinfection and explain how various methods are used to materials used in the water industry;
6	demonstrate serial dilution techniques as a part of the bacteriological examination of water;
7	perform a variety of bacteriological tests including: membrane filtration for total and fecal coliform, MPN multiple tube fermentation method, MMO-MUG method,

	Upon successful completion of this course, students should be able to:
	Presence/Absence Broth method, Quanti-Tray/Colilert and the novel polymerase chain reaction (PCR) methods;
8	explain the interpretation of various bacteriological species and concentration found in natural waters and how that is used to assess recreational and wastewaters;
9	identify common protozoa associated with the activated sludge treatment process, and explain the significance of various predominant indicator organisms;
10	identify common filamentous bacteria associated with bulking in activated sludge treatment plants and describe methods of controlling filamentous bacteria.

Major Topic Outline

1. Introduction to the ideal indicator concepts. Historical methods of bacteriological testing of water and wastewater. 2. Introduction to membrane technology. Methods used in sterilization of microbiological equipment. Distribution system bacteriological testing. 3. Bacteriological test methods and media use in the water industry. Active ingredients and mechanisms of action. Use of 4 basic methods to identify bacteria. 4. Membrane methods for fecal coliform and total coliform bacteria. Introduction to the serial dilution technique. 5. Introduction to the mpn multiple tube fermentation method for enumerating coliform bacteria. 6. Introduction to activated sludge process control. Fundamentals of the control of filamentous bulking bacteria using selector concepts. 7. Introduction to the identification of filamentous bacteria found in activated sludge. Use of the dichotomous key. 8. Introduction to activated sludge protozoan indicator organisms. Use of the dichotomous key to ciliated protozoa commonly found in activated sludge. 9. Review of waterborne infectious disease organism, and current epidemiological data from Oregon's Health Division on waterborne disease outbreaks. 10. Microscope use to identify activated sludge microorganisms. Introduction to sludge quality by microscope evaluation.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

Yes

Clean up Natural Environment	No
Supports Green Services	No
Percent of Course	100

Reviewer Comments

Key: 1543

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:55 pm

Viewing: WET-242 : Hydraulics for Water & Wastewater

Last approved: 03/29/24 3:36 am

Last edit: 04/29/25 1:55 pm

Changes proposed by: Matt LaForce (laforce)

Catalog Pages referencing this course

Water & Environmental Technology (WET)

Programs referencing this course

AAS.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:57 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/02/25 8:59 am Deanna Myers (deanna.myers): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Mar 29, 2024 by Megan Feagles (megan.feagles)

Is Topic Shell Course?

Are you the Faculty Contact Person?	
	Yes
Course Prefix	WET - Water & Environmental Technology
Course Number	242
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Hydraulics for Water & Wastewater

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	3.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	

Community Education/Drivers Ed	
Community Education/Adult	
Total	33
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Introduction to closed conduit and open channel flow. Includes hydrostatics and dynamics, head-loss, pump characteristics, Bernoulli's and the energy equations, and basic characteristics of water.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

WET-122

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	describe fluids, fluid mechanics, and the physics of water as a fluid;
2	compare and contrast hydrostatics and hydrodynamics;
3	apply mathematical concepts to water flow meters;
4	assess pump types, maintenance, and mathematical modeling as applied to complex water distribution systems.

Major Topic Outline

1. Physical Properties of Water. 2. Water at Rest “Hydrostatics”. 3. Water Forces and Buoyancy. 4. “Fun” with Water Physics, The “Thinking Chapter”. 5. Water Dynamics and Water Hammer. 6. Bernoulli/Energy Equations/Venturi Meters/Orifice Flows. 7. Hazen-Williams Discussions for Energy Loss. 8. Darcy-Weisbach Discussions for Energy Loss. 9. Manning’s Expression with Open Pipe Flows to Determine Energy Loss. 10. Pumps, Pumping and Energy Efficiencies; Water/Pump/Motor HP.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1544

Preview Bridge

Course Change Request

Date Submitted: 04/29/25 1:55 pm

Viewing: WET-245 : Instrumentation & Control

Last approved: 03/29/24 3:36 am

Last edit: 04/29/25 1:55 pm

Changes proposed by: Matt LaForce (laforce)

Catalog Pages
referencing this
course
Water & Environmental Technology (WET)

Programs
referencing this
course
AAS.WATERENVIRONTECH: Water & Environmental Technology
CC.HIPURITYWATER: High Purity Water

Credits/Hours/Instructional Method Change

Is Topic Shell Course?

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/29/25 1:58 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/01/25 6:06 pm Debra Carino (dcarino): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Mar 29, 2024 by Megan Feagles (megan.feagles)

Are you the Faculty Contact Person?	
	Yes
Course Prefix	WET - Water & Environmental Technology
Course Number	245
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Instrumentation & Control

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	33.00
Lec/Lab	
Lab	33.00
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	

Community Education/Drivers Ed	
Community Education/Adult	
Total	66
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

A lab course introducing methods used to monitor and control treatment processes in wastewater, water and high purity water facilities. Advanced water analysis to include typical monitoring of high purity water treatment. Fundamentals of control loops, control systems and data management.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	describe the basics of Control of Hazardous Energies (CoHE) as applied to electrical safety as well as the legal requirements and obligations of employees and employers under federal and Oregon state law;
2	analyze basic units and techniques of measuring electrical voltage, current and power parameters and the inter-relations between voltage, current, resistance and power in simple electrical circuits. Be able to use a digital volt meter to actually measure these parameters on classroom circuits;
3	demonstrate proficiency with basic On/Off control circuits, motor starting techniques, variable speed motor control circuits. Be able to construct on/off circuits on classroom test components;
4	describe analog signal transmission and manipulation methods such as the differences between two-wire and four-wire analog instruments, signal isolation

	Upon successful completion of this course, students should be able to:
	methods, signal duplication methods and common signal problems and solutions. Be able to setup test instruments and manipulate process variables in a lab setup;
5	analyze control loops as related to high purity water production.

Major Topic Outline

Instrument Control Water Hydraulics Electricity Motors Variable Speed Motor Control and Control Systems Flowmeters Process Measurements (Pressure, Level, Temperature) Process Analyzers Signal Standardization, Power and Transmission Telemetry Valves and Pumping Systems Automatic Process Controls (Feedback and Feedforward Controls) Digital Control and Communication Systems (SCADA)

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1545

Preview Bridge

Course Change Request

Date Submitted: 04/23/25 3:52 pm

Viewing: WET-280 : Water & Environmental Projects II

Last approved: 04/23/25 4:45 am

Last edit: 05/02/25 7:03 am

Changes proposed by: Dru Urbassik (dru.urbassik)

Catalog Pages referencing this course

Water & Environmental Technology (WET)

Programs referencing this course

AAS.WATERENVIRONTECH: Water & Environmental Technology

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DASC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/24/25 8:58 am Dru Urbassik (dru.urbassik): Approved for Curriculum Office
2. 05/01/25 9:30 pm Keely Baca (keely.baca): Approved for DASC Curriculum Committee Outline Review Team

History

1. Nov 8, 2023 by Megan Feagles (megan.feagles)
2. Feb 21, 2024 by Megan Feagles (megan.feagles)
3. Mar 29, 2024 by Megan Feagles (megan.feagles)

4. Apr 23, 2025 by Megan Feagles (megan.feagles)

No

Is Topic Shell Course?

No

Are you the Faculty Contact Person?

No

Faculty Contact Email

laforce@clackamas.edu

Course Prefix	WET - Water & Environmental Technology
Course Number	280
Department	Engineering Sciences
Division	Arts and Sciences
Course Title	Water & Environmental Projects II

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	5.00
Variable Credit	No

Contact hours

Lecture

Lec/Lab

Lab

Activity	
Clinical	
Field	180.00
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	180
Proposed Effective Term	Spring 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Yes

Course Description

Cooperative work experience. Practical work experience in a municipal industrial treatment, distribution, or collection system. Placement in consulting firms, federal and state regulatory agencies, BLM, BPA, and other regulated governmental organizations. Practical experience in a municipal, public or private wastewater treatment facility of specific activated sludge design. Process loading criteria, data acquisition and & trend charting, and relevant sanitary process strategies will be addressed.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

CWE-281

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule

Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Winter ~~Fall~~

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	acquire operational and maintenance experience inside a water or wastewater facility;
2	compare and contrast primary, secondary, and post-secondary treatment technologies;

	Upon successful completion of this course, students should be able to:
3	document a minimum of 120 hours of a facility practicum;
4	describe the operating procedures for all component programs/equipment being observed;
5	describe the O&M, laboratory component, pumping systems (as applicable), record keeping, PM program, legal considerations, time and equipment required for successful entry into the job marketplace.

Major Topic Outline

1. Maintain a Field Laboratory Notebook in which the following information will appear: a. One title page with the treatment plant name, your name, dates of internship, and other lead in information (i.e. supervisor) as you see appropriate. b. The notebook will be organized according to the following seven (7) TABS. b1. TAB 1 will include a one-page verified letter stating that you have completed at least 120 intern hours at your host facility. The letter will include a brief description of your activities at the host facility and will be on official letterhead and signed by a supervisor and/or the facility superintendent. b2. TAB 2. This tab will include all of the information used to describe Trend Chart #1, (TC#1). TC#1 is a plot of Sludge Age SA with respect to suspended solids (SAss), and the secondary wastewater effluent (SE) contaminants BOD and TSS. Additionally, you will have a one page summary to describe and analyze the appropriate correlations, if any, between SAss, SEBOD and SETSS. b3. TAB 3. This tab will include all of the information used to describe TC#2. TC#2 is a trend plot of the Food to Micro-organism Ratio (F/M) and both the SEBOD and SETSS on the same graph. The F/M will use Mixed Liquor Volatile Suspended Solids (MLVSS) as the estimate of Organic solids concentration. Use one page to summarize your findings for F/M and its worth in describing what happened in the treatment plant some 5 days earlier. b4. TAB 4. Contained within this tab will is the information used to describe TC#3. TC#3 is a plot of the Mean Cell Residence Time (MCRT) on the same graph as the SEBOD and SETSS. Try to base the MCRT on the best available information including the sludge contained in the secondary clarifier. Again, use one page to summarize the possible observations that would lead to a correlation between MCRT and effluent quality. b5. TAB 5 will contain the trend plot of the sludge Volume Index (SVI) or the Sludge Density Index (SDI) with SEBOD and SETSS and a summary page of possible correlations between either of the sludge indices and effluent quality. This plot will be known as TC#4. b6. TAB 6. This tab will contain and display your Specific Oxygen Consumption Rate (SOCR) data. You are required to perform 4 SOCR tests on the mixed liquor during this term. Do no more than one test per week. Additionally, you are required to perform 1 FED and 1UNFED OCR test during this term and calculate the resulting Loading Factor (LF). Use one page to state your observations and conclusions concerning these tests and the relevance of the Loading Factor with established Astandards@. b7. TAB 7. Within this important tab will be your Mallory plotting information. You can choose which combinations of parameters you want to plot onto

trend charts of SEBOD and SETSS. You must plot WCR, SAmallory, SCY, SDR, and SAR. You may label these plots in any series that you choose such as TC#5, 6, 7, 8, and 9. Summarize each trend parameter and its relationship with effluent quality.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1546

Preview Bridge

Course Change Request

Date Submitted: 05/02/25 1:28 pm

Viewing: WR-246 : Publishing Literature: Reading and Revising for Publication

Last approved: 04/19/25 4:56 am

Last edit: 05/02/25 1:28 pm

Changes proposed by: Amanda Coffey (amandac)

Related GenEd:

WR-246: Editing & Publishing

Catalog Pages referencing this course

Writing (WR)

Programs referencing this course

AS.TBIOLOGY: Biology (AST)
NA.OTM: Oregon Transfer Module
AS.TCOMPSCIESWO, AS.TCOMPSCIOSPSUO: Computer Science (AST)
AS.TBUSINESS: Business (AST)
NA.CTM: Core Transfer Map
AA.OREGONTRANSFER: Associate of Arts Oregon Transfer (AAOT)
AA.OTELEMED: Elementary Education (AAOT)
AS.PSUENGLISH: AS, English, PSU
AGS.GENERAL: Associate of General Studies
AA.ENGLIT: English Literature (AAT)

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DAFC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 05/02/25 2:12 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/02/25 4:19 pm Amanda Coffey (amandac): Approved for DAFC Curriculum Committee Outline Review Team

History

1. Jun 9, 2023 by Megan Feagles (megan.feagles)
2. Apr 19, 2025 by Matthew Warren (matthew.warren)

Is Topic Shell Course?

Are you the Faculty Contact Person?

No

Faculty Contact Email

matthew.warren@clackamas.edu

Course Prefix	WR - Writing
Course Number	246
Department	English
Division	Academic Foundations and Connections (AFAC)
Course Title	Publishing Literature: Reading and Revising for Publication

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	44.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	

CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	44
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Yes

Course Description

For students with an interest in creative writing and/or literary journal publication who wish to develop publishing skills. Students work collaboratively to acquire and revise manuscripts for publication in an award-winning literary journal featuring poetry and short fiction from local and international authors. May be repeated for up to 8 credits.

Type of Course (ACTI Code)

100 - Lower Division Collegiate

Select at least one of the following:

Discipline Studies
Elective Only

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

Yes

Up to how many credits can this course be repeated to satisfy a degree requirement?	8

Course Requisites

Required

Prerequisites

WRD-098 or placement in WR-121Z

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule

Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall ~~Winter~~

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

Yes

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

Yes

General Education Outcome(s)

Arts & Letters

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	explore literary journals and develop a sense of literary criticism based on fundamental criteria;
2	analyze various styles in contemporary creative writing and demonstrate the ability to identify creative writing suitable for publication;

	Upon successful completion of this course, students should be able to:
3	critique the work of other writers, draft suggestions for developmental revisions, and communicate editorial decisions to authors;
4	draft, critique, revise, and edit supplemental copy for publication;
5	develop and contribute to a marketing plan for a publication;
6	troubleshoot and solve common production problems to meet publishing deadlines.

AAOT/ASOT General Education Outcomes Course Outline Mapping Chart

As a result of completing the AAOT/ASOT general education requirements, students will be able to:

WR: Writing Outcomes

Read actively, think critically, and write purposefully and capably for academic and, in some cases, professional audiences.

P

Locate, evaluate, and ethically utilize information to communicate effectively.

P

Demonstrate appropriate reasoning in response to complex issues.

P

SP: Speech/Oral Communication Outcomes

Engage in ethical communication processes that accomplish goals.

Respond to the needs of diverse audiences and contexts.

Build and manage relationships.

AL: Arts and Letters Outcomes

Interpret and engage in the Arts & Letters, making use of the creative process to enrich the quality of life.

S

Critically analyze values and ethics within range of human experience and expression to engage more fully in local and global issues.

S

Outcome Assessment Strategies

Outcomes Assessment Strategies

Criteria
Industry Standards
Portfolios
Projects
Rubrics
Writing Assignments

Major Topic Outline

1. Analyze other literary journals critically and appreciatively. 2. Contribute to and help define a set of principles to differentiate between writing that is competent and writing that is suitable for publication. 3. Develop meaningful editorial suggestions and work with authors to implement revisions. 4. Develop a marketing plan for book publication. 5. Contribute to publishing process blog. 6. Work as a group with individual values toward a common goal of publishing a literary journal.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Course Transferability

OUS school to which the course will transfer

PSU - Portland State University

Comparable course(s)

Sophomore Inquiry

How does it transfer?

general elective
required or support for major

Evidence of transferability

OUS school to which the course will transfer

OSU - Oregon State University

Comparable course(s)

WR LDT

How does it transfer?

general elective

Evidence of transferability

Correspondence with receiving institution (mail, fax, email, etc.)

OUS school to which the course will transfer

UO - University of Oregon

Comparable
course(s)

WR2AAT

How does it transfer?

general elective

Evidence of transferability

Correspondence with receiving institution (mail, fax, email, etc.)

Please attach documentation

Transfer Map.pdf

Reviewer Comments

Key: 1593

Preview Bridge

Course Change Request

Date Submitted: 05/02/25 1:29 pm

Viewing: WR-248 : Publishing Literature: Editing and Marketing for Publication

Last approved: 04/19/25 4:56 am

Last edit: 05/02/25 1:29 pm

Changes proposed by: Amanda Coffey (amandac)

Related GenEd:

WR-248: Bookmaking: Design and Layout

Catalog Pages referencing this course

Writing (WR)

Programs referencing this course

AS.PSUMUSIC: AS, Music, PSU
AS.TBIOLOGY: Biology (AST)
NA.OTM: Oregon Transfer Module
AS.TCOMPSCIESWO, AS.TCOMPSCIOSPSUO: Computer Science (AST)
AS.TBUSINESS: Business (AST)
NA.CTM: Core Transfer Map
AA.OREGONTRANSFER: Associate of Arts Oregon Transfer (AAOT)
AA.OTELEMED: Elementary Education (AAOT)
AS.PSUENGLISH: AS, English, PSU
AGS.GENERAL: Associate of General Studies
AA.ENGLIT: English Literature (AAT)

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DAFC Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 05/02/25 2:12 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/02/25 4:19 pm Amanda Coffey (amandac): Approved for DAFC Curriculum Committee Outline Review Team

History

1. Jun 9, 2023 by Megan Feagles (megan.feagles)
2. Apr 19, 2025 by Matthew Warren (matthew.warren)

Is Topic Shell Course?

Are you the Faculty Contact Person?

No

Faculty Contact Email

matthew.warren@clackamas.edu

Course Prefix	WR - Writing
Course Number	248
Department	English
Division	Academic Foundations and Connections (AFAC)
Course Title	Publishing Literature: Editing and Marketing for Publication

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	44.00
Lec/Lab	
Lab	
Activity	
Clinical	
Field	

CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	44
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Yes

Course Description

For students with an interest in creative writing and/or literary journal publication who wish to develop publishing skills. Students work collaboratively to copyedit manuscripts for publication and create marketing materials for an award-winning literary journal featuring poetry and short fiction from local and international authors. May be repeated for up to 8 credits.

Type of Course (ACTI Code)

100 - Lower Division Collegiate

Select at least one of the following:

Discipline Studies
Elective Only

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

Yes

Up to how many credits can this course be repeated to satisfy a degree requirement?	8

Course Requisites

Required

Prerequisites

WRD-098 or placement in WR-121Z

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule

Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Winter ~~Fall~~

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

Yes

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

Yes

General Education Outcome(s)

Arts & Letters

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	explore literary journals and develop a sense of literary criticism based on fundamental criteria;
2	develop editorial style guides and apply various methods of revision to edit a publication of other writers' works;

	Upon successful completion of this course, students should be able to:
3	draft, critique, revise, and edit supplemental copy for publication;
4	contribute to and implement a marketing plan for a publication;
5	draft, revise, and edit promotional materials using industry-standard technology;
6	troubleshoot and solve common production problems to meet publishing deadlines.

AAOT/ASOT General Education Outcomes Course Outline Mapping Chart

As a result of completing the AAOT/ASOT general education requirements, students will be able to:

WR: Writing Outcomes

Read actively, think critically, and write purposefully and capably for academic and, in some cases, professional audiences.

S

Locate, evaluate, and ethically utilize information to communicate effectively.

S

Demonstrate appropriate reasoning in response to complex issues.

S

SP: Speech/Oral Communication Outcomes

Engage in ethical communication processes that accomplish goals.

Respond to the needs of diverse audiences and contexts.

Build and manage relationships.

AL: Arts and Letters Outcomes

Interpret and engage in the Arts & Letters, making use of the creative process to enrich the quality of life.

S

Critically analyze values and ethics within range of human experience and expression to engage more fully in local and global issues.

S

Outcome Assessment Strategies

Outcomes Assessment Strategies

Criteria
Industry Standards
Portfolios
Projects
Rubrics
Writing Assignments

Major Topic Outline

1. Analyze other literary journals critically and appreciatively. 2. Create style guides and copyedit manuscripts for publication. 3. Implement a marketing plan for book publication. 4. Create and distribute promotional materials. 5. Contribute to publishing process blog. 6. Work as a group with individual values toward a common goal of publishing a literary journal.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Course Transferability

OUS school to which the course will transfer

PSU - Portland State University

Comparable course(s)

Sophomore Inquiry

How does it transfer?

general elective
required or support for major

Evidence of transferability

Correspondence with receiving institution (mail, fax, email, etc.)

OUS school to which the course will transfer

UO - University of Oregon

Comparable course(s)

ARTD2AAT

How does it transfer?

general elective

Evidence of transferability

Correspondence with receiving institution (mail, fax, email, etc.)

Please attach documentation

Transfer Map.pdf

Reviewer Comments

Key: 1595

Preview Bridge

Clackamas Community College

Course Inactivations

Course Number	Title	Implementation
AB-101	Auto Restoration	2025/SU
AB-105	Street Rod Construction Techniques	2025/SU
AM-100	Automotive Fundamentals	2025/SU
AM-106	Fix Your Own Car	2025/SU
AM-116	Remote Control Vehicle Fundamentals	2025/SU
AM-118	Small Engine Repair	2025/SU

Course Change Request

A deleted record cannot be edited

Course Inactivation Proposal

Date Submitted: 05/06/25 4:22 pm

Viewing: AB-101 : Auto Restoration

Last approved: 08/14/24 4:02 am

Last edit: 05/07/25 6:43 am

Changes proposed by: Melissa Harris (melissa.harris)

Catalog Pages referencing this course

Auto Body/Collision Repair (AB)

Justification for this inactivation request

College has decided to cancel this course starting summer term and all terms in the future.
2025-26 Proposed Budget General Fund reductions.

Is Topic Shell Course?

In Workflow

1. **Curriculum Office**
2. **DTPS Dean**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 05/07/25 9:15 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/07/25 1:23 pm Armetta Burney (armetta.burney): Approved for DTPS Dean

History

1. Jun 9, 2023 by Megan Feagles (megan.feagles)
2. Aug 14, 2024 by Dru Urbassik (dru.urbassik)

Are you the Faculty Contact Person?

Course Prefix	AB - Auto Body/Collision Repair
Course Number	101
Department	Automotive and Welding Department
Division	Technology, Applied Science and Public Services (TAPS)
Course Title	Auto Restoration

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	3.00
Variable Credit	No

Contact hours

Lecture	
Lec/Lab	60.00
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers	

Ed

Community Education/Adult

Total 60

Proposed Effective Term Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Designed for students interested in auto body repair and painting their own vehicles. Includes dent removal, panel replacement, welding and painting. May be repeated for up to 12 credits.

Type of Course (ACTI Code)

211 - Standalone Career Technical Preparatory

CIP Code 47.0603 - Autobody/Collision and Repair Technology/Technician.

Select one of the following career areas:

Industrial and Engineering Systems

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

Yes

Up to how many credits can this course be repeated to satisfy a degree requirement? 12

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog: No

When do you plan to offer this course?

Summer/Fall/Winter/Spring

Will this class use library resources?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	demonstrate basic metal repair techniques;
2	demonstrate proper panel replacement procedures;
3	select proper welding processes and apply as determined by project;
4	develop and implement a refinishing plan;
5	customize a buffing/detailing plan pertinent to the applied finish.

Major Topic Outline

1. Shop Orientation. 2. Shop Safety (taught in each section) 3. Tool Introduction, including. selection, safety and use. a. Hand tools. b. Power tools. c. Grinders. d. Jacks and stands. e. Hoists. f. Welding equipment. 4. Introduction to Metal Working. a. Dent removal. b. Part removal, replacement and alignment. d. Welding patches and holes. 5. Introduction to Plastic Filler. a. Preparation for application. b. Abrasives needed to form plastic. c. Mixing. d.

Application. e. Finishing. 6. Introduction to Painting. a. Surface prep and paint removal. b. Spraying and gun use. c. Priming and sealing. d. Color application. e. Buffing.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 1

Preview Bridge

Course Change Request

A deleted record cannot be edited

Course Inactivation Proposal

Date Submitted: 05/06/25 4:23 pm

Viewing: **AB-105 : Street Rod Construction Techniques**

Last approved: 02/22/25 5:37 am

Last edit: 05/07/25 6:43 am

Changes proposed by: Melissa Harris (melissa.harris)

Catalog Pages referencing this course

Auto Body/Collision Repair (AB)

Justification for this inactivation request

College has decided to cancel this course starting summer term and all terms in the future.

2025-26 Proposed Budget General Fund reductions.

In Workflow

1. **Curriculum Office**
2. **DTPS Dean**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 05/07/25 9:15 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/07/25 1:23 pm Armetta Burney (armetta.burney): Approved for DTPS Dean

History

1. Sep 16, 2023 by Megan Feagles (megan.feagles)
2. Nov 2, 2024 by Dustin Bates (dustinb)
3. Feb 22, 2025 by Melissa Harris (melissa.harris)

Is Topic Shell Course?

Are you the Faculty Contact Person?

Course Prefix	AB - Auto Body/Collision Repair
Course Number	105
Department	Automotive and Welding Department
Division	Technology, Applied Science and Public Services (TAPS)
Course Title	Street Rod Construction Techniques

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	3.00
Variable Credit	No

Contact hours

Lecture	
Lec/Lab	66.00
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	

Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	66
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

In this course, students will learn panel forming, welding, basic body work and repair of their own classics and special interest cars. Includes shop safety, chemical hazard safety, proper and safe use of tools, basic metal work and finishing, and paint preparation and application. May be repeated for up to 12 credits.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

Yes

Up to how many credits can this course be repeated to satisfy a degree requirement? 12

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Summer/Fall/Winter/Spring

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	demonstrate the principles of shop safety;
2	perform basic body work, which includes panel forming, welding, and finishing;
3	perform paint preparation and application.

Major Topic Outline

1. Shop orientation 2. Shop safety 3. Tool introduction, including selecting and safety using A. Hand tools B. Power tools C. Grinders D. Jacks and stands E. Hoists F. Welding equipment G. Car Care 4. Basic bodywork A. Metal straightening B. Rust repair panel fabrication C. Patch panel installation D. M.I.G. and T.I.G. welding safety and basics E. Metal finishing 5. Plastic filler A. Product selection B. Proper mixing and application C. Contouring and sanding techniques 6. Surface preparation and priming A. Product selection, abrasives and materials B. Mixing and

application C. Block sanding 7. Paint preparation A. Abrasive grit progression B. Surface cleaning C. Masking D. Paint booth cleaning and set-up E. Material selection, mixing, and application 8. Detailing A. Finish inspection B. Defect removal and remediation C. Buffing and polishing D. Final clean-up

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 2

Preview Bridge

Course Change Request

A deleted record cannot be edited

Course Inactivation Proposal

Date Submitted: 05/06/25 4:23 pm

Viewing: AM-100 : Automotive Fundamentals

Last approved: 02/22/24 3:48 am

Last edit: 05/07/25 6:43 am

Changes proposed by: Melissa Harris (melissa.harris)

Catalog Pages referencing this course

Automotive Service Technology (AM)

Justification for this inactivation request

College has decided to cancel this course starting summer term and all terms in the future.
2025-26 Proposed Budget General Fund reductions.

In Workflow

1. **Curriculum Office**
2. **DTPS Dean**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 05/07/25 9:15 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/07/25 1:23 pm Armetta Burney (armetta.burney): Approved for DTPS Dean

History

1. May 12, 2023 by Megan Feagles (megan.feagles)
2. Jun 2, 2023 by Megan Feagles (megan.feagles)
3. Feb 22, 2024 by Megan Feagles (megan.feagles)

Is Topic Shell Course?

No

Are you the Faculty Contact Person?

Course Prefix	AM - Automotive Service Technology
Course Number	100
Department	Automotive and Welding Department
Division	Technology, Applied Science and Public Services (TAPS)
Course Title	Automotive Fundamentals

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	
Lec/Lab	88.00
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	

Seminar

Community Education/Drivers Ed

Community Education/Adult

Total	88
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Yes

Course Description

An introductory automotive service class intended to provide fundamental knowledge and basic experience about automobiles. The course covers automotive systems, preventive maintenance and performing basic repairs. Also covered in the course is SP2 safety and pollution prevention training, communication skills, tool identification and general automotive maintenance and repair.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall/Winter/Spring

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	maintain, diagnose and repair basic automotive systems;
2	identify SP2 safety & pollution prevention training;
3	identify major components of an automobile;
4	identify, classify and repair threaded fasteners;
5	demonstrate a vehicle suspension and steering system inspection for wear and damage;
6	identify and use proper placement of floor jacks and jack stands;
7	demonstrate a vehicle brake system inspection for wear and damage;
8	demonstrate effective customer and workplace communication skills;

	Upon successful completion of this course, students should be able to:
9	demonstrate proper use of precision measuring tools and identify hand tools in the automotive industry.

Major Topic Outline

1. Introduction and How Cars Work
2. Basic Tools
3. Shop Safety
4. Automotive Suspension Systems
5. Automobile Brake Systems
6. Fluid Level Checks
7. Lubrication Systems
8. Suspension, Steering and Tires
9. Braking Systems
10. Drivetrain and Components

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 2074

Preview Bridge

Course Change Request

A deleted record cannot be edited

Course Inactivation Proposal

Date Submitted: 05/07/25 9:05 am

Viewing: AM-106 : Fix Your Own Car

Last approved: 06/09/23 5:24 am

Last edit: 05/07/25 9:13 am

Changes proposed by: Melissa Harris (melissa.harris)

Catalog Pages referencing this course

Automotive Service Technology (AM)

Justification for this inactivation request

College has decided to cancel the course starting Summer term and all terms in the future.
2025-26 Proposed Budget General Fund reductions.

Is Topic Shell Course?

Are you the Faculty Contact Person?

In Workflow

1. **Curriculum Office**
2. **DTPS Dean**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 05/07/25 9:15 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/07/25 1:23 pm Armetta Burney (armetta.burney): Approved for DTPS Dean

History

1. Jun 9, 2023 by Megan Feagles (megan.feagles)

Course Prefix	AM - Automotive Service Technology
Course Number	106
Department	Automotive and Welding Department
Division	Technology, Applied Science and Public Services (TAPS)
Course Title	Fix Your Own Car

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	2.00
Variable Credit	No

Contact hours

Lecture	
Lec/Lab	40.00
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	

Community Education/Adult	
Total	40
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

A do-it-yourself course for students who want to work on their own cars. Includes: oil change, lubrication, fluid checks, brakes, cooling system, electrical system, safety, and other quick services. May be repeated for up to 12 credits.

Type of Course (ACTI Code)

211 - Standalone Career Technical Preparatory

CIP Code: 47.0604 - Automobile/Automotive Mechanics Technology/Technician.

Select one of the following career areas:

Industrial and Engineering Systems

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

Yes

Up to how many credits can this course be repeated to satisfy a degree requirement? 12

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Not Offered Every Term

Will this class use library resources?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	understand basic operating systems of automobiles,
2	perform basic emergency repairs.

Major Topic Outline

1. Safety. a. Use of floor jacks and pneumatic hoists. b. Use of vehicle jacks. c. Proper placement of safety stands. d. Proper and safe use of tools and equipment will be covered as an integral part of instruction. 2. Service Interval. a. Engine. b. Transmission. b1. Standard. b2. Automatic. c. Cooling. c1. Antifreeze. c2. Flushing system. c3. Heater hoses. c4. Heater core. c5. Radiator. c5a.Hoses c5b.Repair 3. Battery. a. Safety precautions. b. Maintenance. c. Testing. d. Jump starting. 4. Charging system. a. Alternator replacement. b. Belt replacement. c. Testing. d. Jump starting. 5. Engine Tune-up. a. Component replacement. a1. Fuel filter. a2. PCV valve. a3. Air filter. a4. Spark plugs. a5. Vacuum lines. a6. Drive belts. a7. Distributor cap and rotor. a8. Ignition wires. a9. Ignition timing. a10. Ignition points. b. Idle speed adjustment. 6. Brake

System. a. Inspection. 7. Suspension. a. Inspection. a1. Tire wear. a2. Wheel bearings (repacking). b. Lubrication. 8. Electrical. a. Starting system. a1. Maintenance. b. Head lights. c. Park lights. d. Turn signals. e. Windshield wipers. e1. Blade replacement. f. Fuses. f1. Types. f2. Replacement. 9. Motor Vehicle Emergencies. a. Throttle sticking. b. Brake failure. c. Loss of steering. d. Fires. e. Loss of power-assisted brakes and steering. f. Loss of lights. g. Overheating engines. h. Loss of oil pressure. i. Alternator failure. j. Windshield wiper failure. k. Dropped driveshaft. l. Hood pop-up. m. Loss of lug nuts on the wheels. n. Exhaust system failures. o. Flat tire and blow-outs. p. Driving through water in heavy rain or snow. q. Engine won't crank over. 10. Clutch (standard transmission). a. Pedal free play. b. Adjustment. c. Repair and replacement.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Course Change Request

A deleted record cannot be edited

Course Inactivation Proposal

Date Submitted: 05/06/25 4:23 pm

Viewing: **AM-116 : Remote Control Vehicle Fundamentals**

Last approved: 02/22/24 3:48 am

Last edit: 05/07/25 6:43 am

Changes proposed by: Melissa Harris (melissa.harris)

Catalog Pages referencing this course

Automotive Service Technology (AM)

Justification for this inactivation request

College has decided to cancel this course starting summer term and all terms in the future.
2025-26 Proposed Budget General Fund reductions.

Credits/Hours/In

Is Topic Shell Course?

In Workflow

1. **Curriculum Office**
2. **DTPS Dean**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 05/07/25 9:15 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/07/25 1:23 pm Armetta Burney (armetta.burney): Approved for DTPS Dean

History

1. Jun 6, 2023 by Megan Feagles (megan.feagles)
2. Feb 22, 2024 by Megan Feagles (megan.feagles)

Are you the Faculty Contact Person?

Course Prefix	AM - Automotive Service Technology
Course Number	116
Department	Automotive and Welding Department
Division	Technology, Applied Science and Public Services (TAPS)
Course Title	Remote Control Vehicle Fundamentals

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	No
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	
Lec/Lab	88.00
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	

Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	88
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

This course is intended to provide an exploration into mechanical and electrical systems found on 1/10 scale electrically propelled trucks. Students will have classroom instruction to cover operation of suspension systems, drive train systems, gear reductions, battery construction, battery maintenance and charging, electric motor operation, maintenance and repair. Students will disassemble, categorize and organize all parts and re-assemble a remote-controlled vehicle throughout the term. Students will test and operate their remote vehicle on a controlled course with successful completion of class assignments.

Type of Course (ACTI Code)

211 - Standalone Career Technical Preparatory

CIP Code

47.0604 - Automobile/Automotive Mechanics Technology/Technician.

Select one of the following career areas:

Industrial and Engineering Systems

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog: No

When do you plan to offer this course? Fall/Winter/Spring

Will this class use library resources? No

Course Certifications

Is this a Related Instruction course? No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	demonstrate the fundamentals of alignment angles;
2	demonstrate and explain general electrical principles;

	Upon successful completion of this course, students should be able to:
3	demonstrate and explain torque, speed, and horsepower;
4	demonstrate and explain various powertrain functions and principles.

WR: Writing

SR: Speech/Oral

MA: Mathematics

AL: Arts and Letters

SS: Social Science

SC: Science or

Outcome As

Major Topic Outline

1. Vehicle adjustments and alignment angles.
2. Basic electrical principles and digital volt meter usage.
3. Calculating horsepower, torque, and speed.
4. Manual transmission and differential operation.
5. Types of drive axles and suspensions.
6. Building, maintaining and driving the RC truck.

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 4331

Preview Bridge

Course Change Request

A deleted record cannot be edited

Course Inactivation Proposal

Date Submitted: 05/06/25 4:23 pm

Viewing: AM-118 : Small Engine Repair

Last approved: 11/04/23 4:51 am

Last edit: 05/07/25 6:44 am

Changes proposed by: Melissa Harris (melissa.harris)

Catalog Pages referencing this course

Automotive Service Technology (AM)

Justification for this inactivation request

College has decided to cancel this course starting summer term and all terms in the future.
2025-26 Proposed Budget General Fund reductions.

Credits/Hours/

Is Topic Shell Course?

Are you the Faculty Contact Person?

In Workflow

1. **Curriculum Office**
2. **DTPS Dean**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 05/07/25 9:15 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 05/07/25 1:23 pm Armetta Burney (armetta.burney): Approved for DTPS Dean

History

1. Nov 4, 2023 by Megan Feagles (megan.feagles)

Course Prefix	AM - Automotive Service Technology
Course Number	118
Department	Automotive and Welding Department
Division	Technology, Applied Science and Public Services (TAPS)
Course Title	Small Engine Repair

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	Yes
Min Credit	4.00
Variable Credit	No

Contact hours

Lecture	
Lec/Lab	88.00
Lab	
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers	

Ed

Community Education/Adult

Total 88

Proposed Effective Term Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

This course is designed to provide an overview of basic small engine maintenance, operation and repair. It covers safety, small engine theory, electrical systems, and troubleshooting. Classroom instruction covering theory of operation, 2 cycle and 4 cycle designs and applications, combined with hands-on live projects provides the student the opportunity to learn basic principles of small engine operation, including outdoor equipment, motorcycles, and A.T.V.'s.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

Prerequisites or Corequisites

Recommended

Prerequisites

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog

No

When do you plan to offer this course?

Fall/Winter/Spring

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Course Certifications

Is this a Related Instruction course?

No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	explain small engine theory, as it applies to both 2 cycle and 4 cycle engines;
2	choose and utilize correct specialty tools needed for specific models;
3	measure and compare component specifications;
4	repair and adjust most types of ignition systems;
5	diagnose starting and operating problems relating to starting, ignition systems, and carburetors;
6	apply appropriate safety procedures and environmental practices during diagnosis and repair of small engines;
7	troubleshoot spark related and fuel related issues and repair accordingly.

WR: Writing

SP: Speech/Oral

MA: Mathematic

AI: Arts and

SS: Social Scienc

SC: Science or

Outcome A

Major Topic Outline

1. Safety 2. Tool Identification 3. Theory of Small Engine Operation 4. Ignition Systems 5. Carburetion 6. Governors 7. Starters 8. Electrical systems 9. Lubrication 10. Fuel systems 11. Small engine troubleshooting 12. Engine performance and repair

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Key: 26

Preview Bridge

Clackamas Community College

Hours, Instructional Method, Credits Change

Course	Current Hours/Credits	Proposed Hours/Credits
PHB-112	60 LAB/2 Credits	66 LAB/2 Credits

Course Change Request

Date Submitted: 04/16/25 2:47 pm

Viewing: PHB-112 : Phlebotomy Techniques

Last approved: 02/22/25 5:37 am

Last edit: 04/16/25 2:47 pm

Changes proposed by: Virginia Chambers (virginia.chambers)

Catalog Pages referencing this course

Phlebotomy (PHB)

Programs referencing this course

CC.PHLEBOTOMY: Phlebotomy

Credits/Hours/Instructional Method Change

In Workflow

1. **Curriculum Office**
2. **DTPS Curriculum Committee Outline Review Team**
3. **Curriculum Office**
4. Curriculum Committee Approval
5. Colleague

Approval Path

1. 04/16/25 2:43 pm Megan Feagles (megan.feagles): Rollback to Initiator
2. 04/16/25 2:52 pm Megan Feagles (megan.feagles): Approved for Curriculum Office
3. 05/02/25 2:19 pm Erin Gravelle (erin.gravelle): Approved for DTPS Curriculum Committee Outline Review Team

History

1. Nov 7, 2023 by Megan Feagles (megan.feagles)
2. Apr 6, 2024 by Virginia Chambers

(virginia.chambers)
3. Feb 22, 2025 by Virginia Chambers (virginia.chambers)

Yes

Reason for proposal

Increased from 30 hours per credit to 33 hours per credit to align with 6 hours of hands on skills in lab over the 11 weeks.

Is Topic Shell Course?

Are you the Faculty Contact Person?

Yes

Course Prefix	PHB - Phlebotomy
Course Number	112
Department	Health Sciences
Division	Technology, Applied Science and Public Services (TAPS)
Course Title	Phlebotomy Techniques

Grading

Grade Scheme	Standard (STND)
Credit Type	Credit Course
Allow Pass/No Pass	Yes
Only Pass/No Pass	No
Audit	No
Min Credit	2.00
Variable Credit	No

Contact hours

Lecture

Lec/Lab	
Lab	66.00 ~~60.00~~
Activity	
Clinical	
Field	
CWE Seminar	
CPR	
Seminar	
Community Education/Drivers Ed	
Community Education/Adult	
Total	66 ~~60~~
Proposed Effective Term	Summer 2025

I acknowledge that this course, for the average student, will be a time commitment of 3 hours per week per credit in combination of in-class and out-of-class activity.

Course Description

Perform venipuncture, capillary puncture, and specimen processing. This course is designed to provide students with active-learning experiences and hands-on training necessary to develop the skills of an entry-level phlebotomist. The student will learn the procedures performed by a phlebotomist and will become familiar with different types of equipment and techniques applied. Instruction on laboratory safety and standards will be emphasized.

Type of Course (ACTI Code)

210 - Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Course Requisites

Required

Prerequisites

Corequisites

PHB-110 and PHB-115

Prerequisites or Corequisites

Recommended

Prerequisites

BI-120, or BI-101 & BI-102, or BI-231 & BI-232 & BI-233. HP-110, and WR-101 or WR-121Z

Corequisites

Prerequisites or Corequisites

Non-Course Requisites

Required

Recommended

Is Student Petition required?

No

Show course in Schedule: Print in Schedule

Hide course in catalog: No

When do you plan to offer this course? Fall/Spring

Will this class use library resources? No

Course Certifications

Is this a Related Instruction course? No

Are you going to seek General Education Certification after course approval?

No

General Education Outcome(s)

Equivalent Courses

Equivalent Active Courses

Equivalent Inactive Courses

Student Learning Outcomes

Student Learning Outcomes

	Upon successful completion of this course, students should be able to:
1	perform blood collection procedures through venipuncture and dermal puncture;
2	prepare, collect, process, and handle various laboratory specimens including waived and point-of-care testing;

	Upon successful completion of this course, students should be able to:
3	identify common phlebotomy considerations and errors and implement ways to address them in order to ensure patient safety, and maintain specimen integrity;
4	adhere to principles of infection control and safety precautions during specimen collection and processing;
5	demonstrate professionalism and patient-centered behavior.

Major Topic Outline

- Venipuncture equipment - Dermal puncture equipment - Venipuncture procedure - Dermal puncture procedure - Hand hygiene - Sharps safety - Infection control - Personal Protective Equipment - Tourniquet use - Patient identification - Appropriate Site selection - Order of draw - Collection requirements - Professionalism - Laboratory requisitions - Patient preparation - Waived and point of care testing - Newborn screening - Blood culture collection - Patient-centered interactions - Specimen labeling - Quality control - Documentation - Specimen processing - Specimen handling - Preanalytical errors - Biohazard handling - Laboratory safety

Green Course Management

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

Increased Energy Efficiency

No

Produce Renewable Energy

No

Prevent Environmental Degradation

No

Clean up Natural Environment

No

Supports Green Services

No

Percent of Course 0

Reviewer Comments

Program Amendments

Program	Implementation
Employment Skills Training CC	2025/SU

Program Change Request

Date Submitted: 04/14/25 2:20 pm

Viewing: CC.EMPLOYSKILLS : Employment Skills Training

Last approved: 06/05/23 1:54 pm

Last edit: 04/14/25 2:20 pm

Changes proposed by: Dru Urbassik (dru.urbassik)

Catalog Pages Using this Program

Employment Skills Training, Certificate

Change Type

College Council Review

No

Program Contact Information

Are you the Faculty Contact Person?

Yes

Program Overview

Name of Proposed Program

In Workflow

1. **Curriculum Office**
2. **Dustin Bare**
3. **DIEP Dean**
4. **Curriculum Office**
5. Curriculum Committee Approval

Approval Path

1. 04/15/25 8:27 am Megan Feagles (megan.feagles): Approved for Curriculum Office
2. 04/28/25 4:08 pm Dustin Bare (dbare): Approved for dbare
3. 04/28/25 5:46 pm Ashley Sears (ashley.sears): Approved for DIEP Dean

History

1. Oct 6, 2022 by clmig-kxayasene
2. Jun 5, 2023 by Megan Feagles (megan.feagles)

Employment Skills Training

Program Code	CC.EMPLOYSKILLS
Award (CCWD)	EST
Type of Program (CCC)	Certificate of Completion (CC)
Educational Focus Area	
Effective Catalog Edition	2025-2026
Career Area	Human Resources
Department	Office of Education Partnerships
Division	Institutional Effectiveness & Planning (IEP)

Other locations (institutions) this Program will be offered

CIP Code	32.0107 - Career Exploration/Awareness Skills.

Program Award Information

Program Learning Outcomes (PLOs)

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

	Outcome(s)
1	demonstrate the knowledge developed on-the-job and in the classroom;
2	complete an individualized career plan;
3	demonstrate employment skills, job search skills, career management skills and/or introductory contact with an employer(s) and/or hiring manager.

Proposed Curriculum

An EST plan must be developed with and approved by a Department Chair or other department representative. ~~department's faculty advisor.~~

All of the college’s collegiate level credit courses are eligible to be included in the certificate. Developmental courses may be included as prerequisites in a plan but cannot be part of the EST certificate.
All courses must be passed with a C or better.

Reviewer
Comments

Key: 73

Program Suspensions

Program	Implementation
AS, English, PSU	2025/SU

Inactivating: AS.PSUENGLISH: AS, English, PSU

No Longer Offered Starting	2025-2026
Plan Implementation Date	May 2025
Date of Last Student Admission	Jan 26 2025
Last Term of Program Teach-Out	Fall 2026
# of Students in Program	10
Source for Student Enrollment	Dustin Bare, through reporting s

Teach Out Plan

This plan must allow students to complete a goal without being disadvantaged. The plan cannot cost the student additional money. The teach out plan can include solutions to situations that would result in additional student costs, such as offering free tuition to students for the additional courses they may have to complete in order to be awarded a degree. The teach-out plan should also consider how the department will handle students who want to return to the degree program, but were not enrolled in the program at the time of termination. The following must be completed as part of the Teach-Out Plan.

How will these promises to the students be met?

Maintain the necessary experience, resources, and support services

No changes to faculty, courses will continue to be offered, advising will continue to be offered through Advising department and English department. Students will be offered the opportunity to explore whether the English AAT degree will serve them better, but can choose to stay in the AS-PSU. Most students will benefit from the flexibility in the English AAT.

Remain stable, carry out its mission, and meet all its obligations to students

If an individual student needs a course to graduate that cannot be taught as a full course before the graduation date, we will offer a by-arrangement course with an appropriate instructor to ensure the student can graduate on time, with no additional charges. This accommodation will be offered to any student enrolled in the AS-PSU from the catalog year 2020-21 through 2024-25.

Offer the program without additional charge

If a student is advised into the AAT English, we will compare the two programs to ensure that the change will not cause additional terms or courses for the student. This accommodation will be offered to any student enrolled in the AS-PSU from the catalog year 2020-21 through 2024-25.

Communication plan with students

For questions and assistance, contact Curriculum Office at curriculum@clackamas.edu

This plan must explain how students will receive communication regarding the suspension of a program. Examples include meetings, emails, and letters. In some cases, multiple meetings at different times of the day may be required.

We will send email to all students currently enrolled in the AS-PSU who are still attending CCC. We will send letters to students previously enrolled in the AS-PSU within the last 5 years (back to catalog year 2020-21) but are no longer attending CCC, using last known address.

Students will be offered advising sessions with the departmental advisor for English programs and/or Kirby Gleason in the Advising department.

Rationale for Inactivation

The recent revisions to the English AAT degree allow for greater flexibility and can now meet the needs of our English majors who want to focus on creative writing and publishing and plan to transfer to PSU (or other institutions). We have consulted with the English department at PSU and they agree.

Reviewer Comments