Syllabus for
BIO 101–Principles of Biology Lecture
3.0 Credit Hours
Fall 2007

I. COURSE DESCRIPTION

A study of the main principles of life common to both plants and animals, including scientific methods, levels of organization, cell structure and function, photosynthesis, respiration, molecular and Mendelian genetics, reproduction, development, evolution, classification, behavior, and ecology and their appropriate applications for solving current biological problems. (Open to biology majors by permission. BIO 101 and BIO 111 may not both be taken for credit) Corequisite: BIO 101 Lab.

II. COURSE GOALS

In adapting this course to meet the needs of non-majors more adequately, emphasis is made on the understanding and appropriate application of basic biological principles to many problems of biological science in society. We believe that even this brief involvement with the philosophy, methods, findings and concepts of biology, and its interrelations with other areas of life will make a noticeable contribution toward becoming a scientifically literate citizen who will function more effectively in solving science-related problems.

III. STUDENT LEARNING OUTCOMES FOR THIS COURSE

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

A. Converse using the principles of life common to both plant and animal science.

B. Use the scientific method in problem solving, including population and environmental stewardship.

C. Recall terms necessary to comprehend and discuss the biological concepts presented in the course as evidenced by being able to use the terms correctly.

D. Exhibit a mature, responsible attitude toward work, as part of the training inherent in the discipline of science and development of consistent Christian character by being prepared, present, and punctual.

E. Apply the principles of biology to modern problems (e.g., environmental pollution, world food problems) within Christian perspective.

F. Read science periodicals such as **Science**, **Scientific American**, and **Science News** with interest and understanding.

IV. TEXTBOOKS AND OTHER LEARNING RESOURCES

Required Textbook
Mader, S.S. 2007. Essentials of Biology, Boston: McGraw Hill.

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, video, multimedia, or computer software. 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.
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 ePortfolio requirements. Students should consult the ePortfolio handbooks for requirements regarding general education and the students' majors.
    a. The penalty for not submitting electronically or for incorrectly submitting an ePortfolio 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 Procedures

1. Evaluation Procedures:

Item:		Points:
Exams	5 x 100 pts *	400 pts
Quizzes	6 X 20 pts **	100 pts
ePortfolio		40 pts
Misc. Assignments		60 pts
Total		600 pts

* The lowest exam will be dropped.
** The lowest quiz grade will be dropped.

Semester Grade	Percent
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

2. Only administrative excuses or serious medical problems are allowed for an **excused late exam.** In such cases the instructor must be contacted BEFORE the scheduled exam time. If the instructor is not contacted upon a student's return to class after a missed exam, the makeup is treated as an **unexcused late exam**. **Unexcused late exams** may be taken but will cost the student 20% of his or her potential maximum makeup exam grade the first time, 30% the second time, 40% the third time, etc.

3. The student is allowed three absences for illness, emergencies, or for personal reasons. Thereafter each absence will result in a 2% reduction in the total semester points.
4. Students who miss class are responsible for finding out what they missed and arranging to makeup any possible outstanding work. All work must be made-up within a week.
5. Quizzes will be timed and will contain 10 questions in a scantron format. Students who are late without an administrative excuse will not be given additional time. Students who miss a quiz not be allowed to makeup the quiz unless they have an administrative excuse.
6. All requirements require individual effort unless indicated otherwise. Any evidence of plagiarism or cheating on assignments will result in a zero for that assignment. Any cheating on a quiz or exam or a repeat plagiarism offence on an assignment will result in an automatically earned "F" for the semester.
7. ePortfolio Requirements
   The student will read a current article on a contemporary biology issue and prepare a written response to include a summary of main points, analysis of strengths and weaknesses of the various positions, and a discussion of the student's position on this issue.

VI. COURSE CALENDAR

Week	**Topic**	**Chapter**
1	A View of Life	1
	Ecology of Population	30
2	**Quiz 1**	**1 & 30**
	Communities and Ecosystems	31
3	NO CLASS	
	Human Impact on the Biosphere	32
	Quiz 2	**31 & 32**
4	**EXAM 1**	**1, 30-32**
	Creation and Evolution	14-16, Handout
5	**ePortfolio Assignment Due on Creation/Evolution Article**	
	Organic Molecules of Life	3.2
	Inside the Cell	4
6	**Quiz 3**	**3.2 & 4**
	Cell Energy	6.1, 7.1, 7.4
	Cellular Reproduction	8-9
7	**EXAM 2**	**3-4, 6-9**
	Patterns of Inheritance	10
Week	**Topic**	**Chapter**
8	DNA Biology and Technology	11

	Quiz 4	**10-11**
9	Gene Regulation and Cancer	12
	Genetic Counseling	13
	DNA Video	
10	**EXAM 3**	**10-13**
	Being Organized and Steady	22
11	The Transport Systems	23
	The Maintenance Systems	24
12	**Quiz 5**	**22-24**
	Human Nutrition	25
	EXAM 4	**22-25**
13	Defenses Against Disease	26
	NO CLASS	
14	Defenses Against Disease	26
	The Control Systems	27
15	**Quiz 6**	**26-27**
	Sensory Input and Motor Output	28
	Reproduction and Development	29
Finals Week	**EXAM 5**	**26-29**

Course Inventory for ORU's Student Learning Outcomes

Principles of Biology Lecture – BIO 101
Fall 2007

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
1 **Outcome #1 – Spiritually Alive** Proficiencies/Capacities				
1A Biblical knowledge			X	
1B Sensitivity to the Holy Spirit			X	
1C Evangelistic capability			X	
1D Ethical behavior			X	
2 **Outcome #2 – Intellectually Alert** Proficiencies/Capacities				
2A Critical thinking	X			
2B Information literacy	X			
2C Global & historical perspectives		X		
2D Aesthetic appreciation				X
2E Intellectual creativity		X		
3 **Outcome #3 – Physically Disciplined** Proficiencies/Capacities				
3A Healthy lifestyle			X	
3B Physically disciplined lifestyle				X
4 **Outcome #4 – Socially Adept** Proficiencies/Capacities				
4A Communication skills		X		
4B Interpersonal skills		X		
4C Appreciation of cultural & linguistic differences				X
4D Responsible citizenship	X			
4E Leadership capacity			X	