#### Syllabus for BIO 101—Principles of Biology Laboratory 1.0 Credit Hour Summer 2005

#### I. COURSE DESCRIPTION

Lab exercises, experiments, and audiovisual presentations involving cells, respiration, photosynthesis, classical and molecular genetics, protein synthesis, enzyme action, reproduction, development, behavior, and ecology. Corerequisites: BIO 101 Lecture Lab Fee: \$25.00

### II. COURSE GOALS

The laboratory is an opportunity for students to do science and personally experience some of the methods previously encountered only theoretically and passively. The laboratory is an excellent place for those who lack experience with the reality of the living world in which we function. Thus, many insights, concepts, and principles will become more apparent to students when they actually "see what they mean."

#### 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 terms related to the principles of life common to both plant and animal science.
- B. Describe and demonstrate the scientific method in problem-solving situations as they occur in laboratory exercises.
- C. Describe the various structures and function of each level of organization as demonstrated in laboratory presentations.
- D. Demonstrate proficiency in the use of various types of laboratory apparatus such as the microscope, pollution test kits, spectroscope, and other equipment outlined in the weekly laboratory procedures.
- E. Demonstrate command of the terms necessary to comprehend and discuss the biological concepts presented in the laboratory as evidenced by being able to use the terms correctly.
- F. Exhibit mature, responsible attitude in your work, as part of the training inherent in the discipline of science and development of consistent Christian character by being prepared, present, and punctual.
- G. Relate biology to modern problems (e.g., environmental pollution, world food problems) that are largely scientific in nature.

# IV. TEXTBOOKS

Required Textbooks Watts, M. 1998. Tree Finder. Rochester: Nature Study Guild.

# V. POLICIES AND PROCEDURES

# A. University Policies and Procedures

- 1. Attendance at each class or laboratory is mandatory at Oral Roberts University.
- 2. Double cuts will be assessed for absences immediately preceding or following holidays.
- 3. Excessive absences can reduce a student's grade or deny credit for the course.
- 4. Students taking a late exam because of an unauthorized absence will be charged a late exam fee.
- 5. Students and faculty at Oral Roberts University adhere to all laws addressing the ethical use of others' materials, whether it is in the form of print, video, multimedia, or computer software.
- 6. 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 course.
- B. Course Policies and Procedures
  - 1. Grading System

Evaluation based on the following: Current science topics discussion Fred Creek ecology report Ethology study Botanical study and classification exercise

- 2. Absences
  - a. Excused
    - (1) Seldom is there a legitimate reason for failure to attend an assigned laboratory period or complete assignments. Absences may be excused but only for legitimate reasons. Legitimate reasons include administrative excuses and grave illness.
    - (2) It is the student's responsibility to contact the lab instructor immediately concerning absences and arranges to make up the work that week. A written explanation is mandatory. The instructor then determines whether or not the absence is excused and, if applicable, make arrangements for makeup. The student should contact the instructor as soon as any anticipated absence is known. This advance planning makes makeup much easier and improves faculty-student relations.
  - b. Unexcused
    - (1) Unexcused absences result in lowering of the semester average. Examples of unexcused absences include early departure and late return from vacations.
    - (2) There are no free cuts in lab! More than three lab absences, whether excused or unexcused, result in an "F" or an "I" (incomplete) for the course, depending upon completeness of other work. "I's" must be satisfactorily completed the following semester by completing the missed labs. Every unexcused lab absence will lower the semester average five percent (5%).

# VI. COURSE CALENDAR

Lab assignments consist of environment field projects:

WEEK	TOPIC
1	Group project: water assessment and monitoring of Fred Creek, Lake Evelyn and Arkansas River
2	Fred Creek – Ecological inventory Intraspecific Behavioral study at Tulsa Zoo
3	Botanical collection and description of 15 native tree species Turkey Mountain or Flint Ridge ecological survey

# **Course Inventory for ORU's Student Learning Outcomes**

#### Principles of Biology Laboratory – BIO 101 Summer 2005

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 <u>http://ir.oru.edu/doc/glossary.pdf</u> defines each outcome and each of the proficiencies/capacities.

<b>OUTCOMES &amp; Proficiencies/Capacities</b>	Significant	Moderate	Minimal	No
	Contribution	Contribution	Contribution	Contribution

1	Outcome #1 – Spiritually Alive			
	Proficiencies/Capacities			
1A	Biblical knowledge			Х
1B	Sensitivity to the Holy Spirit			Х
1C	Evangelistic capability			Х
1D	Ethical behavior		Х	

2	Outcome #2 – Intellectually Alert				
	Proficiencies/Capacities				
2A	Critical thinking	Х			
2B	Information literacy	X			
2C	Global & historical perspectives		Х		
2D	Aesthetic appreciation			X	
2E	Intellectual creativity		Х		

3	Outcome #3 – Physically Disciplined Proficiencies/Capacities		
3A	Healthy lifestyle	Х	
3B	Physically disciplined lifestyle	Х	

4	Outcome #4 – Socially Adept Proficiencies/Capacities			
4A	Communication skills	Х		
4B	Interpersonal skills		Х	
4C	Appreciation of cultural & linguistic differences			Х
4D	Responsible citizenship		Х	
4E	Leadership capacity		Х	

(Revised 1/15/04)