

# COURSE SYLLABUS

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**YEAR COURSE OFFERED:**                   **2016**

**SEMESTER COURSE OFFERED:**       **SPRING**

**DEPARTMENT:**                           **BIOLOGY**

**COURSE NUMBER:**                   **1108**

**NAME OF COURSE:**                   **Biology for Non-Science Majors Laboratory**

**NAME OF INSTRUCTOR:**           **TBD**

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**The information contained in this class syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.**

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## **Learning Objectives**

Upon successful completion of this course, students will be able to

1. Identify the aspects of life that relate to energy use, evolution, and the environment.
2. Describe the major evolutionary developments across plant and animal phyla.
3. Demonstrate how living organisms interact with one another and their environment.
4. Work with peers to apply content knowledge in problem solving
5. Effectively communicate solutions and reasoning to classmates and course instructor

## **Core Objectives (CO)**

Biology for Non-Majors Laboratory addresses the following core objectives to ensure students develop the essential knowledge and skills they need to be successful in college, in a career, in their communities, and in their lives.

- Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication
- Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- Team Work - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

## **Major Assignments/Exams**

The course components below are designed to meet the course objectives.

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- **Quizzes:** pre-laboratory quizzes will be given prior to each experiment during the semester; questions will be multiple choice, short answer or essay and will cover material important to understanding the laboratory exercises
- **Laboratory reports:** written summaries of each laboratory exercise, including the objectives, hypotheses, experimental design, methods, data collected, analysis of results, and discussion/conclusion

## **Required Reading**

Laboratory manual TBD (e.g., Perry JW, Morton D and Perry JB. 2013. *Laboratory manual for non-majors biology*. Cengage)

<b>Learning Outcomes</b>	<b>CO</b>	<b>Assessment Methods</b>	<b>Criteria/Targets</b>
1. Identify the aspects of life that relate to energy use, evolution, and the environment.	CT, EQS, COM, TW	Pre-lab quizzes and post-lab analysis and reports	≥70% of students will correctly answer >70% of the questions on the pre-lab quizzes; ≥70% of students will correctly analyze and interpret results of lab experiments.
2. Describe the major evolutionary developments across plant and animal phyla.	CT, EQS, COM, TW	Pre-lab quizzes and post-lab analysis and reports	≥70% of students will correctly answer >70% of the questions on the pre-lab quizzes; ≥70% of students will correctly analyze and interpret results of lab experiments.
3. Demonstrate how living organisms interact with one another and their environment.	CT, EQS, COM, TW	Pre-lab quizzes and post-lab analysis and reports	≥70% of students will correctly answer >70% of the questions on the pre-lab quizzes; ≥70% of students will correctly analyze and interpret results of lab experiments.
4. Work with peers to apply content knowledge in problem solving.	EQS, TW	Laboratory experiments are performed in assigned groups with each group member	≥75% of students will participate and provide key components to each

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		responsible for a key role	lab exercise of the group.
5. Effectively communicate solutions and reasoning to classmates and course instructor.	COM	Peer assessment of laboratory exercises and analyses	≥75% of students will complete and present lab reports on specified experiments.

### Recommended Reading

N/A

### List of discussion/lecture topics

- Lab orientation
- Scientific method and experimental design
- Basic chemistry
- The microscope
- Cell structure
- Respiration
- Photosynthesis
- Phylogenetic trees
- Natural selection
- Human evolution
- Plant diversity
- Animal diversity
- Predator/prey interactions
- Behavioral biology
- Environmental impacts