

Syllabus for  
**BIO 112—Introductory Biology II Lecture**  
1.0 Credit Hour  
Fall 2018

I. COURSE DESCRIPTION

An introduction to the taxonomy and characteristic structural and functional attributes of plants, invertebrates, and vertebrates. Includes evolution, ecology, and behavior.

Prerequisite: One semester of biology.

Corequisite: BIO 112 Lab.

II. COURSE GOALS

Biology 112 is one of four courses (in addition to BIO 111 Lecture, 111 Lab, and 112 Lab) comprising a sequence designed to serve as a comprehensive introduction to the study of biology. This series provides the biology major with the basic language and conceptual foundation upon which to build students' major leading to a career in biological or preprofessional health-related fields. These courses are prerequisites to all other biology courses from which biology and preprofessional health career majors make their choices depending upon individual goals, interests, and departmental requirements.

III. STUDENT LEARNING OUTCOMES FOR THIS COURSE

A. Terminal Objectives

As a result of successfully completing this course, the student will be able to do the following:

1. Express orally or in writing an appreciation for life, God's greatest creation.
2. Discuss ways in which biological knowledge can be used for helping to solve local, state, national, and world problems.
3. Become conversant (both orally and written) in the "language of biology."
4. Evaluate the phylogenetic relationships among living creatures.
5. Outline the classifications of living organisms.
6. Compare and contrast physiological, anatomical, and reproduction modes among the various groups of plants and animals.

B. Objectives for Students in Teacher Preparation Programs.

The Teacher Preparation Program meets the competency-based requirements established by the Oklahoma Commission on Teacher Preparation. This course meets the following competencies: Subject Competencies (SC) 7.b.1, 7.b.6, 7.b.7, 7.b.10.

This course is designed to help students meet subject competencies: SC 7.b.1: Structure and function in living systems.

SC 7.b.6: The cell.

SC 7.b.7: The molecular basis of heredity.

SC 7.b.10: Matter, energy, and organization in living systems.

#### IV. TEXTBOOKS AND OTHER LEARNING RESOURCES

- A. Required Textbooks  
Brooker, R.J., Widmaier, E.P., Graham, L.E., and Stiling, P.D. 2016. Biology, 4th edition. New York, NY, McGraw-Hill Companies, Inc.  
ISBN 978-0-07-353224-0 with CONNECT Plus.
- B. Required Materials  
1. BIO 112 Syllabus
- C. Supplemental Materials  
How to Think about Evolution and Scripture. Hal C. Reed, Chaps. 1 and 2 Rough Draft Pre-Publication

#### V. POLICIES AND PROCEDURES

- A. University Policies and Procedures
  - 1. Attendance at each class or laboratory is mandatory at Oral Roberts University. Excessive absences can reduce a student's grade or deny credit for the course.
  - 2. Students taking a late exam because of an unauthorized absence are charged a late exam fee.
  - 3. Students and faculty at Oral Roberts University must adhere to all laws addressing the ethical use of others' materials, whether it is in the form of print, electronic, video, multimedia, or computer software. Plagiarism and other forms of cheating involve both lying and stealing and are violations of ORU's Honor Code: "I will not cheat or plagiarize; I will do my own academic work and will not inappropriately collaborate with other students on assignments." **Plagiarism is usually defined as copying someone else's ideas, words, or sentence structure and submitting them as one's own. Other forms of academic dishonesty include (but are not limited to) the following:**
    - a. Submitting another's work as one's own or colluding with someone else and submitting that work as though it were his or hers;
    - b. Failing to meet group assignment or project requirements while claiming to have done so;
    - c. Failing to cite sources used in a paper;
    - d. Creating results for experiments, observations, interviews, or projects that were not done;
    - e. Receiving or giving unauthorized help on assignments.By submitting an assignment in any form, the student gives permission for the assignment to be checked for plagiarism, either by submitting the work for electronic verification or by other means. Penalties for any of the above infractions may result in disciplinary action including failing the assignment or failing the course or expulsion from the University, as determined by department and University guidelines.
  - 4. Final exams cannot be given before their scheduled times. Students need to check the final exam schedule before planning return flights or other events at the end of the semester.

5. Students are to be in compliance with University, school, and departmental policies regarding the Whole Person Assessment requirements. Students should consult the Whole Person Assessment handbooks for requirements regarding general education and the students' majors.
  - a. The penalty for not submitting electronically or for incorrectly submitting an artifact is a zero for that assignment.
  - b. By submitting an assignment, the student gives permission for the assignment to be assessed electronically.

B. Course Policies and Procedures

1. Evaluation Procedures

- a. Students taking a late exam because of an unauthorized absence may NOT be permitted to take the exam or if allowed, there will be a - 10% late penalty assessed to the exam score.(see 3 c and d below)
- b. Credit for the course comes from four one-hour tests, quizzes, one case study, one critique/essay, and a final examination.

	<u>Possible Points</u>
Creation-evolution essay	50
10 quizzes	100
1 Case Study Presentation	20
4 one-hour tests at 150 points each	600
1 final exam	<u>200</u>

Total for Course= 970

Final Grade Evaluation:                    >90% = A; 80-89% = B;  
70-79% = C; 60-69% = D; <60% = F

- c. Final Exam  
A 200-point, partially comprehensive final exam is administered during final exam week as scheduled by the Registrar's Office.
- d. Interim Exams  
These exams are given every two to three weeks covering a unit or set of units of study as scheduled in the course calendar. These exams are 150-point, in-class exams composed mostly of objective, recall-type questions but with some synthesis and/or analysis-type questions.
- e. Quizzes  
A minimum of ten 10-point quizzes are given during the semester. These may be announced or unannounced (pop quiz). The top 10 quiz scores are utilized for quiz grade determination.
- f. Learn Smart/homework assignments are strongly recommended but **will not count** toward your grade.
- g. Essay  
A creation-evolution essay is to be written based on the pre-publication text: How to Think about Evolution and Scripture by Dr. Hal Reed. This essay should discuss the pros and cons of the various creation models presenting your views with supporting reasons. This typed paper will be worth 50 points and due at the end of week 7. Further instructions

will be given in class and on d2l class website.

h. Case Study

During the second half of the semester a 3-5 minute PowerPoint presentation is to be given on a pre-approved topic from a list supplied by the Instructor. Use your 'investigative' skills to learn as much as you can on this topic and summarize your findings to the class. This material will also be included in Exams 3 and 4.

2. Whole Person Assessment Requirements

The creation-evolution essay (in 1f above) will be used to satisfy outcome 4 for the departmental Whole Person Assessment.

3. Attendance Policies and Procedures

a. Class attendance is essential for a complete learning experience.

b. If one is to be a part of the answer instead of the problem, one must do what has to be done, when it ought to be done, whether it's agreeable or not. This is the mark of a truly mature person. Dependability and self-discipline are very important in the development of strong Christian character.

c. Excused Absences: Absences may be excused by the Instructor, the Dean, or other Administrators for LEGITIMATE reasons (illness verified with a doctor's note). An "E" will be assigned for classes missed. **The absence(s) will not count against the student, but neither DOES IT EXCUSE the individual from knowing information missed nor from making appropriate, timely arrangements for exam/quiz makeup(s).** It is the student's responsibility to find out what was missed including a test or quiz. Failure to make proper arrangements for makeup exam(s) will result in points deducted (10% per day including weekends) until the test or quiz is made up.

d. Unexcused Absences: Each student is allowed three unexcused absences. Sleeping in class = an absence. Students who carry on conversations, use cell phones, and use laptops for non-class purposes during lecture distract others, and inhibit learning. **Makeup quizzes and exams will not be permitted for any unexcused absence or tardy.**

e. Tardiness: For a mature individual, habitual, unexcusable tardiness is to be avoided. Three tardies equal one absence. **Tests and quizzes will not be given to individuals who arrive late to class.** Being tardy more than 10 minutes after class has started equals an unexcused absence for that day.

f. Late Work: The ORU catalog states that the "*privilege* of making up assignments are between faculty and student." Thus, in this class a - **10% per day late penalty** will be assessed for unexcused late work. Furthermore, such assignments more than one week late will not be accepted and a zero will be assigned. Tardy assignments due to administrative excuses and verifiable serious illness will not receive late penalties.

## VI. COURSE CALENDAR

<u>Week</u>	<u>Dates</u>	<u>Topics</u>	<u>Text Assignments</u>
1	—	Introduction	Syllabus
		Taxonomy & Classification	Ch. 26
2	—	Creation/Evolution	Ch. 23-26
		Viruses/Prokaryotes	Ch. 18, 27
3	—	Protists: Algae/Slime Molds	Ch. 28
4		<b>EXAM I</b>	
		Fungi	Ch. 31
5	—	Seedless Plants	Ch. 29
6-7	—	Seed Plants: Form, Function, Reproduction	Ch. 30, 35, 39
		Plant Anatomy & Physiology:	Ch. 36-38
7		Behavior, Nutrition, Transport, Reproduction	
	—	<b>EXAM 2</b> <b>Creation/Evolution essay due</b>	
8	—	Protists	Ch. 28
9-10		An Intro. to Animal Diversity; The Invertebrates (1 <sup>st</sup> half: Porifera, Cnidaria, Ctenophora, Platyhelminthes, Nemertinea, Rotifera, Nematoda, Nematomorpha)	Ch. 32-33**
	—	<b>EXAM 3</b>	
11-12		The Invertebrates (2 <sup>nd</sup> half: Annelida, Mollusca, Arthropoda)	Ch. 33**
		Invertebrate Deuterostomes (Echinodermata, Hemichordata, Chordata)	
13-14		The Vertebrates	Ch. 34**
	—	<b>EXAM 4</b>	
15		Behavioral Ecology; An Intro. to & related Chapters	Ecology Ch. 54-60
	—	<b>FINAL EXAM</b>	

\*\* sections of chapters 40-53 dealing with life processes of specific animal groups will be incorporated into these lectures.

## Course Inventory for ORU's Student Learning Outcomes

### Introductory Biology II Lecture - BIO 112 Fall 2018

This course contributes to the ORU student learning outcomes as indicated below:

**Significant Contribution** – Addresses the outcome directly and includes targeted assessment.

**Moderate Contribution** – Addresses the outcome directly or indirectly and includes some assessment.

**Minimal Contribution** – Addresses the outcome indirectly and includes little or no assessment.

**No Contribution** – Does not address the outcome.

The Student Learning Glossary at <http://ir.oru.edu/doc/glossary.pdf> defines each outcome and each of the proficiencies/capacities.

OUTCOMES & Proficiencies/Capacities		Significant Contribution	Moderate Contribution	Minimal Contribution	No Contribution
<b>1</b>	<b>Outcome #1 – Spiritually Alive</b> Proficiencies/Capacities				
1A	Biblical literacy				X
1B	Spiritual Formation			X	
<b>2</b>	<b>Outcome #2 – Intellectually Alert</b> Proficiencies/Capacities				
2A	Critical thinking, creativity, and aesthetics		X		
2B	Global & historical perspectives			X	
2C	Information literacy		X		
2D	Knowledge of the physical and natural world	X			
<b>3</b>	<b>Outcome #3 – Physically Disciplined</b> Proficiencies/Capacities				
3A	Healthy lifestyle				X
3B	Physically disciplined lifestyle				X
<b>4</b>	<b>Outcome #4 – Socially Adept</b> Proficiencies/Capacities				
4A	Ethical reasoning and behavior		X		
4B	Intercultural knowledge and engagement			X	
4C	Written and Oral Communication		X		
4D	Leadership capacity			X	

(Revised 8/1/17)