Curriculum Committee Agenda

March 5, 2021 (8-9:30am)

	Presenter	Action
1. Welcome and Introductions	**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. **Course Hours, Instructional Method, Credits Change**		
a. BA-250	**Sharon Parker**	Approval/21.SU
b. PH-201, 202 203, 211, 212, 213	**Greg Bostrom**	Approval/21.SP
b. **New Courses**		
a. FRP-206	**Jeff Ennenga**	Approval/21.SP
b. MA-135	**Shalee Hodgson**	Approval/21.SP
c. MFG-218, MTT-111, 112, 113, 121, 122, 123, 141, 241, 242, 252, 253, 254, 268, 269	**Mike Mattson**	Approval/21.SP
c. **Program Learning Outcomes**		
a. Automotive Service Technology AAS	**Rick Lockwood**	Info/21.SU
b. Business Management CC	**Sharon Parker**	Info/21.SU
d. **Program Amendments**		
a. Business AAS	**Sharon Parker**	Approval/21.SU
b. Business Management CC	"	
c. Human Resource Management CC	**Megan Feagles**	Approval/21.SU
5. Old Business a. Curriculum Committee Charter	**Chair**	Approval
6. New Business a. Three-Year Course Inactivation List (2022)	**Curriculum Office**	Informational
7. Closing Comments a.		

Curriculum Committee Minutes

February 5, 2021 (8-9:30am)

Present: Dasha Kolpakov (ASG), Dustin Bare, Nora Brodnicki, George Burgess, Rick Carino, Elizabeth Carney, Amanda Coffey, Jeff Ennenga, Megan Feagles (Recorder), Eden Francis, Sharron Furno, Sue Goff, Shalee Hodgson, Kerrie Hughes, Jason Kovac, Kara Leonard, Alice Lewis (Alternate Chair), Mike Mattson, Patricia McFarland, Tracy Nelson, David Plotkin, Scot Pruyn (Chair), Lisa Reynolds, Cynthia Risan, Terrie Sanne, Charles Siegfried, Casey Sims, Tara Sprehe, Sarah Steidl, Dru Urbassik, Andrea Vergun, Helen Wand, Jim Wentworth-Plato

Guests:

Absent:

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1. **Welcome & Introductions**

2. **Approval of Minutes**
   a. Approval of the January 29, 2021 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. **Related Instruction**
      i. The Related Instruction Sub-Committee recommends that the following courses continue to be approved in the listed related instruction area (FRP-255 would be approved for the first time):
      ii. **HR:** ED-258
      iii. **PE/Health**: PE-194, PE-294, FRP-255
      iv. **Computation:** MTH-211, 212, 213, 251, 252

   Motion to approve, approved

5. **Old Business**
   a. Academic Reduction and Elimination Update
      i. David Plotkin presented
      ii. At the end of 20/FA, rubrics were approved.
      iii. Over winter break, there was feedback/concern about how part-time faculty rates were calculated. The Business Office recalculated based on the feedback.
      iv. Began communicating with departments who are no longer in the process and those that are continuing on. Starting to look more closely into specific programs during 21/WI.
      v. Next steps: Distribute a report by mid-March, gather feedback in Spring Term, finalizing report to Executive Team. Exec Team will make recommendations by April.
      vi. 15 CTE programs, and 5 subjects areas that are moving forward in the process.
         a. Welding Technology AAS
         b. Music Performance & Technology AAS
         c. Landscape Management AAS
         d. Landscape Practices CC
         e. Organic Farming CC
         f. Horticulture AAS
         g. Horticulture CC
         h. Landscape Management AAS, Arboriculture Option
         i. Nursing (RN) AAS
         j. Computer & Network Administration AAS
         k. Computer & Network Administration CC
         l. Microelectronics Systems Technology AAS
         m. Microelectronics Systems Technology CC
         n. Automotive Service Technology AAS
         o. Geographic Information Systems (GIS) Technology CC

2. 5 subjects
    a. Music
    b. Music Performance
    c. Theatre Arts
    d. German
    e. French

b. Charter
    i. Scot Pruyn presented
    ii. 2nd read.
    iii. Bring back next time for a vote
    iv. Replace department with department/area

6. New Business

a. Diversity, Equity, and Inclusion (DEI) and Course Review
    i. Nora Brodnicki presented
    ii. Should the Committee develop something for faculty to look at Student Learning Outcomes through a DEI lens?
    iii. What else could we include that might intersect with other strategic priorities?
    iv. DEI is open for training for groups. Scot will reach out to see what our options are for training dates/times.
    v. Sub-Committee volunteers
        1. Helen Wand, Sarah Steidl, Alice Lewis, Elizabeth Carney, Nora Brodnicki, Sharron Furno, Scot Pruyn

7. Closing Comments

a.

-Meeting Adjourned-

Next Meeting: February 19, 2021 (8-9:30am)

Clackamas Community College

CONSENT AGENDA

March 5, 2021

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
ASL-101	American Sign Language I	2021/SP
CH-105	Introductory Chemistry	2021/SP
CH-106	Introductory Chemistry	2021/SP
CH-150	Preparatory Chemistry	2021/SP
CS-125H	HTML & Web Site Design	2021/SP
CS-135DB	Microsoft Access	2021/SP
CS-135S	Microsoft Excel	2021/SP
CS-297W	Website Capstone	2021/SP
HST-130	Oddballs and Outcasts in Western Civilization	2021/SP
MUP-222	Chamber Choir	2021/SP
MUP-225	Vocal Jazz Ensemble: Mainstream	2021/SP
MUS-160	Songwriting I	2021/SP
MUS-242	Music Creation with Ableton LIVE	2021/SP

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: World Languages

Submitter

First Name: Irma
Last Name: Bjerre
Phone: 3245
Email: irmab@clackamas.edu

Course Prefix and Number: ASL - 101

 # Credits: 4

Contact hours

Lecture (# of hours): 44
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 44

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

Course Title: American Sign Language I

Course Description:

First term of a three-term introductory course. Everyday communication is the centerpiece of each lesson. Topics revolve around sharing information about ourselves and our environment. Grammar is introduced in context, with an emphasis on developing question and answering skills. Strategies are presented to help the student maintain a conversation.

Type of Course: Lower Division Collegiate

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

Yes

Recommendations: WRD-098 or placement in WR-121

Requirements:

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. introduce oneself by signing and fingerspelling first and last name fluently,
2. demonstrate the signs for “wh-words” (interrogative words) including who, what, where, and when;
3. demonstrate appropriate non-manual signs/behavior in order to indicate who, what, where, and when;
4. sign the numbers 1-30,
5. describe, in sign, directions to locations using spatial agreement rules;
6. describe, in sign, his/her living environment;
7. describe, in sign, his/her family and family activities;
8. demonstrate role shifting in non-manual sign/behavior when signing about two or more people,
9. summarize, in writing, the history of ASL.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Introductions.
2. Basic fingerspelling.
3. Expressive vs. receptive signing.
4. Signing numbers.
5. Non-manual signing.
6. Spatial agreement rules.
7. Describing surroundings.
8. Describing family activities.
9. Role shifting.
10. The history of ASL.

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a

new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

✓ **PSU (Portland State University)**
✓ **SOU (Southern Oregon University)**
✓ **OSU (Oregon State University)**
✓ **WOU (Western Oregon University)**

Identify comparable course(s) at OUS school(s)

ASL 101 (PSU, SOU, WOU)
ASL 111 (OSU)

How does it transfer? (Check all that apply)

✓ **general elective**
:

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Sciences

Submitter

First Name: George
Last Name: Burgess
Phone: 3347
Email: george.burgess@clackamas.edu

Course Prefix and Number: CH - 105

 # Credits: 5

Contact hours

Lecture (# of hours): 44
Lec/lab (# of hours):
Lab (# of hours): 33
Total course hours: 77

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

Course Title: Introductory Chemistry

Course Description:

A lab course discussing heat; molecular and ionic interactions in solids, liquids, gases, and solutions; chemical reactions including acid-base, electron transfer, and equilibrium.

Type of Course: Lower Division Collegiate

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

Yes

Check which General Education requirement:

✓ **Science & Computer Science**

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

Yes

Pre-reqs: CH-104

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Summer**

✓ **Winter**
✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. apply scientific and technical inquiry, individually and collaboratively, to critically evaluate existing or create alternative explanations and solve problems; (SC2)
2. use electronic resources and common laboratory equipment in the pursuit of scientific inquiry; (SC1) (SC2)
3. describe the scientific method and the procedures used in generating hypotheses and solving scientific questions in the context of chemistry; (SC1) (SC2) (SC3)
4. analyze problems and apply appropriate problem-solving methods, including the correct use of experimental data, units and significant figures; (SC1) (SC2)
5. describe ad explain basic scientific principles and concepts important to an understanding of major topics in introductory chemistry; (SC1)
6. define, explain and apply fundamental concepts of chemistry in examinations and laboratory exercises; (SC1) (SC2)
7. critically examine the fundamentals of chemistry as applied to human society and the environment. (SC3)

AAOT/ASOT GENERAL EDUCATION OUTCOMES

AAOT/ASOT GENERAL EDUCATION OUTCOMES

COURSE OUTLINE MAPPING CHART

Mark outcomes addressed by the course:

- Mark "C" if this course completely addresses the outcome. Students who successfully complete this course are likely to have attained this learning outcome.
- Mark "S" if this course substantially addresses the outcome. More than one course is required for the outcome to be completely addressed. Students who successfully complete all of the required courses are likely to have attained this learning outcome.
- Mark "P" if this course partially addresses the outcome. Students will have been exposed to the outcome as part of the class, but the class is not a primary means for attaining the outcome and assessment for general education purposes may not be necessary.

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

WR: Writing Outcomes

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

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

3. Demonstrate appropriate reasoning in response to complex issues.

SP: Speech/Oral Communication Outcomes

1. Engage in ethical communication processes that accomplish goals.

2. Respond to the needs of diverse audiences and contexts.

3. Build and manage relationships.

MA: Mathematics Outcomes:

P 1. Use appropriate mathematics to solve problems.

P 2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

AL: Arts and Letters Outcomes

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

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

SS: Social Science Outcomes

1. Apply analytical skills to social phenomena in order to understand human behavior.

2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SC: Science or Computer Science Outcomes

S 1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions.

S 2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically examine the influence of scientific and technical knowledge on human society and the environment.

S 3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

CL: Cultural Literacy Outcome

1. Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

Outcomes Assessment Strategies:

✓ **General Examination**

✓ **Writing Assignments**

:

Major Topic Outline:

1. Gases.
a. Kinetic molecular theory.
b. Avogadro's Law, Boyle's Law, and Charles' Law.
c. Ideal gas law.
d. Dalton's Law of Partial Pressures.
e. Given experimental data, perform calculations using the ideal gas law, the combined gas law, and Dalton’s Law, as appropriate.

2. Heat (chemical and physical changes).
a. Bonding and molecular motion in the solid, liquid, and gas phases.
b. Relationships between energy, heat, and temperature.
c. Describe the relationship between heat and temperature.

3. Bonding and phases.
a. Energy changes involved in making and breaking chemical bonds.
b. Heat capacity (or specific heat).
c. For a material changing temperature, do calculations relating the heat lost or gained, change in temperature, mass of the material, and heat capacity (or specific heat) of the material.
d. Heat of fusion, heat of vaporization, heat of condensation, and heat of crystallization.

4. Solutions, precipitation and other aqueous reactions.
a. Solutions (unsaturated, saturated, and supersaturated), pure liquids, colloidal dispersions and suspensions.
b. Solubility.
c. Electrolytes.
d. Solvation reactions and precipitation reactions.
e. Heat of solution.
f. Colligative properties of solutions.
g. Osmosis.
h. Concentrations of solutions in weight percent, volume percent, weight/volume percent, and molarity.
i. Colorimetry and Beer's Law.
j. Solubility product expressions (Ksp).

5. Acids and bases.
a. Properties of acids and bases.
b. Arrhenius, Brønsted-Lowry, and Lewis concepts.
c. Conjugate pair relationships.
d. PH, Kw.
e. Equivalents and normality.
f. Titrations.
g. Acid-base neutralization reactions.
h. Acid strength and base strength in terms of reversible reactions and equilibrium.
i. Ka and Kb.

j. Hydrolysis.

8. Reaction rates and equilibrium.
a. Le Chatelier's Principle.
b. Buffers.
c. Collision theory.
d. Bonding and energy changes that take place during chemical reactions.
e. Reaction diagrams.
f. Heats of reaction (□H).
g. Reaction rates.
h. Equilibrium constant expressions for a variety of chemical reactions.

9. Oxidation-reduction reactions.
a. Electrolysis.
b. Electrolytic cells.
c. Voltaic cells.
d. Important biological processes that consist of oxidation-reduction reactions.

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

✓ **PSU (Portland State University)**

✓ **OSU (Oregon State University)** ✓ **UO (University of Oregon)**

Identify comparable course(s) at OUS school(s)

CH LDT Introductory Chemistry (OSU)
CH 105, CH 108 (PSU)
CH 120T (UO)

How does it transfer? (Check all that apply)

✓ **general education or distribution requirement**
✓ **general elective**
:

Provide evidence of transferability: (minimum one, more preferred)

✓ **Other. Please explain.**

OSU Course Equivalencies List (online)
Transferology website (PSU, UO)

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Sciences

Submitter

First Name: George
Last Name: Burgess
Phone: 3347
Email: george.burgess@clackamas.edu

Course Prefix and Number: CH - 106

 # Credits: 5

Contact hours

Lecture (# of hours): 44
Lec/lab (# of hours):
Lab (# of hours): 33
Total course hours: 77

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

Course Title: Introductory Chemistry

Course Description:

A lab course discussing organic and biochemistry.

Type of Course: Lower Division Collegiate

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

Yes

Check which General Education requirement:

✓ **Science & Computer Science**

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

Yes

Pre-reqs: CH-105

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Summer**

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. describe the scientific method and the procedures used in generating hypotheses and solving scientific questions in the context of chemistry, (SC1) (SC2) (SC3)
2. analyze problems and apply appropriate problem-solving methods, including the correct use of experimental data, units and significant figures; (SC1) (SC2)
3. describe the relationship between chemical structure at the atomic- and molecular-level and observable physical properties, (SC1) (SC2)
4. clearly communicate and comprehend basic scientific principles and concepts important to an understanding of major topics in introductory chemistry, (SC1)
5. demonstrate understanding of fundamental concepts of chemistry by definition, explanation, and use of these ideas in examinations and laboratory exercises; (SC1) (SC2)
6. critically examine the fundamentals of chemistry in their role as applied to human biology and medicine. (SC3)

AAOT/ASOT GENERAL EDUCATION OUTCOMES

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COURSE OUTLINE MAPPING CHART

Mark outcomes addressed by the course:

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

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

3. Demonstrate appropriate reasoning in response to complex issues.

SP: Speech/Oral Communication Outcomes

1. Engage in ethical communication processes that accomplish goals.

2. Respond to the needs of diverse audiences and contexts.

3. Build and manage relationships.

MA: Mathematics Outcomes:

1. Use appropriate mathematics to solve problems.

2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

AL: Arts and Letters Outcomes

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

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

SS: Social Science Outcomes

1. Apply analytical skills to social phenomena in order to understand human behavior.

2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SC: Science or Computer Science Outcomes

S 1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions.

S 2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically examine the influence of scientific and technical knowledge on human society and the environment.

S 3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

CL: Cultural Literacy Outcome

1. Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

Outcomes Assessment Strategies:

✓ **General Examination**

✓ **Multiple Choice Test**

✓ **Other Assessment Tools**: laboratory reports

Major Topic Outline:

1. Saturated hydrocarbons and alkyl halides
2. Unsaturated hydrocarbons and polymers
3. Alcohols, aldehydes and ketones
4. Carboxylic acids, esters and ethers
5. Amines, amides and amino acids
6. Lipids
7. Carbohydrates
8. Proteins
9. Metabolism
10. Nucleic acids

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

✓ **PSU (Portland State University)**

✓ **OSU (Oregon State University)** ✓ **UO (University of Oregon)**

Identify comparable course(s) at OUS school(s)

CH 130 (OSU)
CH 106, CH 109 (PSU)
CH 120T (UO)

How does it transfer? (Check all that apply)

✓ **general education or distribution requirement**
✓ **general elective**
:

Provide evidence of transferability: (minimum one, more preferred)

✓ **Other. Please explain.**

OSU Course Equivalencies List online
Transferology (PSU, UO)

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Sciences

Submitter

First Name: George
Last Name: Burgess
Phone: 3347
Email: George.burgess@clackamas.edu

Course Prefix and Number: CH - 150

 # Credits: 4

Contact hours

Lecture (# of hours): 44
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 44

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

Course Title: Preparatory Chemistry

Course Description:

One term preparatory course for students who must take the general chemistry sequence (CH-221/222/223) but have no chemistry background.

Type of Course: Lower Division Collegiate

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

Yes

Pre-reqs: MTH-095 or placement in MTH-111

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. Perform and report calculations involving scientific measurements using appropriate techniques, including metric units, scientific notation, significant digits, and unit/dimensional analysis;
2. Describe atomic structure and apply the symbolism of atoms and their particles to questions about atomic properties;
3. Recognize ionic and covalent patterns of chemical bonding and use IUPAC nomenclature for simple ionic and covalent compounds;
4. Balance, classify, and use chemical equations;
5. Apply basic quantum theory to describe the structure of electrons in atoms;
6. Apply Lewis Theory and the octet rule in the context of ionic and small molecular compounds;
7. Describe the microscopic nature of solids, liquids, and gases and transitions between these phases.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Algebra in problem solving
2. Scientific notation
3. Variables, units, and unit conversions
4. Density
5. Atomic structure
6. Subatomic particles and their properties
7. Names and formulas of covalent and ionic compounds
8. Isotopes and relative abundances
9. Chemical formulas and formula masses
10. Writing and balancing chemical equations
11. Types of chemical reactions
12. The mole concept
13. Mole/mass relationships
14. Stoichiometry and limiting reactants
15. Thermochemistry: heat transfer and phase changes
16. The wave nature of light
17. Electronic structure of atoms
18. Lewis theory and basics of bonding
19. Molecular shape and polarity
20. Basics of phases and phase change

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

1. Increased energy efficiency	**Yes**
2. Produce renewable energy	**Yes**
3. Prevent environmental degradation	**Yes**
4. Clean up natural environment	**Yes**
5. Supports green services	**Yes**

Percent of course: 100%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

✓ **EOU (Eastern Oregon University)**
✓ **OIT (Oregon Institute of Technology)**
✓ **OSU (Oregon State University)**
✓ **OSU-Cascade**
✓ **PSU (Portland State University)**
✓ **SOU (Southern Oregon University)**
✓ **UO (University of Oregon)**
✓ **WOU (Western Oregon University)**

Identify comparable course(s) at OUS school(s)

How does it transfer? (Check all that apply)

✓ **general elective**
:

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Business & Computer Science: Computer Science

Submitter

First Name: Debra
Last Name: Carino
Phone: 3170
Email: dcarino

Course Prefix and Number: CS - 125H

 # Credits: 3

Contact hours

Lecture (# of hours): 33
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 33

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

Course Title: HTML & Web Site Design

Course Description:

Hands-on approach to planning, design, and developing published web sites using HTML tags in a text editor. The class focuses on basic HTML coding using HTML 5 models. Hyperlinks, images, cascading style sheets, forms, accessibility and design principles will be covered, as well as tools such as FTP clients, accessibility checkers, and validators.

Type of Course: Lower Division Collegiate

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

Yes

Check which General Education requirement:

✓ **Oral Communication**

✓ **Science & Computer Science**

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Computer Science AAS & Certificates

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

Yes

Recommendations: CS-120 or equivalent experience

Requirements:

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Summer**
✓ **Fall**
✓ **Winter**
✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. describe the different types of web page editing applications including tag editors, WYSIWYG editors, and converters;
2. design and edit web pages using HTML coding including basic tags, lists, tables, hypertext links (relative, absolute, internal, and graphical);
3. format web pages via the use of cascading style sheets,
4. create sophisticated page layouts and manipulate pages that include frames and tables,
5. transfer files (FTP) to a server,
6. copy/download existing files from the Internet and discuss the significance of copyright and fair-use laws,
7. manipulate graphics, including managing file size for graphic images, simple animation, and image maps;
8. integrate existing web scripts into web pages and write very basic scripts using JavaScript behaviors,
9. use multimedia when developing web pages (adding audio, video, animation, browser plug-ins, streaming media, MIDI and music, and Java applets);
10. debug erroneous HTML code,
11. discuss web design and analyze web pages for effective design techniques,
12. develop an understanding of intellectual property issues including free speech, censorship, cross-cultural publishing, and responsibility.

AAOT/ASOT GENERAL EDUCATION OUTCOMES

AAOT/ASOT GENERAL EDUCATION OUTCOMES

COURSE OUTLINE MAPPING CHART

Mark outcomes addressed by the course:

- Mark "C" if this course completely addresses the outcome. Students who successfully complete this course are likely to have attained this learning outcome.
- Mark "S" if this course substantially addresses the outcome. More than one course is required for the outcome to be completely addressed. Students who successfully complete all of the required courses are likely to have attained this learning outcome.
- Mark "P" if this course partially addresses the outcome. Students will have been exposed to the outcome as part of the class, but the class is not a primary means for attaining the outcome and assessment for general education purposes may not be necessary.

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

WR: Writing Outcomes

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

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

3. Demonstrate appropriate reasoning in response to complex issues.

SP: Speech/Oral Communication Outcomes

P 1. Engage in ethical communication processes that accomplish goals.

2. Respond to the needs of diverse audiences and contexts.

3. Build and manage relationships.

MA: Mathematics Outcomes:

1. Use appropriate mathematics to solve problems.

2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

AL: Arts and Letters Outcomes

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

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

SS: Social Science Outcomes

1. Apply analytical skills to social phenomena in order to understand human behavior.

2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SC: Science or Computer Science Outcomes

P 1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions.

P 2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically examine the influence of scientific and technical knowledge on human society and the environment.

3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

Outcomes Assessment Strategies:

✓ **Projects**

✓ **Rubrics**

:

Major Topic Outline:

1. Designing a web site.
a. Story boarding.
b. Organizing files.
c. Understanding your audience.
2. HTML building blocks.
a. HTML tags.
a1. Block tags.
a2. Inline tags.
a3. Lists.
b. Special symbols.
c. Hosting of web sites.
3. Links.
a. Absolute vs. relative.
b. External links.
c. Internal links.
d. Anchors.
4. Cascading style sheets.
a. Motivation for content/presentation markup separation.
b. Creating local, embedded, external styles.
c. Create CSS-based page layouts.
c1. Use of the div tag.
c2. Use of float.
c3. Static vs. fluid layouts.
d. Style resources & validators.
5. Tables.
a. Headers.
b. Captions.
c. Column and row groups.
d. Spanning.
e. Changing width and height.
f. Aligning cell contents.
g. Table, row, and cell formatting.
6. Forms.
a. The FORM tag.
b. Basic form elements.
c. Form design.
d. Form actions.
7. Responsive Web Design
a. Media queries
b. Responsive images
c. Flexboxes
8. Scripts.
a. Understanding scripting languages.
b. JavaScript tutorials.
c. Using JavaScript with forms.
c1. Calculations.
c2. Validation.

c3. Dates.
d. JavaScript resources.

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

Identify comparable course(s) at OUS school(s)

How does it transfer? (Check all that apply)

:

Provide evidence of transferability: (minimum one, more preferred)

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Business & Computer Science: Computer Science

Submitter

First Name: Debra
Last Name: Carino
Phone: 3170
Email: dcarino

Course Prefix and Number: CS - 135DB

 # Credits: 3

Contact hours

Lecture (# of hours): 33
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 33

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

Course Title: Microsoft Access

Course Description:

Focuses on the advanced database capabilities using a current version of Microsoft Access. Topics include design, construction, and documentation of a database management system, designing reports, forms, advanced form techniques, advanced queries, customizing tables, and creating and using an application system with macros.

Type of Course: Lower Division Collegiate

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Computer & Network Administration AAS & Certificate; Computer Application Support AAS & Certificate; Web Design & Development AAS

Are there prerequisites to this course?

Yes

Pre-reqs: CS-120 or equivalent level of computer literacy

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. design, develop, update, customize, and maintain an Access relational database including: tables, forms, queries, and reports;
2. develop design guidelines that reduce data input errors and maintain referential integrity;
3. define and apply one-to-one, one-to-many and many-to-many relationship in a relational database management system;
4. use macros, switchboards and Visual Basic for Application code to create custom database applications.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Introduction to Microsoft Access.
a. Navigation.
b. Views.
2. Maintaining a Database.
a. Data entry via tables and forms.
b. Analyzing table structure.
c. Renaming objects.
3. Creating tables.
a. Needs analysis.
b. Normalization.
c. Creating relationships.
4. Creating forms.
a. Single table forms.
b. Forms with sub-forms.
c. Using the form design view.
5. Querying a database.
a. Comparison queries.
b. Creating calculated fields.
c. Creating parameter queries.
d. Aggregation queries.
e. Action queries.
6. Integrating Access with other software.
a. Creating documents.
b. Data Access pages.

c. Importing & exporting data.
d. Using Access as a mail merge source.
7. Creating macros and modules.
a. Using the macro editor to automate database processes.
b. Creating command buttons and attaching macros.
c. Using Visual Basic for Applications to create custom modules.

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

✓ **EOU (Eastern Oregon University)**	✓ **PSU (Portland State University)**
✓ **OIT (Oregon Institute of Technology)**	✓ **SOU (Southern Oregon University)**
✓ **OSU (Oregon State University)**	✓ **UO (University of Oregon)**
✓ **OSU-Cascade**	✓ **WOU (Western Oregon University)**

Identify comparable course(s) at OUS school(s)

How does it transfer? (Check all that apply)

✓ **general elective**
:

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Business & Computer Science: Computer Science

Submitter

First Name: Debra
Last Name: Carino
Phone: 3170
Email: dcarino

Course Prefix and Number: CS - 135S

 # Credits: 3

Contact hours

Lecture (# of hours): 33
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 33

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

Course Title: Microsoft Excel

Course Description:

Focuses on advanced spreadsheet capabilities using a current version of Microsoft Excel. Topics include design, construction, and documentation of spreadsheets, use of templates, multiple worksheets, complex formulas, functions and filtering, Pivot Tables, advanced chart features, sorting, database capabilities, finding data, creating subtotals, using lookup tables, finding trends and forecasting, creating and editing macros, validating data, and working with controls.

Type of Course: Lower Division Collegiate

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

Yes

Check which General Education requirement:

✓ **Mathematics**

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Computer Application Support AAS & Certificate

Are there prerequisites to this course?

Yes

Pre-reqs: CS-120 or BA-131, or equivalent level of computer literacy

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**
✓ **Winter**
✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. enter and find data efficiently using a variety of tools (find and select, the name box, keyboard shortcuts);
2. apply formatting tools to make organized, easy-to-read worksheets;
3. create formulas to create calculated data, including the use of relative, absolute, and partial cell references, names ranges, and data from multiple worksheets and workbooks;
4. apply the built-in Excel functions, including statistical functions, date functions, string functions, financial functions, and logical functions to answer questions;
5. use Excel to analyze data: via charts, subtotals, what-if analysis, and PivotTables;
6. automate spreadsheet tasks through the use of recorded macros and Visual Basic for Applications;
7. integrate Excel with other applications and the Internet, including importing and exporting data in a variety of formats.

AAOT/ASOT GENERAL EDUCATION OUTCOMES

AAOT/ASOT GENERAL EDUCATION OUTCOMES

COURSE OUTLINE MAPPING CHART

Mark outcomes addressed by the course:

- Mark "C" if this course completely addresses the outcome. Students who successfully complete this course are likely to have attained this learning outcome.
- Mark "S" if this course substantially addresses the outcome. More than one course is required for the outcome to be completely addressed. Students who successfully complete all of the required courses are likely to have attained this learning outcome.
- Mark "P" if this course partially addresses the outcome. Students will have been exposed to the outcome as part of the class, but the class is not a primary means for attaining the outcome and assessment for general education purposes may not be necessary.

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

WR: Writing Outcomes

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

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

3. Demonstrate appropriate reasoning in response to complex issues.

SP: Speech/Oral Communication Outcomes

1. Engage in ethical communication processes that accomplish goals.

2. Respond to the needs of diverse audiences and contexts.

3. Build and manage relationships.

MA: Mathematics Outcomes:

P 1. Use appropriate mathematics to solve problems.

P 2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

AL: Arts and Letters Outcomes

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

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

SS: Social Science Outcomes

1. Apply analytical skills to social phenomena in order to understand human behavior.

2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SC: Science or Computer Science Outcomes

1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions.

2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically examine the influence of scientific and technical knowledge on human society and the environment.

3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

Outcomes Assessment Strategies:

:

Major Topic Outline:

1. Introduction to spreadsheets.
a. Navigation.
b. Data entry.
c. Simple calculation formulas.
2. Developing a professional-looking worksheet.
a. Font formatting.
b. Cell formatting and styles.
c. Number formats.
d. Table formatting.
e. Conditional formatting.
3. Working with formulas and functions.
a. Cell references.
b. Logical functions.
c. Date functions.
d. Financial functions.
e. Statistical functions.
f. Lookup functions (HLOOKUP and VLOOKUP)
4. Visual data analysis.
a. Creating charts.
b. Formatting and customizing charts.
c. Pivot charts.
d. Sparklines.
5. Managing large quantities of data.
a. Excel tables.
b. Subtotals.
c. Sorting.
d. Filtering.
e. PivotTables.
6. Managing multiple worksheets and workbooks.
a. Grouping worksheets.
b. Printing multiple worksheets.
c. Reference other worksheets.
d. 3-D references.
e. Creating a workspace.
7. Creating automated spreadsheet applications.
a. Data validation.
b. Worksheet/workbook protection.
c. Recording macros.
d. Using VBA to create custom macros.
8. Performing what-if analyses.
a. Goal seek.
b. Solver.
c. One- and two- variable data tables.
d. Scenarios, including summary reports and pivot table reports.
9. Integrating Excel with other applications.
a. Importing data.

b. Exporting data (including MS Query, comma delimited files, XML data, and web query data).
c. Querying databases.

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

Identify comparable course(s) at OUS school(s)

How does it transfer? (Check all that apply)

:

Provide evidence of transferability: (minimum one, more preferred)

First term to be offered:

Next available term after approval

:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Business & Computer Science: Computer Science

Submitter

First Name: Debra
Last Name: Carino
Phone: 3170
Email: dcarino

Course Prefix and Number: CS - 297W

 # Credits: 3

Contact hours

Lecture (# of hours): 33
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 33

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

Course Title: Website Capstone

Course Description:

The capstone course for the web development AAS programs. Provides the opportunity to function in a production design environment, work cooperatively with students from other focus areas, and research emerging website technologies. Emphasis will be placed on client interaction, project teams, and accountability, as well as the development of a professional portfolio web site or completion of a research project in an emerging web-related technology.

Type of Course: Lower Division Collegiate

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

Yes

Check which General Education requirement:

✓ **Writing**
✓ **Oral Communication**

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Computer Science AAS & Certificate

Are there prerequisites to this course?

Yes

Pre-reqs: CS-133S and CS-135I

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. perform a client needs analysis to determine the scope and technologies needed in a website,
2. develop and maintain a project timeline,
3. implement web design and web programming skills in a production environment,
4. discuss and implement effective design practices appropriate for a client's needs,
5. research existing and emerging web technologies in the context of a client's needs,
6. identify best learning practices for collecting new skillsets and present information in an effective, condensed format;
7. interact effectively with other web professionals on a large, client-driven topic.

AAOT/ASOT GENERAL EDUCATION OUTCOMES

AAOT/ASOT GENERAL EDUCATION OUTCOMES

COURSE OUTLINE MAPPING CHART

Mark outcomes addressed by the course:

- Mark "C" if this course completely addresses the outcome. Students who successfully complete this course are likely to have attained this learning outcome.
- Mark "S" if this course substantially addresses the outcome. More than one course is required for the outcome to be completely addressed. Students who successfully complete all of the required courses are likely to have attained this learning outcome.
- Mark "P" if this course partially addresses the outcome. Students will have been exposed to the outcome as part of the class, but the class is not a primary means for attaining the outcome and assessment for general education purposes may not be necessary.

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

WR: Writing Outcomes

P 1. Read actively, think critically, and write purposefully and capably for academic and, in some cases, professional audiences.

P 2. Locate, evaluate, and ethically utilize information to communicate effectively.

P 3. Demonstrate appropriate reasoning in response to complex issues.

SP: Speech/Oral Communication Outcomes

P 1. Engage in ethical communication processes that accomplish goals.

P 2. Respond to the needs of diverse audiences and contexts.

P 3. Build and manage relationships.

MA: Mathematics Outcomes:

1. Use appropriate mathematics to solve problems.

2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

AL: Arts and Letters Outcomes

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

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

SS: Social Science Outcomes

1. Apply analytical skills to social phenomena in order to understand human behavior.

2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SC: Science or Computer Science Outcomes

1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions.

2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically examine the influence of scientific and technical knowledge on human society and the environment.

3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

Outcomes Assessment Strategies:

✓ **Oral Examination**

✓ **Thesis/Research Project**

:

Major Topic Outline:

1. Project proposals.
a. Learning objectives.
b. Creating a timeline.
c. Communication models & needs analysis.
2. Pricing and contracts.
a. Business models.
b. Pricing models.
c. Market surveys.
d. Contract structures.
d1. Protection.
d2. Guarantees.
d3. Legalities.
3. Completion of projects in accordance with project timelines.
a. Will vary based on student proposals.
4. Current topics.
a. Students will have a chance to select 4 topics to investigate from current and emerging web technologies. Sample topics may include.
a1. Advanced HTML 5 and CSS 3 applications.
a2. Programming the HTML 5 canvas with JavaScript.
a3. Working with Content Management Systems (Joomla, WordPress, Xoops, etc.).
a4. Working with shopping carts (PayPal, ZenCart, etc.).
a5. Exploration of additional server-side languages/technologies (ASP.NET, ColdFusion, Java Server Pages, etc.).
a6. Mobile web development/app development.
5. Student presentations and evaluations.
a. Present a finished product.
a1. Material preparations.
a2. File preparations.
b. User training.

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

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

Percent of course: 0%

Section #2 Course Transferability

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1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

Identify comparable course(s) at OUS school(s)

How does it transfer? (Check all that apply)

:

Provide evidence of transferability: (minimum one, more preferred)

First term to be offered:

Next available term after approval

:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Social Sciences

Submitter

First Name: Patricia
Last Name: McFarland
Phone: 3411
Email: patmc

Course Prefix and Number: HST - 130

 # Credits: 4

Contact hours

Lecture (# of hours): 44
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 44

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

Course Title: Oddballs and Outcasts in Western Civilization

Course Description:

Explores the topic of how oddballs and outcasts from ancient Greece to the present shaped western civilization and places them in the political, social, economic, intellectual and cultural frameworks of their time.

Type of Course: Lower Division Collegiate

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

Yes

Check which General Education requirement:

✓ **Social Science**
✓ **Cultural Literacy**

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

Yes

Recommendations: WRD-090 or placement in WRD-098

Requirements:

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

✓ **Not every year**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. analyze the interaction between oddballs and outcasts on the one hand and the political, social, economic, intellectual, and cultural environment of western civilization on the other, from ancient times to the present; (CL1)
2. analyze the behavior of prominent oddballs and outcasts in western civilization from ancient times to the present and link them to the broader themes of the history of western civilization; (SS1)
3. demonstrate how oddballs and outcasts throughout history were shaped by and, in turn, helped shape the political, social, economic, intellectual, and cultural life of western civilization from ancient times to the present; (SS2)
4. apply knowledge about oddballs and outcasts throughout the history of the West to current events (SS2).

AAOT/ASOT GENERAL EDUCATION OUTCOMES

AAOT/ASOT GENERAL EDUCATION OUTCOMES

COURSE OUTLINE MAPPING CHART

Mark outcomes addressed by the course:

- Mark "C" if this course completely addresses the outcome. Students who successfully complete this course are likely to have attained this learning outcome.
- Mark "S" if this course substantially addresses the outcome. More than one course is required for the outcome to be completely addressed. Students who successfully complete all of the required courses are likely to have attained this learning outcome.
- Mark "P" if this course partially addresses the outcome. Students will have been exposed to the outcome as part of the class, but the class is not a primary means for attaining the outcome and assessment for general education purposes may not be necessary.

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

WR: Writing Outcomes

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

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

S 3. Demonstrate appropriate reasoning in response to complex issues.

SP: Speech/Oral Communication Outcomes

1. Engage in ethical communication processes that accomplish goals.

P 2. Respond to the needs of diverse audiences and contexts.

3. Build and manage relationships.

MA: Mathematics Outcomes:

1. Use appropriate mathematics to solve problems.

2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

AL: Arts and Letters Outcomes

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

P 2. Critically analyze values and ethics within range of human experience and expression to engage more fully in local and global issues.

SS: Social Science Outcomes

S 1. Apply analytical skills to social phenomena in order to understand human behavior.

S 2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SC: Science or Computer Science Outcomes

1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions.

2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically examine the influence of scientific and technical knowledge on human society and the environment.

3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

CL: Cultural Literacy Outcome

C 1. Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

Outcomes Assessment Strategies:

✓ **General Examination**

✓ **Writing Assignments**

:

Major Topic Outline:

Oddballs and outcasts in:
1. Ancient Greece, including: Pythagoras, slavery, exclusion of women, ostracism, Socrates' trial, the Greeks and the Jews, Hellenistic schools of philosophy, Hellenistic scholars with divergent views
2. Ancient Rome, including: relations with Celts, Germans, and Jews; Jesus as an outsider, pagan attitudes towards early Christians, Christian treatment of heretics, Hypatia
3. The Dark Ages, including: Simeon Stylites, Pope Joan, the Cadaver Trial
4. The Middle Ages, including: excommunication, heresy, the Inquisition, torture, public shaming, lepers, Robin Hood, the Black Death, anti-Semitism
5. The Renaissance and Reformation, including: heresy, Joan of Arc, Dracula, witchcraft trials, excommunication, the Inquisition, torture, Martin Luther, Catholics as outcasts, John Dee, Paracelsus, the "Index", Reginald Scots
6. The 17th and 18th centuries, including: Galileo and the Inquisition, Guy Fawkes, William Harvey, Levellers and Diggers, witchcraft trials, Samuel Pepys, George III of England, the French Revolution, the Terror, and religion; Anton Mesmer
8. The 19th and 20th centuries, including: Ignaz Semmelweis, Herbert Spencer and Social Darwinism, Rasputin, anti-Semitism culminating in the Holocaust, Stalin and Trotsky, kulaks and wreckers, the Gulag
9. The Cold War, including: dissidents in the Communist bloc, communes in the West
10. After the Cold War, including: ethnic cleansing, Muslims in Europe, second-generation immigrants,

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

✓ **EOU (Eastern Oregon University)**
✓ **OIT (Oregon Institute of Technology)**
✓ **OSU (Oregon State University)**
✓ **PSU (Portland State University)**
✓ **SOU (Southern Oregon University)**
✓ **UO (University of Oregon)**
✓ **WOU (Western Oregon University)**

Identify comparable course(s) at OUS school(s)

How does it transfer? (Check all that apply)

✓ **required or support for major**
✓ **general education or distribution requirement**
✓ **general elective**
:

Provide evidence of transferability: (minimum one, more preferred)

✓ **Other. Please explain.**

On-line research of General Education courses accepted at Oregon's state universities.

First term to be offered:

Specify term: fall, 2015

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Music

Submitter

First Name: Kathleen
Last Name: Hollingsworth
Phone: 6299
Email: kathleen.hollingsworth

Course Prefix and Number: MUP - 222

 # Credits: 2

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 22
Lab (# of hours): 33
Total course hours: 55

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

Course Title: Chamber Choir

Course Description:

Advanced vocal ensemble which rehearses and performs choral music from the Renaissance to the 21st century. Provides preparation for entering professional fields of music and performance. Emphasis on a cappella singing applied to appropriate chamber music. Recommended for vocal music majors. Enrollment by audition. May be repeated for up to 6 credits.

Type of Course: Lower Division Collegiate

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? 6

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

Yes

Pre-reqs: MUP-122 (6 credits)

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

✓ **Winter**
✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. apply the fundamentals of singing in an ensemble such as balance, blend, intonation and rhythmic precision;
2. demonstrate the expressive elements of music such as phrasing and dynamics;
3. recognize tonal precision through advanced breathing and placement techniques;
4. demonstrate sophisticated understanding of performance practices as they apply to the interpretation of choral music from the Renaissance through the 21st Century;
5. illustrate lyric diction as it applies to various cultures;
6. use a systematic approach to sight singing;
7. develop a leadership role.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Rehearsal.
2. Performance.
3. Listening.
4. Sight reading
5. Demonstrations.
6. Concert tours.
7. Festival participation.
8. Guest conductors, soloists, and ensembles.

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

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

Percent of course: 0%

Section #2 Course Transferability

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2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

✓ **EOU (Eastern Oregon University)**
✓ **OSU (Oregon State University)**
✓ **OSU-Cascade**
✓ **PSU (Portland State University)**
✓ **SOU (Southern Oregon University)**
✓ **UO (University of Oregon)**
✓ **WOU (Western Oregon University)**

Identify comparable course(s) at OUS school(s)

Any Chamber Choir, Concert Choir, Chorale

How does it transfer? (Check all that apply)

✓ **required or support for major**

:

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Music

Submitter

First Name: Kathleen
Last Name: Hollingsworth
Phone: 6299
Email: kathleen.hollingsworth

Course Prefix and Number: MUP - 225

 # Credits: 2

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 22
Lab (# of hours): 33
Total course hours: 55

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

Course Title: Vocal Jazz Ensemble: Mainstream

Course Description:

Advanced performing ensemble that cultivates musical, professional, and personal growth through rehearsal and performance with rhythm section of jazz, rock, pop, funk, and fusion. Includes study of jazz as it applies to vocal ensemble combined with rhythm section. Emphasis on style, improvisation, and techniques. Enrollment by audition. May be repeated for up to 6 credits.

Type of Course: Lower Division Collegiate

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? 6

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

Yes

Pre-reqs: MUP-125 (6 credits)

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

✓ **Winter**
✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. demonstrate ability to swing:
2. demonstrate improvisation and vocal technique consistent with jazz;
4. sing non-traditional harmonies, rhythms and forms with increased competence;
5. exhibit stage presence in the jazz idiom;
6. demonstrate increased competence in microphone technique;
7. develop a leadership role.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Rehearsal.
2. Performance.
3. Listening.
4. Improvisation
5. Demonstrations.
6. Guest directors, soloists & ensembles.
7. Concert tours.
8. Festival participation.

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

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

Percent of course: 0%

Section #2 Course Transferability

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3. Will the course be accepted as part of the University's distribution requirements?

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Which OUS schools will the course transfer to? (Check all that apply)

✓ **EOU (Eastern Oregon University)**
✓ **OSU (Oregon State University)**
✓ **OSU-Cascade**
✓ **PSU (Portland State University)**
✓ **SOU (Southern Oregon University)**
✓ **UO (University of Oregon)**
✓ **WOU (Western Oregon University)**

Identify comparable course(s) at OUS school(s)

vocal jazz, jazz band, combo

How does it transfer? (Check all that apply)

✓ **required or support for major**
✓ **general education or distribution requirement**

:

First term to be offered:

Next available term after approval
:

Clackamas Community College

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Section #1 General Course Information

Department: Music

Submitter

First Name: Kathleen
Last Name: Hollingsworth
Phone: 6299
Email: kathleen.hollingsworth

Course Prefix and Number: MUS - 160

 # Credits: 2

Contact hours

Lecture (# of hours): 22
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 22

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

Course Title: Songwriting I

Course Description:

Studies the techniques of a working songwriter, including use of form, lyrics, harmonic progressions and symbolism in the creative aspect of songwriting. Solo writing as well as the concept of collaboration are introduced. Participants will work individually and/or in small groups to record original songs. May be repeated for up to 4 credits.

Type of Course: Lower Division Collegiate

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? 4

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Music and Performance Technology AAS

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

Yes

Recommendations:

Requirements: Working proficiency at playing an instrument such as piano, guitar, voice, or equivalent. Computer generated music is also acceptable

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: No

When do you plan to offer this course?

✓ **Winter**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. demonstrate competence in songwriting by presenting new material in class and in structured performances;
2. demonstrate competence in expressive lyric writing;
3. demonstrate ability in utilizing standard and non-standard chordal progressions;
4. perform new compositions and;
5. record original songs.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Song form.
2. Lyric writing.
3. Prosody.
4. Song logic.
5. Instrumentation/arranging.

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

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

Percent of course: 0%

Section #2 Course Transferability

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1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

Identify comparable course(s) at OUS school(s)

How does it transfer? (Check all that apply)

✓ **general elective**
:

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Music

Submitter

First Name: Brian
Last Name: Rose
Phone: 3340
Email: brianr

Course Prefix and Number: MUS - 242

 # Credits: 1

Contact hours

Lecture (# of hours): 10
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 10

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

Course Title: Music Creation with Ableton LIVE

Course Description:

This course enables the student to use Ableton LIVE software to create music.

Type of Course: Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): DMC AAS and MPT AAS

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: No

When do you plan to offer this course?

✓ **Not every term**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. use Ableton LIVE for song creation on Mac computers;
2. demonstrate the DJ style concepts of song creation available in LIVE;
3. demonstrate how LIVE is re-wirable in host programs such as Pro Tools.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Basic overview of Ableton LIVE software.
2. Major concepts of how LIVE is unique from other similar software.
3. Using MIDI in LIVE.
4. Using audio in LIVE.
5. Looping audio and midi.
6. DJ style song creation.
7. Rewiring LIVE.

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

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

Percent of course: 0%

First term to be offered:

Next available term after approval
:

Clackamas Community College

Hours, Instructional Method, Credits Change

March 5, 2021

Course	Current Hours/Credits	Proposed Hours/Credits
BA-250	33 LECT/3 Credits	44 LECT/4 Credits
PH-201	40 LECT, 30 LAB/5 Credits	44 LECT, 33 LAB/5 Credits
PH-202	40 LECT, 30 LAB/5 Credits	44 LECT, 33 LAB/5 Credits
PH-203	40 LECT, 30 LAB/5 Credits	44 LECT, 33 LAB/5 Credits
PH-211	40 LECT, 30 LAB/5 Credits	44 LECT, 33 LAB/5 Credits
PH-212	40 LECT, 30 LAB/5 Credits	44 LECT, 33 LAB/5 Credits
PH-213	40 LECT, 30 LAB/5 Credits	44 LECT, 33 LAB/5 Credits

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Business & Computer Science: Business

Submitter

First Name: Sharon
Last Name: Parker
Phone: 3075
Email: sharonp

Course Prefix and Number: BA - 250

 # Credits: 4

Contact hours

Lecture (# of hours): 44
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 44

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

Course Title: Small Business Management

Course Description:

Focuses on entrepreneurship and small business management from business concept development to new business launch and key steps in between. Students integrate knowledge and skills from prior business coursework to create a substantive business plan that reinforces essential entrepreneurship and small business management concepts that are associated with this course. Students should take this course in the final year of their academic program(s).

Type of Course: Lower Division Collegiate

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): AAS in Business & Human Resource Management Certificate

Are there prerequisites to this course?

Yes

Pre-reqs: BA-101, BA-119, BA-131, BA-206, BA-213, BA-223, BA-224, and WR-121. Student Petition required for non-Business AAS students

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: No

When do you plan to offer this course?

✓ **Winter**
✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. explain the entrepreneurial concept and discuss its role in businesses;
2. identify strategies to create market advantages and opportunities for small business;
3. apply the strategic process to a small business application including internal and external environmental analysis, goal setting, and tactical implementation;
4. develop a plan for a small business;
5. perform basic financial analyses for a small business.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Entrepreneurial Integrity & Ethics.
2. Getting Started.
3. Franchises and Buyouts.
4. Family Businesses.
5. The Business Plan.
6. The Marketing Plan.
7. The Organizational Plan.
8. The Location Plan.
9. Financial Statements
10. Forecasting Financial Requirements.
11. Sources of Financing.
12. Customer Relationships.
13. Product and Supply Chain Management.
14. Pricing and Credit Decisions.
16. Promotional Planning.
17. Global Marketing.
18. Managing Human Resources.
19. Managing Operations.
20. Managing Assests.
21. Managing Risk.

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

✓ **OIT (Oregon Institute of Technology)**

Identify comparable course(s) at OUS school(s)

BA260 Introduction to Entrepreneurship at Oregon State University
BA260 Introduction to Entrepreneurship at Eastern Oregon University

How does it transfer? (Check all that apply)

✓ **general elective**
:

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Sciences

Submitter

First Name: Greg
Last Name: Bostrom
Phone: 3464
Email: gregb

Course Prefix and Number: PH - 201

 # Credits: 5

Contact hours

Lecture (# of hours): 44
Lec/lab (# of hours):
Lab (# of hours): 33
Total course hours: 77

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

Course Title: General Physics

Course Description:

A lab course covering vectors, motion, kinematics, forces and Newton's laws, gravity, the conservation laws for momentum and energy, rotational motion, and oscillations.

Type of Course: Lower Division Collegiate

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

Yes

Check which General Education requirement:

✓ **Science & Computer Science**

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

Yes

Pre-reqs: WRD-090 with a C or better or placement in WRD-098; MTH-112 or placement in MTH-251

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

Yes

Recommendations: A year of high-school physics or PH-150

Requirements:

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. analyze observed phenomenon in everyday life by applying conceptual understanding of the physics of classical mechanics; (SC1)
2. apply scientific investigation and inquiry to understand real-world events and scenarios that they have not encountered previously; (SC2)
3. solve many different types of problems dealing with kinematics, dynamics, and conservation laws; (SC1) (SC2)
4. solve problems and present their work to their peers; (SC1)
5. work collaboratively to solve problems (seminar) and investigate physical phenomenon through experimentation and inquiry (laboratory); (SC2)
6. think critically about new information presented to them, and examine the extent to which it fits within their current understanding of physical laws; (SC3)
7. use technology to conduct detailed investigations and measurements of prototypical physical phenomenon and discuss how experimental results relate to theoretical expectations. (SC1)

AAOT/ASOT GENERAL EDUCATION OUTCOMES

AAOT/ASOT GENERAL EDUCATION OUTCOMES

COURSE OUTLINE MAPPING CHART

Mark outcomes addressed by the course:

- Mark "C" if this course completely addresses the outcome. Students who successfully complete this course are likely to have attained this learning outcome.
- Mark "S" if this course substantially addresses the outcome. More than one course is required for the outcome to be completely addressed. Students who successfully complete all of the required courses are likely to have attained this learning outcome.
- Mark "P" if this course partially addresses the outcome. Students will have been exposed to the outcome as part of the class, but the class is not a primary means for attaining the outcome and assessment for general education purposes may not be necessary.

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

WR: Writing Outcomes

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

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

3. Demonstrate appropriate reasoning in response to complex issues.

SP: Speech/Oral Communication Outcomes

1. Engage in ethical communication processes that accomplish goals.

2. Respond to the needs of diverse audiences and contexts.

3. Build and manage relationships.

MA: Mathematics Outcomes:

P 1. Use appropriate mathematics to solve problems.

P 2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

AL: Arts and Letters Outcomes

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

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

SS: Social Science Outcomes

1. Apply analytical skills to social phenomena in order to understand human behavior.

2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SC: Science or Computer Science Outcomes

S 1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions.

S 2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically examine the influence of scientific and technical knowledge on human society and the environment.

S 3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

CL: Cultural Literacy Outcome

1. Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

Outcomes Assessment Strategies:

✓ **General Examination**

✓ **Writing Assignments**

✓ **Journal Writing**

:

Major Topic Outline:

1. Units and vectors.
2. Kinematics.
3. Forces and Newton's laws of motion.
4. Conservation laws.
a. Energy and work.
b. Impulse and momentum.
5. Rotational motion.
6. Oscillations.

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

✓ **EOU (Eastern Oregon University)**	✓ **PSU (Portland State University)**
✓ **OIT (Oregon Institute of Technology)**	✓ **SOU (Southern Oregon University)**
✓ **OSU (Oregon State University)**	✓ **UO (University of Oregon)**
✓ **OSU-Cascade**	✓ **WOU (Western Oregon University)**

Identify comparable course(s) at OUS school(s)

General Physics

How does it transfer? (Check all that apply)

✓ **required or support for major**
✓ **general education or distribution requirement**

:

Provide evidence of transferability: (minimum one, more preferred)

✓ **Other. Please explain.**

websites have transfer equivalency lists. (e.g., http://oregonstate.edu/admissions/main/baccalaureate-core-course-equivalencies-clackamas-community-college). Confirmed course is on the list.

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Sciences

Submitter

First Name: Greg
Last Name: Bostrom
Phone: 3464
Email: gregb

Course Prefix and Number: PH - 202

 # Credits: 5

Contact hours

Lecture (# of hours): 44
Lec/lab (# of hours):
Lab (# of hours): 33
Total course hours: 77

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

Course Title: General Physics

Course Description:

A lab course covering electricity, magnetism, DC and AC circuits, and electromagnetic radiation.

Type of Course: Lower Division Collegiate

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

Yes

Check which General Education requirement:

✓ **Science & Computer Science**

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

Yes

Pre-reqs: PH-201

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Winter**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. analyze observed phenomenon in everyday life by applying conceptual understanding of the physics of electricity and magnetism; (SC1)
2. apply scientific investigation and inquiry to understand real-world events and scenarios that they have not encountered previously; (SC2)
3. solve many different types of problems dealing with electricity, magnetism, the related forces, and their interaction; (SC1) (SC2)
4. solve problems and present their work to their peers; (SC1)
5. work collaboratively to solve problems (seminar) and investigate physical phenomenon through experimentation and inquiry (laboratory); (SC2)
6. think critically about new information presented to them, and examine the extent to which it fits within their current understanding of physical laws; (SC3)
7. use technology to conduct detailed investigations and measurements of prototypical physical phenomenon and discuss how experimental results relate to theoretical expectations. (SC1)

AAOT/ASOT GENERAL EDUCATION OUTCOMES

AAOT/ASOT GENERAL EDUCATION OUTCOMES

COURSE OUTLINE MAPPING CHART

Mark outcomes addressed by the course:

- Mark "C" if this course completely addresses the outcome. Students who successfully complete this course are likely to have attained this learning outcome.
- Mark "S" if this course substantially addresses the outcome. More than one course is required for the outcome to be completely addressed. Students who successfully complete all of the required courses are likely to have attained this learning outcome.
- Mark "P" if this course partially addresses the outcome. Students will have been exposed to the outcome as part of the class, but the class is not a primary means for attaining the outcome and assessment for general education purposes may not be necessary.

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

WR: Writing Outcomes

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

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

3. Demonstrate appropriate reasoning in response to complex issues.

SP: Speech/Oral Communication Outcomes

1. Engage in ethical communication processes that accomplish goals.

2. Respond to the needs of diverse audiences and contexts.

3. Build and manage relationships.

MA: Mathematics Outcomes:

P 1. Use appropriate mathematics to solve problems.

P 2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

AL: Arts and Letters Outcomes

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

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

SS: Social Science Outcomes

1. Apply analytical skills to social phenomena in order to understand human behavior.

2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SC: Science or Computer Science Outcomes

S 1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions.

S 2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically examine the influence of scientific and technical knowledge on human society and the environment.

S 3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

CL: Cultural Literacy Outcome

1. Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

Outcomes Assessment Strategies:

✓ **General Examination**

✓ **Writing Assignments**

✓ **Journal Writing**

:

Major Topic Outline:

1. Electric charge.
2. Electric fields.
3. Electric potential.
4. Current, resistance, and Ohm’s law.
5. Magnetic fields.
6. Electromagnetic induction.
7. AC circuits.
8. Electromagnetic radiation.

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

✓ **OIT (Oregon Institute of Technology)**
✓ **OSU (Oregon State University)**
✓ **OSU-Cascade**
✓ **PSU (Portland State University)**
✓ **SOU (Southern Oregon University)**
✓ **UO (University of Oregon)**
✓ **WOU (Western Oregon University)**

Identify comparable course(s) at OUS school(s)

General Physics

How does it transfer? (Check all that apply)

✓ **required or support for major**
✓ **general education or distribution requirement**

:

Provide evidence of transferability: (minimum one, more preferred)

✓ **Other. Please explain.**

websites have transfer equivalency lists (e.g., http://oregonstate.edu/admissions/main/baccalaureate-core-course-equivalencies-clackamas-community-college). Confirmed course is on the list.

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Sciences

Submitter

First Name: Greg
Last Name: Bostrom
Phone: 3464
Email: gregb

Course Prefix and Number: PH - 203

 # Credits: 5

Contact hours

Lecture (# of hours): 44
Lec/lab (# of hours):
Lab (# of hours): 33
Total course hours: 77

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

Course Title: General Physics

Course Description:

A lab course covering thermodynamics, fluids, waves, geometrical optics, wave optics, and modern physics.

Type of Course: Lower Division Collegiate

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

Yes

Check which General Education requirement:

✓ **Science & Computer Science**

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

Yes

Pre-reqs: PH-202

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. analyze observed phenomenon in everyday life by applying conceptual understanding of the more advanced physics concepts; (SC1)
2. apply scientific investigation and inquiry to understand real-world events and scenarios that they have not encountered previously; (SC2)
3. solve many different types of problems dealing with thermodynamics, wave motion, fluids, and optics; (SC1) (SC2)
4. solve problems and present their work to their peers; (SC1)
5. understand the limitations of classical physics and how quantum mechanics addresses some of these issues; (SC2) (SC3)
6. work collaboratively to solve problems (seminar) and investigate physical phenomenon through experimentation and inquiry (laboratory); (SC2)
7. think critically about new information presented to them, and examine the extent to which it fits within their current understanding of physical laws; (SC3)
8. use technology to conduct detailed investigations and measurements of prototypical physical phenomenon and discuss how experimental results relate to theoretical expectations. (SC1)

AAOT/ASOT GENERAL EDUCATION OUTCOMES

AAOT/ASOT GENERAL EDUCATION OUTCOMES

COURSE OUTLINE MAPPING CHART

Mark outcomes addressed by the course:

- Mark "C" if this course completely addresses the outcome. Students who successfully complete this course are likely to have attained this learning outcome.
- Mark "S" if this course substantially addresses the outcome. More than one course is required for the outcome to be completely addressed. Students who successfully complete all of the required courses are likely to have attained this learning outcome.
- Mark "P" if this course partially addresses the outcome. Students will have been exposed to the outcome as part of the class, but the class is not a primary means for attaining the outcome and assessment for general education purposes may not be necessary.

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

WR: Writing Outcomes

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

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

3. Demonstrate appropriate reasoning in response to complex issues.

SP: Speech/Oral Communication Outcomes

1. Engage in ethical communication processes that accomplish goals.

2. Respond to the needs of diverse audiences and contexts.

3. Build and manage relationships.

MA: Mathematics Outcomes:

P 1. Use appropriate mathematics to solve problems.

P 2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

AL: Arts and Letters Outcomes

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

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

SS: Social Science Outcomes

1. Apply analytical skills to social phenomena in order to understand human behavior.

2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SC: Science or Computer Science Outcomes

S 1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions.

S 2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically examine the influence of scientific and technical knowledge on human society and the environment.

S 3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

CL: Cultural Literacy Outcome

1. Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

Outcomes Assessment Strategies:

✓ **General Examination**

✓ **Writing Assignments**

✓ **Journal Writing**

:

Major Topic Outline:

1. Fluids.
2. Wave motion.
3. Sound.
4. Thermodynamics.
5. Entropy.
6. Geometrical optics.
7. Wave optics.
8. Quantum mechanics.

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

	✓ **PSU (Portland State University)**
✓ **OIT (Oregon Institute of Technology)**	✓ **SOU (Southern Oregon University)**
✓ **OSU (Oregon State University)**	✓ **UO (University of Oregon)**
✓ **OSU-Cascade**	✓ **WOU (Western Oregon University)**

Identify comparable course(s) at OUS school(s)

General Physics

How does it transfer? (Check all that apply)

✓ **required or support for major**
✓ **general education or distribution requirement**

:

Provide evidence of transferability: (minimum one, more preferred)

✓ **Other. Please explain.**

websites have transfer equivalency lists (e.g., http://oregonstate.edu/admissions/main/baccalaureate-core-course-equivalencies-clackamas-community-college). Confirmed course is on the list.

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Sciences

Submitter

First Name: Greg
Last Name: Bostrom
Phone: 3464
Email: gregb

Course Prefix and Number: PH - 211

 # Credits: 5

Contact hours

Lecture (# of hours): 44
Lec/lab (# of hours):
Lab (# of hours): 33
Total course hours: 77

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

Course Title: General Physics with Calculus

Course Description:

A lab course covering vectors, motion, kinematics, forces and Newton's laws, gravity, conservation laws for momentum and energy, rotational motion, and oscillations.

Type of Course: Lower Division Collegiate

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

Yes

Check which General Education requirement:

✓ **Science & Computer Science**

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

Yes

Pre-reqs: Prerequisite or Corequisite: MTH-252. WRD-090 with a C or better or placement in WRD-098

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

Yes

Recommendations: MTH-254. A year of high-school physics or PH-150

Requirements:

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. analyze observed phenomenon in everyday life by applying conceptual understanding of the physics of classical mechanics; (SC1)
2. apply scientific investigation and inquiry to understand real-world events and scenarios that they have not encountered previously; (SC2)
3. solve many different types of problems dealing with kinematics, dynamics, and conservation laws; (SC1) (SC2)
4. solve problems and present their work to their peers; (SC1)
5. work collaboratively to solve problems (seminar) and investigate physical phenomenon through experimentation and inquiry (laboratory); (SC2)
6. think critically about new information presented to them, and examine the extent to which it fits within their current understanding of physical laws; (SC3)
7. use technology to conduct detailed investigations and measurements of prototypical physical phenomenon and discuss how experimental results relate to theoretical expectations. (SC1)

AAOT/ASOT GENERAL EDUCATION OUTCOMES

AAOT/ASOT GENERAL EDUCATION OUTCOMES

COURSE OUTLINE MAPPING CHART

Mark outcomes addressed by the course:

- Mark "C" if this course completely addresses the outcome. Students who successfully complete this course are likely to have attained this learning outcome.
- Mark "S" if this course substantially addresses the outcome. More than one course is required for the outcome to be completely addressed. Students who successfully complete all of the required courses are likely to have attained this learning outcome.
- Mark "P" if this course partially addresses the outcome. Students will have been exposed to the outcome as part of the class, but the class is not a primary means for attaining the outcome and assessment for general education purposes may not be necessary.

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

WR: Writing Outcomes

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

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

3. Demonstrate appropriate reasoning in response to complex issues.

SP: Speech/Oral Communication Outcomes

1. Engage in ethical communication processes that accomplish goals.

2. Respond to the needs of diverse audiences and contexts.

3. Build and manage relationships.

MA: Mathematics Outcomes:

P 1. Use appropriate mathematics to solve problems.

P 2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

AL: Arts and Letters Outcomes

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

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

SS: Social Science Outcomes

1. Apply analytical skills to social phenomena in order to understand human behavior.

2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SC: Science or Computer Science Outcomes

S 1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions.

S 2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically examine the influence of scientific and technical knowledge on human society and the environment.

S 3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

CL: Cultural Literacy Outcome

1. Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

Outcomes Assessment Strategies:

✓ **General Examination**

✓ **Writing Assignments**

✓ **Journal Writing**

:

Major Topic Outline:

1. Units and vectors.
2. Kinematics.
3. Forces and Newton's Laws of Motion.
4. Conservation laws.
a. Energy and Work.
b. Impulse and momentum.
5. Rotational motion.
6. Oscillations.

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

	✓ **PSU (Portland State University)**
✓ **OIT (Oregon Institute of Technology)**	✓ **SOU (Southern Oregon University)**
✓ **OSU (Oregon State University)**	✓ **UO (University of Oregon)**
✓ **OSU-Cascade**	✓ **WOU (Western Oregon University)**

Identify comparable course(s) at OUS school(s)

General Physics with Calculus

How does it transfer? (Check all that apply)

✓ **required or support for major**
✓ **general education or distribution requirement**

:

Provide evidence of transferability: (minimum one, more preferred)

✓ **Other. Please explain.**

websites have transfer equivalency lists (e.g., http://oregonstate.edu/admissions/main/baccalaureate-core-course-equivalencies-clackamas-community-college). Confirmed course is on the list.

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Sciences

Submitter

First Name: Greg
Last Name: Bostrom
Phone: 3464
Email: gregb

Course Prefix and Number: PH - 212

 # Credits: 5

Contact hours

Lecture (# of hours): 44
Lec/lab (# of hours):
Lab (# of hours): 33
Total course hours: 77

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

Course Title: General Physics with Calculus

Course Description:

A lab course covering electricity, magnetism, DC and AC circuits, and electromagnetic radiation.

Type of Course: Lower Division Collegiate

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

Yes

Check which General Education requirement:

✓ **Science & Computer Science**

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

Yes

Pre-reqs: MTH-252 and PH-211

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

Yes

Recommendations: MTH-254

Requirements:

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Winter**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. analyze observed phenomenon in everyday life by applying conceptual understanding of the physics of electricity, magnetism and circuits; (SC1)
2. solve many different types of problems dealing with electrostatics, magnetostatics, and electric circuits; (SC1) (SC2)
3. apply scientific investigation and inquiry to understand real-world phenomenon that they have not encountered previously; (SC2)
4. solve problems and present their work to their peers; (SC1)
5. work collaboratively to solve problems (seminar) and investigate physical phenomenon through experimentation and inquiry (laboratory); (SC2)
6. think critically about new information presented to them, and examine the extent to which it fits within their current understanding of physical laws; (SC3)
7. use technology to conduct detailed investigations and measurements of prototypical physical phenomenon and discuss how experimental results relate to theoretical expectations. (SC1)

AAOT/ASOT GENERAL EDUCATION OUTCOMES

AAOT/ASOT GENERAL EDUCATION OUTCOMES

COURSE OUTLINE MAPPING CHART

Mark outcomes addressed by the course:

- Mark "C" if this course completely addresses the outcome. Students who successfully complete this course are likely to have attained this learning outcome.
- Mark "S" if this course substantially addresses the outcome. More than one course is required for the outcome to be completely addressed. Students who successfully complete all of the required courses are likely to have attained this learning outcome.
- Mark "P" if this course partially addresses the outcome. Students will have been exposed to the outcome as part of the class, but the class is not a primary means for attaining the outcome and assessment for general education purposes may not be necessary.

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

WR: Writing Outcomes

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

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

3. Demonstrate appropriate reasoning in response to complex issues.

SP: Speech/Oral Communication Outcomes

1. Engage in ethical communication processes that accomplish goals.

2. Respond to the needs of diverse audiences and contexts.

3. Build and manage relationships.

MA: Mathematics Outcomes:

P 1. Use appropriate mathematics to solve problems.

P 2. Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

AL: Arts and Letters Outcomes

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

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

SS: Social Science Outcomes

1. Apply analytical skills to social phenomena in order to understand human behavior.

2. Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SC: Science or Computer Science Outcomes

S 1. Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions.

S 2. Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically examine the influence of scientific and technical knowledge on human society and the environment.

S 3. Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

CL: Cultural Literacy Outcome

1. Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

Outcomes Assessment Strategies:

✓ **General Examination**

✓ **Writing Assignments**

✓ **Journal Writing**

:

Major Topic Outline:

1. Electric charge.
2. Electric fields.
3. Electric potential.
4. Current, resistance, and Ohm’s Law.
5. Magnetic fields.
6. Electromagnetic induction.
7. AC circuits.
8. Electromagnetic radiation.

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

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

Percent of course: 0%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

	✓ **PSU (Portland State University)**
✓ **OIT (Oregon Institute of Technology)**	✓ **SOU (Southern Oregon University)**
✓ **OSU (Oregon State University)**	✓ **UO (University of Oregon)**
✓ **OSU-Cascade**	✓ **WOU (Western Oregon University)**

Identify comparable course(s) at OUS school(s)

General Physics with Calculus

How does it transfer? (Check all that apply)

✓ **required or support for major**
✓ **general education or distribution requirement**

:

Provide evidence of transferability: (minimum one, more preferred)

✓ **Other. Please explain.**

websites have transfer equivalency lists (e.g., http://oregonstate.edu/admissions/main/baccalaureate-core-course-equivalencies-clackamas-community-college). Confirmed course is on the list.

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Sciences

Submitter

First Name: Greg
Last Name: Bostrom
Phone: 3464
Email: gregb

Course Prefix and Number: PH - 213

 # Credits: 5

Contact hours

Lecture (# of hours): 44
Lec/lab (# of hours):
Lab (# of hours): 33
Total course hours: 77

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

Course Title: General Physics with Calculus

Course Description:

A lab course covering thermodynamics, fluids, waves, geometrical optics, wave optics, and modern physics.

Type of Course: Lower Division Collegiate

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

Yes

Check which General Education requirement:

✓ **Science & Computer Science**

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

Yes

Pre-reqs: PH-212

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. analyze observed phenomenon in everyday life by applying conceptual understanding of the more advanced physics concepts; (SC1)
2. apply scientific investigation and inquiry to understand real-world events and scenarios that they have not encountered previously; (SC2)
3. solve many different types of problems dealing with thermodynamics, wave motion, fluids, and optics; (SC1) (SC2)
4. solve problems and present their work to their peers; (SC1)
5. understand the limitations of classical physics and how quantum mechanics addresses some of these issues; (SC2) (SC3)
6. work collaboratively to solve problems (seminar) and investigate physical phenomenon through experimentation and inquiry (laboratory); (SC2)
7. think critically about new information presented to them, and examine the extent to which it fits within their current understanding of physical laws; (SC3)
8. use technology to make detailed investigations and measurements of prototypical physical phenomenon and discuss how experimental results relate to theoretical expectations. (SC1)

AAOT/ASOT GENERAL EDUCATION OUTCOMES

AAOT/ASOT GENERAL EDUCATION OUTCOMES

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CL: Cultural Literacy Outcome

1. Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

Outcomes Assessment Strategies:

✓ **General Examination**

✓ **Writing Assignments**

✓ **Journal Writing**

:

Major Topic Outline:

1. Fluids.
2. Wave motion.
3. Sound.
4. Thermodynamics.
5. Entropy.
6. Geometrical optics.
7. Wave optics.
8. Quantum mechanics.

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

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

Percent of course: 0%

Section #2 Course Transferability

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Which OUS schools will the course transfer to? (Check all that apply)

	✓ **PSU (Portland State University)**
✓ **OIT (Oregon Institute of Technology)**	✓ **SOU (Southern Oregon University)**
✓ **OSU (Oregon State University)**	✓ **UO (University of Oregon)**
✓ **OSU-Cascade**	✓ **WOU (Western Oregon University)**

Identify comparable course(s) at OUS school(s)

General Physics with Calculus

How does it transfer? (Check all that apply)

✓ **required or support for major**
✓ **general education or distribution requirement**

:

Provide evidence of transferability: (minimum one, more preferred)

✓ **Other. Please explain.**

websites have transfer equivalency lists (e.g., http://oregonstate.edu/admissions/main/baccalaureate-core-course-equivalencies-clackamas-community-college). Confirmed course is on the list.

First term to be offered:

Next available term after approval
:

Clackamas Community College

New Courses

March 5, 2021

Course Number	Title	Implementation
FRP-206	Forest Worker	2021/SP
MA-135	Communications and Ethical Practices in Healthcare Settings	2021/SP
MFG-218	Lean Manufacturing and Quality Systems	2021/SP
MTT-111	Manual Machining I	2021/SP
MTT-112	Manual Machining II	2021/SP
MTT-113	Manual Machining III	2021/SP
MTT-121	CNC I: Set-Up and Operation	2021/SP
MTT-122	CNC II: Programming and Operation	2021/SP
MTT-123	CNC III: Applied Programming and Operation	2021/SP
MTT-141	CAD/CAM I	2021/SP
MTT-241	CAD/CAM II	2021/SP
MTT-242	CAD/CAM III	2021/SP
MTT-252	Macro Programming and Machine Probing	2021/SP
MTT-253	5-Axis Machining	2021/SP
MTT-254	Mill/Turn Machining	2021/SP
MTT-268	Capstone Machining I	2021/SP
MTT-269	Capstone Machining II	2021/SP

Clackamas Community College

Online Course/Outline Submission System

Consent Agenda Requests

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Section #1 General Course Information

Department: FEMP

Submitter

First Name: Jeff
Last Name: Ennenga
Phone: 3539
Email: jeff.ennenga

Course Prefix and Number: FRP - 206

 # Credits: 2

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 40
Lab (# of hours):
Total course hours: 40

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

Course Title: Forest Worker

Course Description:

This course prepares students to implement the Oregon Occupational Safety and Health Administration (OROSHA) Division 7 rules for forest activities. This includes safety and health, planning for emergencies, personal protective equipment and the tools, equipment and procedures needed to operate safely as a Forest Worker.

Type of Course: Career Technical Preparatory

Reason for the new course:

Requested by industry to support new employees that meet OROSHA Division 7 rules.

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): AAS Wildland Fire Management

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?
Yes (A 'Yes' certifies you have talked with the librarian and have received approval.)*

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: No

When do you plan to offer this course?

✓ **Not every year**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

No

Will this course appear in the schedule?

No

Student Learning Outcomes:

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

1. describe the OROSHA Division 7 rules applied to forest activities,
2. identify the planning, safety practices, personal protective equipment and procedures need during forest activities;
3. apply the risk management process before, during and after a given assignment;
4. perform first aid and cardio pulmonary resuscitation (CPR) during a simulated incident,
5. extinguish a Class A, B and or C fire using a fire extinguisher;
6. operate vehicles and work around roadways in a safe and effective manner,
7. identify hazardous materials present during forest activities.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Safety and health programs.
2. Planning, first aid and work conditions.
3. Personal protective equipment and programs.
4. Tools and fire extinguishers.
5. Driving on forest roads, flagging, hazardous materials and flammables.
6. Machines used in forest activities.
7. Cutting trees and slashing.

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

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

Percent of course: 20%

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: HTHS

Submitter

First Name: Cindy
Last Name: Garner
Phone: 503-594-0672
Email: Cindy.Garner@Clackamas.edu

Course Prefix and Number: MA - 135

 # Credits: 3

Contact hours

Lecture (# of hours): 33
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 33

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

Course Title: Communications and Ethical Practices in Healthcare Settings

Course Description:

This course will introduce students to a variety of communication styles, situational coping skills, and, legal and ethical skills necessary for patient interactions in a front office/receptionist entry-level position. Also covered is utilizing an Electronic Health Record computer system to complete front desk tasks, such as written communication, registering, and scheduling patients.

Type of Course: Career Technical Preparatory

Reason for the new course:

To teach skills that employers have requested for entry level healthcare employees.

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

No

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?
Yes (A 'Yes' certifies you have talked with the librarian and have received approval.)*

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: No

When do you plan to offer this course?

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. demonstrate appointment scheduling and patient registration in an electronic health record;
2. demonstrate how to compose or edit letters that apply to situations in medical front offices;
3. describe coping skills used to resist stress factors in the work environment;
4. explain the importance of the communications cycle in a front desk healthcare setting;
5. identify laws that pertain to the role of the medical front office receptionist employee.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Introduction to patient and co-worker communications in a healthcare setting
2. Coping skills for healthcare workers
3. De-escalation training
4. Electronic health records: creation, editing and maintenance
5. Ethical decision making in healthcare situations
6. Legal considerations for front desk healthcare workers
7. Social determinants of health

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

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

Percent of course: 0%

First term to be offered:

Specify term: Spring 2021

Clackamas Community College

Online Course/Outline Submission System

Consent Agenda Requests

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Section #1 General Course Information

Department: IDTD

Submitter

First Name: Kari
Last Name: Nixon
Phone: 503 594 0971
Email: kari.nixon@clackamas.edu

Course Prefix and Number: MFG - 218

 # Credits: 3

Contact hours

Lecture (# of hours): 33
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 33

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

Course Title: Lean Manufacturing and Quality Systems

Course Description:

This survey course provides students with literacy in the elements of quality systems including Lean Manufacturing/Six Sigma and related statistical methods. Participants will learn about the philosophy and tools that make up a lean manufacturing system. Students will become familiar with the concepts and tools of quality management which include kaizen, visual management, 5S, value stream mapping, A3 problem solving, SPC, Six Sigma, and the Toyota Production System.

Type of Course: Career Technical Preparatory

Reason for the new course:

Program Redesign.

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology AAS and Cert and CNC Operator Cert. and Computer-aided Manufacturing

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. distinguish between Mass Production and Lean Manufacturing,
2. identify the numerous concepts, acronyms, and initials that comprise quality systems including the tool and ideas of Lean and Six Sigma;
3. compare the culture, organizational structure, and leadership in Mass and lean environments;
4. list and describe the types of waste and why waste elimination is a core component of Lean Manufacturing,
5. describe the core tool of Lean functionality including quality, continuous flow, pull systems, 5S, visual control, and Kanban;
6. describe the contribution of the Toyota Production System in the current state of quality management systems,
7. apply problem-solving approaches such as A3 and DMAIC,
8. apply statistical methods to describe process capability and control,
9. demonstrate the ability to draw a Value Stream Map of an actual manufacturing process.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Describing manufacturing systems and philosophy
2. History of the Toyota Production System
3. Waste and efficiency in productions systems
4. Kaizen culture
5. Concepts and vocabulary of quality systems including Lean and Six Sigma
6. Application of the core tools of Lean
7. Value stream mapping
8. Problem-solving approaches
9. Statistical methods and applications

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

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

Percent of course: 0%

First term to be offered:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: IDTD

Submitter

First Name: Kelly
Last Name: Wilshire
Phone: 15035943391
Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 111

 # Credits: 5

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 110
Lab (# of hours):
Total course hours: 110

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

Course Title: Manual Machining I

Course Description:

This course is an introduction to machine tool operation and precision measurement. It covers elementary operation of drill presses, bandsaws, lathes, and milling machines. The course includes external threading.

Type of Course: Career Technical Preparatory

Reason for the new course:

program revisions

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology AAS, Computer-Aided Manufacturing AAS

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

Yes

Recommendations: Prerequisite or Corequisite: MFG-104 and MTH-050

Requirements:

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**
✓ **Winter**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. identify the equipment and behaviors necessary for safety in the machine shop environment,
2. identify cutting tool materials and calculate their proper RPM and feed rates,
3. use precision measurement to inspect machined elements,
4. describe the major components and associated tooling related to milling machines and lathes,
5. identify and implement common work holding devices for lathes and mills,
6. adjust the settings of common machine tools for the proper feed and speed,
7. demonstrate the process for centering a 4-jaw chuck,
8. setup and perform single-point threading on a lathe,
9. demonstrate safe setup, operation, and proper work holding procedures on mills and lathes,
10. demonstrate the safe setup operation and blade selection of horizontal and vertical band saws,
11. plan and perform tapping and die threading operations by hand and machine,
12. demonstrate the safe and proper use of a pedestal grinder.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Shop safety
2. Speed and feed calculations for milling, turning and drilling.
3. Unit conversion conversions
4. Reading and handling of steel rules
5. Precision measurement with calipers and micrometers
6. Application of transfer measurement tools
7. Manual lathe use and application for O.D turning, facing and drilling
8. Cutting tools for turning
9. Workholding on a lathe including chucks, collets and faceplate
10. The calculations, setup and measurement for sixty-degree external threads
11. Milling machine setup and operation
12. Setup and operation of a drill press
13. Application and setup of counterboring, countersinking and spotfacing tools
14. Setup and operation of horizontal and vertical band saws
15. Taps and tapping applications
16. Types and application of thread cutting dies
17. Pedestal grinder safety and operation

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

1. Increased energy efficiency	**No**
2. Produce renewable energy	**No**
3. Prevent environmental degradation	**No**
4. Clean up natural environment	**No**

5. Supports green services **No**

Percent of course: 0%

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: IDTD

Submitter

First Name: Kelly
Last Name: Wilshire
Phone: 15035943391
Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 112

 # Credits: 5

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 110
Lab (# of hours):
Total course hours: 110

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

Course Title: Manual Machining II

Course Description:

This course is a continuation of machine tool operations. It covers set-up and operation of the vertical milling machine, lathe boring techniques, surface grinding and screw thread nomenclature.

Type of Course: Career Technical Preparatory

Reason for the new course:

program revision

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology AAS, Computer-Aided Manufacturing AAS

Are there prerequisites to this course?

Yes

Pre-reqs: MTT-111

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: No

When do you plan to offer this course?

✓ **Winter**

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. apply basic geometric dimensioning and tolerancing symbols to machining operations,
2. compare and select cutting tool materials for optimal durability, efficiency and quality;
3. describes all aspects of turning with centers including tailstock use, turning between centers and tailstock alignment;
4. describe situations when reaming should be selected and identify relevant tooling parameters,
5. perform and troubleshoot parting operations,
6. identify principles that are used to reduce chatter during turning operations,
7. describe the application of a steady rest and a follow rest for turning,
8. identify common nomenclature associated with screw threads including thread series, form, lead, pitch and diameter specifications;
9. identify the major components of the vertical milling machine,
10. demonstrate milling machine setup including tooling selection and workholding,
11. perform basic milling machine operations including face, slot and side milling and hole making;
12. compare conventional and climb milling,
13. identify and select tooling for surface grinding,
14. setup and perform high-precision surface grinding.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Basic geometric and dimensioning symbols
2. Metal cutting mechanics
3. The identification and application cutting fluids
4. Cutting tool materials and selection
5. Turning between centers
6. Tapered and expanding mandrels
7. Alignment of the lathes center
8. Lathe operations such as drilling, boring, reaming, tapping, parting off and knurling
9. Application of steady and follow rests
10. Screw thread nomenclature
11. Knee-type vertical milling machine components and their function
12. Workholding and cutting tools for milling
13. Squaring the milling head
14. Align a workpiece parallel to the axis of the table
15. Locating the workpiece corner with an edge finder
16. Locating the center of a bore with a dial indicator
17. Speed and feed calculations
18. Applications for the rotary table or indexing head

19. Grinding wheel selection, handling, truing and dressing
20. Work holding devices for the surface grinder
21. Setups and operations on the surface grinder
22. The general cause of surface grinding problems

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

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

Percent of course: 0%

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: IDTD

Submitter

First Name: Kelly
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Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 113

 # Credits: 5

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 110
Lab (# of hours):
Total course hours: 110

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

Course Title: Manual Machining III

Course Description:

This course is a continuation of machine tool operations. Topic covered include offset boring heads, rotary tables, indexing devices, taper attachments and cylindrical grinding. Additional emphasis is also placed on inspections technique, technical math and optical comparators.

Type of Course: Career Technical Preparatory

Reason for the new course:

program revision

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology AAS, Computer-Aided Manufacturing AAS

Are there prerequisites to this course?

Yes

Pre-reqs: MTT-112

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Summer**

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. describe basic assembly fits and define their tolerance specifications,
2. identify common angular measuring tools and demonstrate their use,
3. demonstrate safe setup, operation and application of common endmills and face milling cutter;
4. calculate sine bar elevations to establish angles using a sine bar and gage blocks,
5. describe the care required to maintain gage blocks and their accuracy,
6. demonstrate safe setup, operation and application of an offset boring head;
7. recognize common geometric dimensioning and tolerances,
8. locate reference and tolerance information in Machinery's Handbook,
9. demonstrate safe setup, operation and application of the cylindrical grinder;
10. describe the methods of cutting common tapers on a lathe and apply inspection techniques,
11. demonstrate safe setup, operation and application of indexing devices,
12. describe and inspect common types of keyways.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. GD&T symbols.
2. Tolerances, fits, and SPC.
3. Offset boring heads.
4. Face milling.
5. Direct and simple indexing.
6. Indexing and angular machining.
7. Bolt hole circle calculations.
8. Taper attachments.
9. Cylindrical grinders.
10. Types of keys and keyway calculations.

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

1. Increased energy efficiency	**No**
2. Produce renewable energy	**No**
3. Prevent environmental degradation	**No**
4. Clean up natural environment	**No**

5. Supports green services **No**

Percent of course: 0%

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: IDTD

Submitter

First Name: Kelly
Last Name: Lawrence
Phone: 15035943391
Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 121

 # Credits: 3

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 66
Lab (# of hours):
Total course hours: 66

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

Course Title: CNC I: Set-Up and Operation

Course Description:

This is the first course in the CNC sequence. Students will learn basic skills including how to properly set-up and operate both CNC milling and turning centers. Students will also learn G & M codes related to basic machine set-up and operation. Designed for persons with little or no previous CNC experience.

Type of Course: Career Technical Preparatory

Reason for the new course:

Program alignment

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology AAS, Computer-Aided Manufacturing AAS

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. explain the various systems that control both CNC milling and turning centers,
2. establish work offsets on CNC machines,
3. establish both initial tool offsets as well as make adjustments for tool wear and deflection,
4. perform 1st runs on CNC programs for the purpose of proving them out,
5. interpret and apply G & M codes that relate to basic machine set-up and operation,
6. transfer programs to and from CNC machine tools,
7. install and use basic work-holding hardware,
8. assemble and install tooling into CNC machines,
9. work safely around automated manufacturing equipment.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Computer Numerical Control (CNC) systems and nomenclature.
2. Cartesian coordinate system.
3. Machine start-up and shut-down procedures.
4. Set-up CNC vertical milling machine work and tool offsets.
5. Set-up CNC horizontal turning machine zero and tool offsets.
6. Work and tool offset adjustments.
7. CNC machine tooling and work holding basics.
8. G & M code basics.
9. Milling and turning projects.

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

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

Percent of course: 0%

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: IDTD

Submitter

First Name: Kelly
Last Name: Lawrence
Phone: 15035943391
Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 122

 # Credits: 4

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 88
Lab (# of hours):
Total course hours: 88

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

Course Title: CNC II: Programming and Operation

Course Description:

This is the second course in the CNC sequence. Students will learn G&M-code programming for milling and turning while they build their set-up and operation skills. There will also be an introduction to set-up probing, 4-axis mill programming and machining, sub-programming and process documentation.

Type of Course: Career Technical Preparatory

Reason for the new course:

Program alignment

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology AAS, Computer-Aided Manufacturing AAS

Are there prerequisites to this course?

Yes

Pre-reqs: MTT-111, MTT-121, MTH-050

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Winter**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. describe how efficiencies are gained through the use of CNC technology to provide increased productivity and reduced product cost,
2. calculate tool points and use trigonometry to solve programming problems,
3. create and update operation plans, set-up sheet, and shop drawings to be use while processing parts;
4. write G & M code programs from scratch for both CNC milling and turning centers,
5. transfer programs to and from a CNC machine tools,
6. install and use work-holding hardware, including rotary axis hardware, to set-up machines;
7. properly apply advancements in cutting tool technology on both CNC milling and turning machines,
8. use both spindle and tool probes to perform set-ups on CNC machines,
9. perform 1st runs on CNC programs, that they have personally written, for the purpose of proving them out.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. CNC milling programming, set-up, and operation
2. CNC lathe programming, set-up, and operation
3. CNC part processing documentation.
4. G & M code programming.
5. Sub-programming
6. Rotary axis programming
7. Milling and turning projects.

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

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

Percent of course: 0%

First term to be offered:

Clackamas Community College

Online Course/Outline Submission System

Consent Agenda Requests

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Section #1 General Course Information

Department: Industrial Technology

Submitter

First Name: Kelly
Last Name: Lawrence
Phone: 15035943391
Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 123

 # Credits: 4

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 88
Lab (# of hours):
Total course hours: 88

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

Course Title: CNC III: Applied Programming and Operation

Course Description:

This is the third course in the CNC sequence. Students will build their CNC programming, set-up, and operation skills. They will work individually or in small groups to design, program, manufacture, and test advanced projects using CNC mills, CNC lathes, multi-axis/process machine tools, and various software applications.

Type of Course: Career Technical Preparatory

Reason for the new course:

Program alignment

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology

Are there prerequisites to this course?

Yes

Pre-reqs: MTT-122 and MTH-080

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: No

When do you plan to offer this course?

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. calculate tool points and use trigonometry to solve advanced programming problems,
2. create and update operation plans, set-up sheet, and shop drawings to be used while processing parts,
3. write advanced G & M code programs from scratch for both CNC milling and turning centers,
4. install and use work-holding hardware on multi-axis CNC machines to set-up machines,
5. properly apply advancements in cutting tool technology on both CNC milling and turning machines,
6. use both spindle and tool probes to perform set-ups on CNC machines,
7. perform 1st runs on advanced CNC programs for the purpose of proving them out.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Advanced CNC milling programming, set-up, and operation
2. Advanced CNC lathe programming, set-up, and operation
3. CNC part processing documentation for multi-axis and multi-process.
4. Advanced G & M code programming.
5. Milling, turning, multi-axis, and multi-process projects.

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

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

Percent of course: 0%

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

Consent Agenda Requests

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Section #1 General Course Information

Department: Industrial Technology

Submitter

First Name: Kelly
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Phone: 15035943391
Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 141

 # Credits: 4

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 88
Lab (# of hours):
Total course hours: 88

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

Course Title: CAD/CAM I

Course Description:

This course is the first in the CAM series and will introduce students to computer-aided part creation and programming. Students will use CAD/CAM software to generate Numerical Control (NC) code to produce machined products. Model creation, process verification, code generation, and CAD/CAM integration will be covered.

Type of Course: Career Technical Preparatory

Reason for the new course:

Program alignment

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

Yes

Recommendations: MTT-121

Requirements:

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: No

When do you plan to offer this course?

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. demonstrate an understanding of basic CAD practices,
2. create wire frame and 3D solid geometry,
3. import geometry into the CAM system,
4. identify toolpath operation types,
5. create CAM generated tool paths,
6. utilize the 'Verify' and 'Backplot' utility to troubleshoot toolpaths, within the CAM program;
7. post process the toolpath to NC code,
8. apply this to previously acquired CNC skills to produce a machined part.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Basic CAD drawing.
2. Geometry modifications and transformations.
3. Basic Toolpath creation.
4. Cutter Compensation through CAM.
5. Data entry shortcuts.
6. Toolpath Verification.
7. Toolpath Backplot.
8. Importing CAD files.
9. Use of the Operations Manager.
10. Utilizing Job Set-up.
11. Post processing.
12. File transmission.

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

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

Percent of course: 0%

Clackamas Community College

Online Course/Outline Submission System

Consent Agenda Requests

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Section #1 General Course Information

Department: Industrial Technology

Submitter

First Name: Kelly
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Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 241

 # Credits: 4

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 88
Lab (# of hours):
Total course hours: 88

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

Course Title: CAD/CAM II

Course Description:

This course is the second in the CAM series and will greatly expand the student's existing CAD/CAM skills by exploring more advanced software features and programming techniques. There will be a strong emphasis placed on the entire CAD/CAM/CNC part machining process. An introduction to 4-axis mill programming will be included.

Type of Course: Career Technical Preparatory

Reason for the new course:

Program alignment

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology

Are there prerequisites to this course?

Yes

Pre-reqs: MTT-122 and MTT-141

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: No

When do you plan to offer this course?

✓ **Winter**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. create and modify solid models using CAD/CAM software,
2. use CAD/CAM software to create 3-axis milling programs,
3. use CAD/CAM software to create 2-axis turning programs,
4. use the CAD/CAM/CNC process cycle to refine and optimize NC programs,
5. explain the 4-axis mill programming and machining process.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. CAD Solid model creation.
2. CAD Solid model manipulation.
3. Programming 3-axis milling machines.
4. Programming 2-axis turning machines.
5. Introduction to four-axis milling.
6. Work zeros, offsets, and axis combinations.
7. Programming techniques and processes.
8. CAD/CAM/CNC optimization.
9. Machining projects.

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

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

Percent of course: 0%

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

Consent Agenda Requests

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Section #1 General Course Information

Department: Industrial Technology

Submitter

First Name: Kelly
Last Name: Lawrence
Phone: 15035943391
Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 242

 # Credits: 4

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 88
Lab (# of hours):
Total course hours: 88

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

Course Title: CAD/CAM III

Course Description:

This course is the third in the CAM series and will build on the previous course. Students will use CAD/CAM software to produce CNC parts. There will be an emphasis on multiple operations on both CNC milling and turning machines. An introduction to five-axis and mill/turn machining will be included.

Type of Course: Career Technical Preparatory

Reason for the new course:

Program alignment

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology

Are there prerequisites to this course?

Yes

Pre-reqs: MTT-241

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: No

When do you plan to offer this course?

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. design, develop and manufacture a complex machined project;
2. use CAD/CAM software to create and modify CAD models from engineering drawings,
3. create and modify process models based on the CAD geometry,
4. create and refine toolpaths for 3 & 4-axis milling and 2-axis turning machines,
5. explain various processes and techniques used on both 5-axis and mill/turn machining centers.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Types of multi-axis machines.
2. Introduction to five-axis.
3. Work zeros, offsets, and axis combinations.
4. Programming techniques and processes.
5. Types of mill/turning machines.
6. Introduction to mill/turn.
7. Projects.

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

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

Percent of course: 0%

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: IDTD

Submitter

First Name: Kelly
Last Name: Wilshire
Phone: 15035943391
Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 252

 # Credits: 3

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 66
Lab (# of hours):
Total course hours: 66

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

Course Title: Macro Programming and Machine Probing

Course Description:

This course is an introduction to Fanuc-based, custom macro programming for individuals with some previous G&M-code programming experience. Students will learn to define and apply macro variables, program branching, macro functions and operators and implement repetitive looping. Additional topics will include custom alarms and assignment of G & M codes to macros. Students will write and prove out programs on HAAS CNC controls utilizing all basic functions of the language using Renishaw touch probes.

Type of Course: Career Technical Preparatory

Reason for the new course:

program revision

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology AAS

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

Yes

Recommendations: Competence with basic G&M-code mill programming (FANUC/Haas-style) or MTT-123

Requirements:

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. evaluate and optimize existing CNC programs using custom macro/parametric programming,
2. create custom canned cycles (macros) and assign G&M codes to them,
3. create custom operator/error alarms and timers,
4. implement system variables for the purpose of clearing, writing, updating and adjusting work and tool offsets;
5. understand tool stylus function and touch-trigger principle,
6. determine in-process gauging and programming,
7. describe the broken tool detection process,
8. describe the calibration process.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Custom Macro and Parametric Programming History and Applications
2. Global Variable use in Parametric/Macro Programming.
3. Programming Syntax
4. Global Variables and Machine Options
5. Arithmetic functions and Order of Operations
6. Program Branching
7. Use of Boolean Operators and Trigonometric functions
8. Creating Custom Canned Cycles (macros)
9. G65 Macro Call
10. Program Numbers
11. Passing of Macro Arguments
12. Limiting Block Look Ahead.
13. Activating Single Block Suppression
14. Repetitive Looping
15. Custom Alarms and Timers
16. Aliasing--Assigning Custom G&M codes to Macros
17. Introduction to System Variables
18. Automatic Adjustment of Work and Tool Offsets
19. Populating Work and Tool Offset Registries

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

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

Percent of course: 0%

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

Consent Agenda Requests

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Section #1 General Course Information

Department: Industrial Technology

Submitter

First Name: Kelly
Last Name: Lawrence
Phone: 15035943391
Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 253

 # Credits: 3

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 66
Lab (# of hours):
Total course hours: 66

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

Course Title: 5-Axis Machining

Course Description:

This class will introduce students to 5-axis CNC milling machines, their programming, and setup procedures. The course will explore limitations, advantages, and configurations of typical 5-axis machines including rotation style and set-up orientation. Post processing and virtual machine simulation will also be discussed.

Type of Course: Career Technical Preparatory

Reason for the new course:

Program alignment

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology

Are there prerequisites to this course?

Yes

Pre-reqs: MTT-123

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: No

When do you plan to offer this course?

✓ **Winter**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. identify the advantages of 5-axis machine tools,
2. identify different machine and workholding configurations,
3. understand basic terminology used in the industry regarding 5-axis machines,
4. determine proper cutting strategies using 3+2 and synchronous movement,
5. describe the difference between feed rate and inverse time feed,
6. identify specific safety issues with rotating axes,
7. use CAM Simulation and virtual machines for simulation.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Identification and orientation of machining axes
2. Machine start-up and shut-down procedures
3. Machine setup and verification procedures
4. Workholding techniques unique to Multi-Axis machining
5. Maximizing the usable work area
6. Reduced part handling and increased three-dimensional part feature acceptance
7. Increased productivity of complex parts while increasing tool life and surface finish
8. Toolpath verification using dedicated simulation and machine environments

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

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

Percent of course: 0%

First term to be offered:

Next available term after approval
:

Clackamas Community College

Online Course/Outline Submission System

Consent Agenda Requests

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Section #1 General Course Information

Department: Industrial Technology

Submitter

First Name: Kelly
Last Name: Lawrence
Phone: 15035943391
Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 254

 # Credits: 3

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 66
Lab (# of hours):
Total course hours: 66

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

Course Title: Mill/Turn Machining

Course Description:

This class will introduce students to CNC mill-turn machines, their programming, and setup procedures. The course will explore limitations, advantages, and configurations of typical mill/turn machines including rotation style and set-up orientation. Post processing and virtual machine simulation will also be discussed.

Type of Course: Career Technical Preparatory

Reason for the new course:

Program alignment

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology

Are there prerequisites to this course?

Yes

Pre-reqs: MTT-123

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: No

When do you plan to offer this course?

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. identify the advantages of mill-turn machines,
2. identify different machine and workholding configurations,
3. understand basic terminology used in the industry regarding Mill-turn machines,
4. determine proper cutting strategies using dual-spindle machine,
5. identify the limitations of the Main and sub-spindle workholding and fixturing,
6. identify specific issues with live tooling and part hand-off,
7. describe the advantages and disadvantages of C and Y-axis machining,
8. use CAM simulation and virtual machines for simulation.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Identification and orientation of machining axes
2. Machine start-up and shut-down procedures
3. Machine setup and verification procedures
4. Workholding techniques unique to Mill-turn machining
5. Maximizing the usable work area
6. Reduced part handling and increased three-dimensional part feature acceptance
7. Increased productivity of complex parts while increasing tool life and surface finish
8. Toolpath verification using dedicated simulation and machine environments

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

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

Percent of course: 0%

First term to be offered:

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: IDTD

Submitter

First Name: Kelly
Last Name: Lawrence
Phone: 15035943391
Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 268

 # Credits: 3

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 66
Lab (# of hours):
Total course hours: 66

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

Course Title: Capstone Machining I

Course Description:

This is the first of the capstone project series and will allow students to demonstrate mastery of core skills that are learned in the machining program including: CNC setup and operation, manual machining, CAM programming, and surface grinding. This class will focus on importing models, process development, and programming components to be run on a CNC machine tool.

Type of Course: Career Technical Preparatory

Reason for the new course:

program changes

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Machine Tool Technology AAS

Are there prerequisites to this course?

Yes

Pre-reqs: MTT-113, MTT-123, MTT-141

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

Yes

Recommendations: Corequisite: MTT-242

Requirements:

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Winter**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. import three-dimensional models into a CAM system,
2. plan and document efficient machining processes for an assigned product,
3. model and verify machining process in a CAM system for all components to be manufactured on a CNC machine tool,
4. prepare workpieces for CNC machining with the use of manual machine tools,
5. setup and machine assigned parts on CNC mills and lathes.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Model importation and machining process modeling.
2. Project planning.
3. GD&T applications to related to projects.
4. Fixturing for 5-axis milling.
5. Multi-axis machine programming, set-up and verification.
6. Part drawings and common document control procedures.

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

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

Percent of course: 0%

First term to be offered:

Clackamas Community College

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Section #1 General Course Information

Department: Industrial Technology

Submitter

First Name: Kelly
Last Name: Lawrence
Phone: 15035943391
Email: kellys@clackamas.edu

Course Prefix and Number: MTT - 269

 # Credits: 3

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 66
Lab (# of hours):
Total course hours: 66

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

Course Title: Capstone Machining II

Course Description:

This final course in the capstone project series will continue to allow students to demonstrate mastery of core skills that are learned in the machining program while manufacturing a complex product. Special emphasis will be given to 4 and 5-axis CNC machining and programming, material preparation for CNC machining, and precision surface grinding.

Type of Course: Career Technical Preparatory

Reason for the new course:

program revision

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? 3

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Manufacturing Programs

Are there prerequisites to this course?

Yes

Pre-reqs: MTT-268

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

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

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Spring**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

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

1. accurately grind orthogonal, cylindrical and inclined surfaces to tolerances of +/- .0002 inches;
2. describe the materials, coatings, and geometries of common cutting tools for machining steel;
3. inspect workpieces to verify adherence to dimensional and geometric tolerances,
4. prepare workpieces for CNC machining with the use of manual machine tools,
5. perform CNC setups and machining operations for all assigned components using 3, 4, and 5-axis machine tools.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. GD&T requirements of the assigned projects.
2. Precision grinding setups and troubleshooting.
3. Establishing a specific angle through the use of gage blocks and sine bar.
4. Advanced cutting tool materials and geometries for steel machining.
5. Calculation of machining parameters for the milling of steel.
6. Multi-axis machine work holding, setup and operation.
7. Project inspection criteria and documentation.

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

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

Percent of course: 0%

First term to be offered:

Next available term after approval
:

Program Learning Outcomes

March 5, 2021

Program	Implementation
Automotive Service Technology AAS	2021/SU
Business Management CC	2021/SU

Automotive Service Technology AAS

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

Current

1. practice safety precautions to protect the environment, the student, and the vehicle;
2. communicate clearly with team members and supervisors;
3. conduct yourself on the job with a high degree of professionalism;
4. test and repair basic automotive electrical systems;
5. diagnose, repair, and service modern automotive brake systems including, anti-lock systems, traction control systems, and stability control systems;
6. diagnose, repair, and service modern suspension systems;
7. diagnose, repair, and maintenance of all hybrid systems;
8. diagnose and repair symptom based mechanical engine problems, including, cylinder head, valve train, and engine block problems;
9. diagnose, repair, and service front and rear wheel drive automatic transmissions;
10. diagnose, repair, and service modern fuel and emissions systems;

Proposed

1. work safely in the shop, including addressing environmental concerns related to the industry;
2. apply technical knowledge, understanding, and skills to tasks, in accordance with ASEEF Program Accreditation;
3. apply the principles of engineering, mathematics, and science to analyze and diagnose electrical, hydraulic, and mechanical concerns in automotive applications;
4. research, report, and present industry related data, using computer knowledge and skills;
5. apply critical thinking skills in technical problem solving;
6. communicate effectively, both orally and in writing, in an automotive service setting;
7. use Industry approved diagnostic equipment to analyze and diagnose vehicle systems.

11. diagnose and repair automotive electrical accessory systems;
12. diagnose, repair, and service modern heating and air conditioning systems;
13. diagnose, repair, and service front and rear wheel drive manual drive train and axle systems.

Business Management CC

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

Current	Proposed
1. demonstrate an understanding of fundamental business concepts through the integration of the functional areas of business into a comprehensive plan;	
2. make informed business decisions based on the use analysis of financial and budgetary data;	1. make informed business decisions based on the use analysis of financial and budgetary data;
3. demonstrate an understanding of the functions of leading, planning, organizing, and controlling in an organization;	2. demonstrate an understanding of the functions of leading, planning, organizing, and controlling in an organization;
4. identify effective supervisory strategies (e.g. motivation, goal setting, coaching, leadership, etc.) for given individual and group situations;	3. identify effective supervisory strategies (e.g. motivation, goal setting, coaching, leadership, etc.) for given individual and group situations;
5. demonstrate all the programs learning outcomes for the Management Fundamentals Career Pathway Certificate.	4. demonstrate all the programs learning outcomes for the Management Fundamentals Career Pathway Certificate.

Program Amendments

March 5, 2021

Program	Implementation
Business AAS	2021/SU
Business Management CC	2021/SU
Human Resource Management CC	2021/SU

Oregon Department of Community Colleges and Workforce Development
255 Capitol Street NE
Salem, OR 97310-0203

Office of Educational Improvement & Innovation
Phone: (503) 378-3600
FAX: (503) 378-5156

COMMUNITY COLLEGE PROGRAM AMENDMENT FORM

(For changes to State Approved Associate of Applied Science degree, AAS option and Certificate of Completion programs)

This form should be completed electronically and the boxes will expand to accommodate text.
Current instructions, forms, handouts and other useful resources are located at
http://www.ode.state.or.us/search/results/?id=231

College:	**Clackamas Community College**	**Date**	

CAREER LEARNING AREA	
☐ **Ag, Food & Natural Resource Systems**	☐ **Health Services**
☐ **Arts, Information & Communications**	☐ **Human Resources**
✓ **Business & Management**	☐ **Industrial & Engineering Systems**

PROGRAM INFORMATION

APPROVED **Program Title** *(For Official Program Title, refer to your directory at http://www.ode.state.or.us/search/results/?id=232)*	*APPROVED* **CIP Code** (Include 7th & 8th digits used for OCCURS reporting.) *6-digit CIP*	*7th digit*	*8th digit*	*APPROVED* **Recognition Award**	*Current* **Credits**
AAS Title: Business AAS.BUSINESS	**52.0201**			✓ **AAS (90-108 credits)**	**90-96**
Option Title**				☐ *OPTION* **to AAS Degree**	
Certificate Title: *Within* **AAS Degree? ☐ Yes** ☐ No**				☐ **Certificate of Completion**	

****Enter name of base degree in 'AAS Title' box**

Last amendment approved on 06.01.18

TYPE OF PROGRAM AMENDMENT
(Check **ALL** That Apply)

☐ **New Program++** ☐ **Title Change for Program**	✓ **Curriculum Revision**	✓ **Revision in Program Credits**	
		Proposed **Total Credits:**	**92-96**
Proposed **AAS Title:**			
Proposed **OPTION Title:**			
Proposed **Certificate Title:**			
☐ *SUSPENSION* **of Program**	*Reason for Suspension:*		
Suspension Effective Date:			

++If new program is an additional award for an existing degree or certificate, complete 'Program Information' section for existing program.

CURRICULUM AMENDMENT

[List in a Defined Sequence of Courses Format, e.g., Quarter-to-quarter mapping.
For a New Program, complete the Proposed Curriculum section only.]

CURRENT CURRICULUM 20-21 [List entire curriculum as last approved]				*PROPOSED CURRICULUM 21-22* [List only course(s) to be amended]			
Course	**Title**	**Hours**	**Credits**	**Course**	**Title**	**Hours**	**Credits**
Business Associate of Applied Science Degree: 1st Year							
Fall Term							
BA-101	Introduction to Business	44	4				
BA-104*	**Business Math**	**33**	**3**				
BA-131	Introduction to Business Computing	44	4				
WR-121**	**English Composition**	**44**	**4**				
--	***PE/Health/Safety/First Aid requirement (see page 82)**		**1**				
Winter Term							
BA-224	Human Resource Management	44	4	Move to first year spring term			
BA-226	Business Law I	44	4				
BA-285*	**Human Relations in Business**	**44**	**4**				
--	Business program elective		3-6	--	Business program elective		3-4
				BA-119	Project Management Practices	22	2
				BA-251	Supervisory Management	33	3
Spring Term							
BA-205	Business Communications with Technology	44	4	Move to second year fall term.			
BA-206	Management Fundamentals	44	4				
BA-223	Principles of Marketing	44	4				
--	Business program elective		3-4				
				BA-224	Human Resource Management	44	4
Business Associate of Applied Science Degree: 2nd Year							
Fall Term							
BA-211	Financial Accounting	44	4				
--	Business program electives		12	--	Business program electives		8
				BA-205	Business Communications with Technology	44	4
Winter Term							
BA-212	Financial Accounting II	44	4	Remove			
WR-227	Technical Report Writing	44	4				
--	Business program elective		6-8				
				BA-213	Decision Making with Accounting Information	44	4
Spring Term							
BA-213	Decision Making with Accounting Information	44	4	Move to second year winter term.			
BA-217	Budgeting for Managers	33	3				

BA-280	Business/CWE	108	3	REMOVE			
--	Business program elective		4	--	Business program elective		8
				BA-250	Small Business Management	44	4
Catalog Notes 15 incl 8 electives							
*Related Instruction Requirements: Computation: BA-104 Communication: WR-121 Human Relations: BA-285 PE/Health/Safety/First Aid: At least 1 credit							
**WRD-098 or placement in WR-121 required							
Business Program Electives (28-32 credits)							
Complete all AAS Business requirements plus the following to satisfy requirements for the Business Management Certificate:				Note: By completing all Business AAS Degree requirements, you will satisfy the requirements for the 1 year Business Management Certificate and the Management Fundamentals Career Pathway Certificate.			
BA-119	Project Management Practices	22	2	Move to first year winter term.			
BA-251	Supervisory Management	33	3	Move to first year winter term.			
Complete all AAS Business requirements plus the following to satisfy requirements for the Human Resource Management Certificate:				Complete these electives in your AAS Business program to satisfy requirements for the 1 year Human Resource Management Certificate:			
BA-208	Employee and Labor Relations	44	4				
BA-229	Employment Law	44	4				
BA-250	Small Business Management	33	3	Move to second year spring term.			
BA-254	Basic Compensation & Benefits	44	4				
Complete all AAS Business requirements plus the following to satisfy requirements for the Marketing Certificate:				Complete these electives in your AAS Business program to satisfy requirements for the 1 year Marketing Certificate:			
BA-156	Business Forecasting	33	3				
BA-238	Sales	44	4				
BA-239	Advertising	44	4				
BA-261	Consumer Behavior	44	4				
				Complete these electives in your AAS Business program to satisfy requirements for the less-than-1-year Retail Management Certificate:			
				BA-249	Retailing		3
Or complete any Business Administration (BA) or Business Technology (BT) course not included in the Business AAS program							
Or any course from the following:							
CS-181	CMS Web Development	33	3				
CS-125H	HTML & Web Site Design	33	3				
CS-135S	Microsoft Excel	33	3				
COMM-111	Public Speaking	44	4				
EC-201	Principles of Economics: MICRO	44	4				
EC-202	Principles of Economics: MACRO	44	4				
TOTAL *CURRENT* CREDITS:			90-96	**TOTAL *PROPOSED* CREDITS:**			92-96

College Contact	Sharon Parker	**Telephone No.**	3075	
E-Mail Address		**Fax No.**		
Chief Academic Officer *or* **PTE Dean Signature**			**Date**	**1/22/21**

Oregon Department of Community Colleges and Workforce Development
255 Capitol Street NE
Salem, OR 97310-0203

Office of Educational Improvement & Innovation
Phone: (503) 378-3600
FAX: (503) 378-5156

COMMUNITY COLLEGE PROGRAM AMENDMENT FORM

(For changes to State Approved Associate of Applied Science degree, AAS option and Certificate of Completion programs)

This form should be completed electronically and the boxes will expand to accommodate text.
Current instructions, forms, handouts and other useful resources are located at
http://www.ode.state.or.us/search/results/?id=231

College:	**Clackamas Community College**	**Date**	

CAREER LEARNING AREA	
☐ **Ag, Food & Natural Resource Systems**	☐ **Health Services**
☐ **Arts, Information & Communications**	☐ **Human Resources**
☐ **Business & Management**	☐ **Industrial & Engineering Systems**

PROGRAM INFORMATION

APPROVED **Program Title** *(For Official Program Title, refer to your directory at http://www.ode.state.or.us/search/results/?id=232)*	*APPROVED* **CIP Code** (Include 7th & 8th digits used for OCCURS reporting.) *6-digit CIP*	*7th digit*	*8th digit*	*APPROVED* **Recognition Award**	**Current Credits**
AAS Title:				☐ **Associate of Applied Science (AAS) Degree**	
Related Program: Management Fundamentals Career Pathway				☐ *OPTION* **to AAS Degree**	
Certificate Title: *Within* **AAS Degree? ☐ Yes** √ No** **Business Management** CC.BUSMANAGEMENT	**52.0201**			√ **CC1 (45-60 credits)**	**50**

****Enter name of base degree in 'AAS Title' box**

Last amendment approved on 06.01.18

TYPE OF PROGRAM AMENDMENT
(Check **ALL** That Apply)

☐ **New Program++** ☐ **Title Change for Program**	☐ **Curriculum Revision**	☐ **Revision in Program Credits**	
		Proposed **Total Credits:**	**47**
Proposed **AAS Title:**			
Proposed **OPTION Title:**			
Proposed **Certificate Title:**			
☐ *SUSPENSION* **of Program**	*Reason for Suspension:*		
Suspension Effective Date:			

++If new program is an additional award for an existing degree or certificate, complete 'Program Information' section for existing program.

CURRICULUM AMENDMENT

[List in a Defined Sequence of Courses Format, e.g., Quarter-to-quarter mapping.
For a New Program, complete the Proposed Curriculum section only.]

CURRENT CURRICULUM 20-21 [List entire curriculum as last approved]				*PROPOSED CURRICULUM 21-22* [List only course(s) to be amended]			
Course	**Title**	**Hours**	**Credits**	**Course**	**Title**	**Hours**	**Credits**
Business Management Certificate							
Fall Term							
BA-101	Introduction to Business	44	4				
BA-104*	**Business Math**	**33**	**3**				
BA-131	Introduction to Business Computing	44	4				
WR-121**	**English Composition**	**44**	**4**				
Winter Term							
BA-119	Project Management Practices	22	2				
BA-224	Human Resource Management	44	4	Move to Spring Term			
BA-226	Business Law I	44	4				
BA-251	Supervisory Management	33	3				
BA-285*	**Human Relations in Business**	**44**	**4**				
				BA-211	Financial Accounting	44	4
Spring Term							
BA-206	Management Fundamentals	44	4				
BA-211	Financial Accounting I	44	4	Move to Winter Term			
BA-217	Budgeting for Managers	33	3				
BA-223	Principles of Marketing	44	4				
BA-280	Business/CWE	108	3	REMOVE			
				BA-224	Human Resource Management	44	4
Catalog Notes							
*Related Instruction Requirements: Computation: BA-104 Communication: WR-121 Human Relations: BA-285							
**WR-121 requires completion of WRD-098 or placement in WR-121.							
All courses in this program can be applied to partially satisfy requirements in the Business AAS degree.							
TOTAL *CURRENT* CREDITS:			50	**TOTAL *PROPOSED* CREDITS:**			47

College Contact	Sharon Parker	**Telephone No.**	3075
E-Mail Address		**Fax No.**	
Chief Academic Officer *or* PTE Dean Signature		**Date**	**1/22/21**

Oregon Department of Community Colleges and Workforce Development
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COMMUNITY COLLEGE PROGRAM AMENDMENT FORM

(For changes to State Approved Associate of Applied Science degree, AAS option and Certificate of Completion programs)

This form should be completed electronically and the boxes will expand to accommodate text.
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http://www.ode.state.or.us/search/results/?id=231

College:	**Clackamas Community College**	**Date**	

CAREER LEARNING AREA	
☐ **Ag, Food & Natural Resource Systems**	☐ **Health Services**
☐ **Arts, Information & Communications**	☐ **Human Resources**
☐ **Business & Management**	☐ **Industrial & Engineering Systems**

PROGRAM INFORMATION

APPROVED **Program Title** *(For Official Program Title, refer to your directory at http://www.ode.state.or.us/search/results/?id=232)*	*APPROVED* **CIP Code** (Include 7th & 8th digits used for OCCURS reporting.) *6-digit CIP*	*7th digit*	*8th digit*	*APPROVED* **Recognition Award**	**Current Credits**
AAS Title:				☐ **Associate of Applied Science (AAS) Degree**	
Related Certificates: Human Resource Management Essentials CP				☐ *OPTION* **to AAS Degree**	
Certificate Title: *Within* **AAS Degree? ☐ Yes** √ No** **Human Resource Management** CC.HUMANRESMNGT	**52.1005**			☐ **CC1 (45-60 credits)**	**45-47**

****Enter name of base degree in 'AAS Title' box**

LAST AMENDMENT APPROVED ON 01.18.19

TYPE OF PROGRAM AMENDMENT
(Check **ALL** That Apply)

☐ **New Program++** ☐ **Title Change for Program**	☐ **Curriculum Revision**	☐ **Revision in Program Credits** *Proposed* **Total Credits:** **46-48**
Proposed **AAS Title:**		
Proposed **OPTION Title:**		
Proposed **Certificate Title:**		
☐ *SUSPENSION* **of Program**	*Reason for Suspension:*	
Suspension Effective Date:		

CURRICULUM AMENDMENT							
CURRENT CURRICULUM 20-21				*PROPOSED CURRICULUM 21-22*			
Course	**Title**	**Hours**	**Credits**	**Number**	**Title**	**Hours**	**Credits**
Human Resource Management Certificate							
Fall Term							
BA-101	Introduction to Business	44	4				
BA-104 Or MTH-065	**Business Math or Algebra II**	**33-44**	**3-4**				
BA-131	Introduction to Business Computing	44	4				
WR-121	**English Composition**	**44**	**4**				
Winter Term							
BA-208	Employee and Labor Relations	44	4				
BA-224	Human Resource Management	44	4				
BA-250	Small Business Management	33	3	BA-250	Small Business Management	44	4
BA-285	**Human Relations in Business**	**44**	**4**				
Spring Term							
BA-226	Business Law I	44	4				
BA-229	Employment Law	44	4				
BA-254	Basic Compensation & Benefits	44	4				
--	Human Resource Management Program Electives		3-4				
Catalog Notes							
Courses in this program can be applied to satisfy requirements in the Business AAS degree.							
Human Resource Management Program Electives							
Any BA/BT course not already included in the Human Resource program							
TOTAL *CURRENT* CREDITS:			45-47	**TOTAL *PROPOSED* CREDITS:**			46-48

College Contact	Michael Moiso	**Telephone No.**	3370
E-Mail Address		**Fax No.**	
Chief Academic Officer *or* PTE Dean Signature		**Date**	**2/18/21**

Last Updated 02.05.2021

Curriculum Committee Charter

Mission

The Clackamas Community College Curriculum Committee supports faculty in the development and implementation of high-quality curriculum that is accessible to all students, adaptable to changing needs, and accountable to the community by facilitating faculty collaboration and ownership of the curriculum and providing a venue for faculty to establish curricula and improve instructional programs.

Purpose

In supporting the mission of the College, the Curriculum Committee oversees the quality and content of course outlines and transfer and non-transfer degree and certificate requirements in accordance with the policies and guidelines of the Northwest Commission of Colleges and Universities (NWCCU) and other relevant agencies. The committee provides guidance, advocacy, and oversight for curricular issues that are cross-departmental or institutional in scope and impact. This includes, but is not limited to, new courses, revisions to existing courses, transferability, general education and related instruction issues, and new and revised programs.

Scope

The committee is tasked with the following responsibilities:

1. Provide oversight of all new or changed course outlines and program proposals to ensure that academic standards are maintained.
    a. Review and evaluate course outlines to assure that they are well developed, clear and complete, meet state guidelines, conform to CCC standards, satisfy transferability requirements (if any), and that supporting documents adequately supplement the proposal;
    b. Assure that general education outcomes on course mapping documents are clearly and appropriately addressed in the student learning outcomes, and that state approved criteria are reflected in the course outlines to which the mapping documents are attached;
    c. For courses identified as meeting Related Instruction through embedded content, ensure that course outlines clearly address the student learning outcomes relevant to the Related Instruction area;
    d. Make recommendations to assist individuals and departments/areas to strengthen their course outlines and program proposals.

2. Evaluate the impact of curriculum proposals on the College to assure that the curriculum offered is complementary and integrated.
    a. Assure that overlap with existing courses, impacts on other divisions, departments/areas, courses, programs, college services, and pre/co-requisites have been addressed.

3. Approve or disapprove new or changed course outlines and programs, recommend quality and conformance to best curricular practice throughout the College.

4. Establish, review and revise procedures and guidelines as needed to assure quality and conformance to best curricular practice throughout the College.

Last Updated 02.05.2021

Membership

1. Ex Officio positions
    a. Director, Curriculum Office (non-voting)
    b. Curriculum and Scheduling Specialist (non-voting)
    c. Vice President, INSS
    d. Dean, IEP
    e. Center for Teaching and Learning Representative
    f. ASG Student Representative
    g. Dean, AFAC
    h. Financial Aid Representative
    i. Graduation Services Representative
    j. Director, Student Academic Support Services
    k. Dean, Arts and Sciences
    l. Associate Dean, Arts and Sciences
    m. Dean, TAPS
    n. Associate Dean, TAPS

2. Regular faculty positions
    a. Faculty (full-time or part-time) from each division are appointed by their dean. We value diverse representation from each division.
    b. Regular members serve three-year terms.
    c. Divisions may choose to retain a current representative longer than one three-year cycle.

3. Chair
    a. The committee is chaired by a full-time faculty member.
    b. In the current chair's final term (usually Spring), a call will be put out for faculty members of the committee to nominate a new chairperson.
    c. After nominations, all members vote on the new chair.
    d. Chair serves a two-year term.

Subcommittees

1. AFAC Review Team
2. Arts and Sciences Review Team
3. TAPS Review Team
4. Related Instruction Sub-Committee
5. General Education Sub-Committee

Voting Guidelines

1. All members of the committee other than the curriculum office representatives are eligible to vote on every item, including items that they introduce and present.
2. Visitors abstain from voting unless requested by the chair of the committee or a quorum of members.
3. Any voting member can motion for an agenda item to be considered for vote. This vote may be pushed out up to 3 future meetings. At that time, it may be decided, or tabled further by a quorum vote.
4. A quorum of at least 1/3 of the voting members, with more than half of those being faculty members, must be present in order for a vote to take place.

Last Updated 02.05.2021

Additional Documents

The *Course Revision Guidebook* and other checklists, flowcharts, and process documents can be found on the committee page http://webappsrv.clackamas.edu/committees/CC/.

Relationship to Other Committees

The Curriculum Committee works with the Curriculum Office, Instructional Standards & Procedures (ISP) Committee, the Assessment Committee and other college entities as necessary.

Definitions

Please see http://handbook.ccwdwebforms.net/handbook/glossary for a list of terms commonly used in committee discussions.

Committee Member Expectations/Commitment

In addition to attending meetings, members of the Curriculum Committee are expected to:

- Review Curriculum Committee process documents and Course Outline Review Guidebook
- Review meeting agenda and bring questions/comments to share at the meeting
- Participate on appropriate divisional review team
- Participate as needed on other subcommittees
- Act as the curriculum committee representative/liaison within their individual department/area

Meeting Schedule

The Curriculum Committee meets the first and third Friday of each month of Fall, Winter, and Spring terms, from 8-9:30am.