

**Clackamas Community College**

## Online Course/Outline Submission System

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 Show changes since last approval in red**Section #1 General Course Information****Department:** Sciences**Submitter**

First Name: Dave

Last Name: Arter

Phone: 3035

Email: davida

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**Course Prefix and Number:** CH - 150

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**# 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.

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**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.

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**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:** Pass MTH-095 with a C or better 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**

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. have sufficient background in the basic concepts of chemistry to succeed in a year-long sophomore level general chemistry course such as the college's CH-221 -222 -223 sequence,
2. balance chemical equations and perform simple stoichiometric calculations,
3. describe atomic structure,
4. use the standard nomenclature for ionic and covalent compounds,
5. be proficient in the basic problem solving techniques used in chemistry,
6. apply them to problems involving such basic concepts as density and mole/mass relationships.

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***This course does not include assessable General Education outcomes.***

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**Major Topic Outline:**

1. Subatomic particles and their properties.
2. Atomic structure.
3. Isotopes and relative abundances.
4. Elementary electronic structure of atoms.
5. Periodic properties of the elements.
6. Predicting formulas of covalent and ionic compounds.
7. Chemical formulas and formula weights.
8. The mole concept.
9. Mole/mass relationships.
10. Algebra in problem solving.
11. Variables and units.
12. Density.
13. Unit conversions.
14. Scientific notation.
15. Balancing equations.
16. Simple stoichiometry.
17. Limiting reactants.
18. Ionic nomenclature.
19. Covalent nomenclature.
20. Thermochemistry: temperature and phase changes.

**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          | <b>Yes</b> |
| 3. Prevent environmental degradation | <b>Yes</b> |
| 4. Clean up natural environment      | <b>Yes</b> |
| 5. Supports green services           | <b>Yes</b> |

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)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> EOU (Eastern Oregon University)      | <input checked="" type="checkbox"/> PSU (Portland State University)  |
| <input checked="" type="checkbox"/> OIT (Oregon Institute of Technology) | <input checked="" type="checkbox"/> SOU (Southern Oregon University) |
| <input checked="" type="checkbox"/> OSU (Oregon State University)        | <input checked="" type="checkbox"/> UO (University of Oregon)        |
| <input checked="" type="checkbox"/> OSU-Cascade                          | <input checked="" type="checkbox"/> WOU (Western Oregon University)  |

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

How does it transfer? (Check all that apply)

- general elective**

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First term to be offered:

**Next available term after approval**

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