

Clackamas Community College
Online Course/Outline Submission System

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Section #1 General Course Information

Department: Science

Submitter

First Name: Polly

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Course Prefix and Number: ASC - 177

Credits: 4

Contact hours

Lecture (# of hours): 33

Lec/lab (# of hours):

Lab (# of hours): 33

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: Integrated Science Inquiry

Course Description:

An introductory laboratory course for liberal arts majors emphasizing an evolutionary approach to major topics in science through the use of integrated themes. The themes focus on the scientific discoveries and people that shape our understanding of the world. The course emphasizes an interdisciplinary perspective on science, collaborative scientific investigations and critical thinking. Themes have included Evolution & Contemporary Issues, Africa, and the Lewis and Clark Expedition.

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?

No

Are there corequisites to this course?

No

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

Yes

Recommendations: Pass WR-095 or placement in WR-121

Requirements: None

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.

Yes

Course Number: **BI-177** Title: **Integrated Science Inquiry**

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 the ability to communicate and comprehend basic scientific principles and concepts important to an understanding of modern biology, (SC1)
 2. describe the fundamental concepts of evolutionary biology and its role in shaping current scientific knowledge, (SC3)
 3. critically examine and evaluate existing and alternative scientific explanations for current scientific topics. (SC2), (SC3)
 4. demonstrate an ability to work individually and collaboratively to gather and identify scientific resources, critically evaluate information and explore ideas about various topics important to modern science & society, (SC2)
 5. apply mathematics and/or technology to accurately interpret, validate and communicate solutions to solve problems and test hypotheses. (SC1)
 6. describe the limitations and consequences of human activity on society and the environment. (SC2), (SC3),
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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:

- 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.
- 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

- P** 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

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

Outcomes Assessment Strategies:

- ✓ **General Examination**
- ✓ **Presentations**
- ✓ **Thesis/Research Project**
- ✓ **Rubrics**
- ✓ **Journal Writing**
- ✓ **Projects**
- ✓ **Writing Assignments**
- ✓ **Multiple Choice Test**

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Major Topic Outline:

1. What makes something science
 - a. How do you know what you know? Critical thinking in science.
 - b. Exploring misconceptions about science, scientific research and scientific methodologies.
2. Introduction to Modern Genetics
 - a. Applying the concepts of population genetics & genetic diversity to explore important topics in science.
 - b. Mutation, diversity and its implications for disease & the ecosystem.
3. Natural & Sexual selection
 - a. Examine the importance of natural selection in shaping populations & the environment.
 - b. Use of selection models to explain, predict and examine changes in populations and the environment.
4. Artificial selection
 - a. The role of humans in emerging diseases.
 - b. The impact of human activities on the environment
5. Sexual Selection & innate behaviors
 - a. The role of sexual selection in shaping populations & behaviors.
 - b. Critical analysis of the role of innate versus learned behaviors.
6. Science & Society
 - a. Understanding the human condition through applying scientific models & concepts to various topics important to society.
 - b. Critical analysis of evidence for the support of various scientific hypotheses and alternate scientific explanations.
 - c. Fact check---Critical analysis of scientific topics presented in the media.
 - d. The impact of social and political decisions on science.
7. Inquiry based investigations & presentations
 - a. Practical application of course concepts in examining current scientific knowledge as outlined in the course theme, i.e. Why Evolution Matters? The Plants and Ecosystems of Africa or other selected theme topics.

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)

PSU--Transfers as ASC 202 Science Inquiry. UO---maps to BI-140M
 All others transfers as Gen. Ed Science with lab class.

How does it transfer? (Check all that apply)

general education or distribution requirement

:

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

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

Other. Please explain.

Existing class. Already transfers.

First term to be offered:

Next available term after approval

: