

COURSE OUTLINE

OXNARD COLLEGE

- I. Course Identification and Justification:
- A. Proposed course id: BIOL R199
Banner title: Directed Studies: Biology
Full title: Directed Studies in Biology Related Topics
- Previous course id: BIOL R199
Banner title: Directed Studies: Biology
Full title: Directed Studies in Biology Related Topics
- B. Reason(s) course is offered:
This course allows students to further their knowledge in a particular field of biology under the direction of a faculty instructor. The course has been useful in assisting students in learning independent methods for undergraduate research in biology. Research experience is advantageous to students directed to medical, veterinary, and biology related professional schools and undergraduate university programs.
- C. Reason(s) for current outline revision:
Five year review and revision to make objectives, SLOs, content, assignments, and textbooks more general to all biological science specialties.
- D. C-ID:
1. C-ID Descriptor:
2. C-ID Status:
- E. Co-listed as:
Current: None
Previous:
- II. Catalog Information:
- A. Units:
Current: 1.00 to 3.00
Previous: 1.00 to 3.00
- B. Course Hours:
1. Weekly Meeting Hours:
Current: Lecture: Lab: 3.00 to 9.00 Other:
Previous: Lecture: Lab: 3.00 to 9.00 Other:
2. Total Contact Hours:
Current: 48.00 to 162.00
Previous: 54.00 to 162.00
- C. Prerequisites, Corequisites, Advisories, and Limitations on Enrollment:

1. Prerequisites

Current:

BIOL R101: General Biology and
BIOL R101L: General Biology Laboratory or

Previous:

BIOL R101: General Biology and
BIOL R101L: General Biology Laboratory or

2. Corequisites

Current:

Previous:

3. Advisories:

Current:

Previous:

4. Limitations on Enrollment:

Current:

Previous:

D. Catalog description:

Current:

Designed for students interested in furthering their knowledge of Biology on an independent study basis. These studies may require a combination of laboratory and library research. Project findings will be presented in a scientific poster format, video, protocol or research publication.

Previous, if different:

E. Fees:

Current: \$ None

Previous, if different: \$

F. Field trips:

Current:

Will be required: []

May be required: [X]

Will not be required: []

Previous, if different:

Will be required: []

May be required: []

Will not be required: []

G. Repeatability:

Current:

A - Not designed as repeatable

Previous:

1 -

H. Credit basis:

Current:

Letter graded only [x]

Pass/no pass []

Student option []

Previous, if different:

Letter graded only []

Pass/no pass []

Student option []

I. Credit by exam:

Current:

Petitions may be granted: []

Petitions will not be granted: [X]

Previous, if different:

Petitions may be granted: []

Petitions will not be granted: []

III. Course Objectives:

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

- A. Investigate and describe an area of interest in the biological sciences.
- B. Demonstrate an ability to conduct independent research, through application of the scientific method, on a topic of interest in the biological sciences.
- C. Generate new ideas, express themselves creatively, or solve complex problems in an original way.
- D. Apply logic, critical thinking, quantitative and/or qualitative reasoning to data and be able to distinguish among scientific laws, principles, hypotheses, and theories.

IV. Student Learning Outcomes:

- A. Develop a testable hypothesis in the topic of interest in biology.
- B. Create a repeatable set of directions describing how the research was conducted.
- C. Demonstrate proper use of scientific equipment to collect data.

V. Course Content:

Topics to be covered include, but are not limited to:

- A. Introduction
 1. Orientation to Directed Studies
 2. Tentative project agreement between instructor, student(s)
- B. Identification of project
 1. Initial research/selection
 2. Review with instructor
 3. Approval of project by instructor
- C. Undertaking of project
 1. Library research
 2. Laboratory research
 3. Field work (if appropriate)
 4. Consultations with instructor on regular basis
- D. Completion of project
 1. Preliminary review of project with instruction
 2. Final version of project submitted or presented

3. Final review of project with instructor
4. Grade/credit assigned on basis of project evaluation

VI. Lab Content:

- A. Introduction
 1. Orientation to Directed Studies
 2. Tentative project agreement between instructor, student(s)
- B. Identification of project
 1. Initial research/selection
 2. Review with instructor
 3. Approval of project by instructor
- C. Undertaking of project
 1. Library research
 2. Laboratory research
 3. Field work (if appropriate)
 4. Consultations with instructor on regular basis
- D. Completion of project
 1. Preliminary review of project with instruction
 2. Final version of project submitted or presented
 3. Final review of project with instructor
 4. Grade/credit assigned on basis of project evaluation

VII. Methods of Instruction:

Methods may include, but are not limited to:

- A. Methods of instruction will be determined based on the specific research project.

VIII. Methods of Evaluation and Assignments:

- A. Methods of evaluation for degree-applicable courses:
 - Essays [X]
 - Problem-solving assignments (Examples: Math-like problems, diagnosis & repair) [X]
 - Physical skills demonstrations (Examples: Performing arts, equipment operation) [X]

For any course, if "Essays" above is not checked, explain why.

- B. Typical graded assignments (methods of evaluation):
 1. Student demonstration of skills needed for data collection.
 2. Accuracy of student interpretation of data collected during research project.
 3. Ability of someone unfamiliar with the research project to understand what was done based on the student poster.
 4. Other specific assignments will be developed based on the objectives and topics specific to the research proposal.
- C. Typical outside of classroom assignments:
 1. Reading
 - a. Reading assignments will be specific to each project.
 2. Writing
 - a. Students will create a scientific poster or article for publication presenting their research and findings. The poster or article will include sections

- a. detailing the reason for the study, the materials and methods used to conduct the study, data and analysis, and what to do next.
- b. Other writing assignments will be specific to each project.
- 3. Other
 - a. Other out-of-class assignments will be specific to the individual project.

IX. Textbooks and Instructional Materials:

- A. Textbooks/Resources:
 - 1. Knisely, K. (2017). *A Student Handbook for Writing in Biology* (5th/e). W.H. Freeman & Company.
 - 2. Primary literature sources relevant to the specific project.
 - 3. Other instructional materials may be required based on the specific project.
- B. Other instructional materials:

X. Minimum Qualifications and Additional Certifications:

- A. Minimum qualifications:
 - 1. Biological Sciences (Masters Required)
- B. Additional certifications:
 - 1. Description of certification requirement:
 - 2. Name of statute, regulation, or licensing/certification organization requiring this certification:

XI. Approval Dates

Curriculum Committee Approval Date: 12/13/2017

Board of Trustees Approval Date: 12/13/2017

State Approval Date:

Catalog Start Date: Fall 2018

XII. Distance Learning Appendix

- A. Methods of Instruction
 - Methods may include, but are not limited to:
- B. Information Transfer
 - Methods may include, but are not limited to:

Course ID: 2342