

Syllabus for  
**PHS 224—Human Physiology Laboratory**  
1 Credit hour  
Fall 2014

**I. COURSE DESCRIPTION**

Emphasizes physiological systems and principles. Involves the use of microscope slides, audiovisuals, electrocardiograph and myograph equipment, respirometers, and various clinical apparatus and tests for the purpose of exploring the physiological processes. (Meets for one 3-hour lab per week. Does not count toward a major in biology.)

Corequisite: PHS 224 Lecture.

Lab fee: \$50.

**II. COURSE GOALS**

This course will enable the student to develop a sound and practical knowledge and understanding of the basic physiological principles at work in the human body at all levels of structural organization. He or she will be able to apply this knowledge and understanding to other courses in his or her major area of study.

**III. STUDENT LEARNING OUTCOMES FOR THIS COURSE**

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

1. Demonstrate practical knowledge in hands-on application of physiological principles.
2. Write a scientific report of a laboratory exercise.
3. Use physiological formulas in experimentation.
4. Demonstrate the proper and improper use of selected apparatus and tests.
5. Identify certain anatomical structures and discuss their physiological role and significance.
6. Collect and correctly interpret physiological data.

**IV. TEXTBOOK AND OTHER LEARNING RESOURCES**

**Required Textbook**

Marieb, Elaine N. & Mitchell, Susan J. 2011 (10th edition). Human Anatomy and Physiology Laboratory Manual, Main Version, with PEx 9.1 CD-ROM. San Francisco, CA Benjamin/Cummings. ISBN 978-032191152-0.

## 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

#### Evaluation Procedures

1. Students will be assigned a grade based on their laboratory performance, which includes evaluation by frequent quizzes, participation in group exercise and discussion, a laboratory report, and a final practical examination. The instructor reserves the right to consider attitude, participation in class discussions, interest, initiative, and cooperation in determining the final grade.

2. Grading Summary:
 

One laboratory report	30 points
6 Quizzes 20 pts. each	120 points
Class participation	120 points
10pts x12 labs	
Midterm Exam	200 points
FINAL PRACTICUM	<u>200 points</u>
<b>Total</b>	<b>670 points</b>
3. Whole Person Assessment Requirements  
None
4. Assignments: The laboratory exercises for the week are to be read and studied **BEFORE** coming to lab. This enables the student to have a better understanding of the laboratory exercise or experiment to be performed. Part of the participation points will be granted on the basis of a pre-lab quiz to assess readiness to do the lab work. Thus, the student's readiness to participate in each daily lab exercise will be taken into consideration in determining the student's grade.
5. Philosophy – Enrollment in Human Physiology Laboratory is a commitment by the student to all of the assignments, schedules and requirements of the course. **This scheduled commitment has priority over other activities.**
6. Excused Absences
  - a. Absences may be excused, but only for legitimate reasons. Legitimate reasons include administrative excuses by the Dean of Academic Affairs and severe illness or emergency situations, which, in the opinion of the instructor, could not be avoided by the student.
  - b. It is the student's responsibility to notify the instructor within two (2) days after the last absence. The instructor will then determine whether or not the absence is excused. Students should contact their instructor as soon as any anticipated absence is known. This advance planning greatly improves student-faculty relations. In case of an emergency (death, hospitalization, etc.), the department office or the instructor should be notified prior to the scheduled exam or as soon as otherwise possible.
7. Unexcused Absences
  - a. Unexcused absences will result in a lowering of the student's grade. This will be determined for each student by the instructor. Excessive absence can lead to denial of makeup work or credit for the course. Unexcused absences include leaving early or returning late from school breaks, alarm clock failure, loss of watch, etc. Each unexcused absence over **three** will result in the **final grade average** being lowered ten percentage points.
  - b. Work (quizzes & exams) missed due to unexcused absences **WILL NOT BE MADE UP**. Any exam/quiz not taken at the scheduled hour will be unexcused unless an official administrative excuse is sent from the appropriate University office.

# VI. COURSE CALENDAR

(This schedule is subject to change based on availability of supplies, equipment, etc.)

WEEK	PRELAB	TOPIC	ASSIGNMENT
2	Questions 1-19 of Getting Started, PreL – p. 53	Getting Started, pp. xiv-xx, Answer questions 1-19. Cell Transport Mechanism : Computer Simulation Diffusion Demos.	<b>PEX Exercise 1</b> Marieb Exercise 5 The Cell – Transport Mechanisms & Cell Permeability
3	PreL – p. 299, p. 335	Quiz 1, Neurophysiology of Nerve Impulses : Simulation Electroencephalography – BIOPAC Human Reflexes	<b>PEX Exercise 3</b> Marieb Exercise 18 Marieb Exercise 21
4		<b>Labor Day Week</b>	
5	PreL – p. 359, p.371	Special Senses : Vision	Mariab Exercises 23 & 24
6	PreL – p. 383	Quiz 2, Special Senses : Hearing & Equilibrium DVD : <i>The Hearing Ear &amp; Seeing Eye</i>	Marieb Exercise 25
7	PreL – p. 233	Skeletal Muscle Physiology : Simulation Electromyography – BIOPAC	<b>PEX Exercise 2</b> Exercise 14– Activity 4
8	PreL – p. 457, p. 491	Quiz 3, Conduction System of the Heart & Electrocardiography (BIOPAC) Blood Pressure & Pulse Determinations	Marieb Exercise 31 Mariab Exercise 33
9		MIDTERM EXAM (First 6 Labs)	
10		<b>FALL BREAK</b>	
11	PreL – p. 423	Components of Blood Blood Analysis: Simulation	Marieb Exercise 29 <b>PEX Exercise 11</b>
12	PreL – p. 549	Quiz 4, Respiratory System Physiology Spirometry (BIOPAC) <b>Lab Report on Vital Capacities of Lab Students from all Sections</b>	Marieb Exercise 37 <b>Lab Report – see format on p. xvii</b>
13	PreL – p. 621	Urinalysis	Marieb Exercise 41
14		Quiz 5, Processes of Digestion : Simulation	<b>PEX Exercise 8</b>
15		Endocrine System Physiology: Simulation Frog Cardiovascular System: Simulation DVD: <i>Selected Actions of Hormones</i>	<b>PEX Exercise 4</b> <b>PEX Exercise 6</b>
16		<b>THANKSGIVING</b>	
17	PreL – p. 657	Quiz 6, Survey of Embryonic Development DVD: <i>Fearfully &amp; Wonderfully Made</i>	Marieb Exercise 44
		Final (7 <sup>th</sup> – 12 <sup>th</sup> Labs)	

## Course Inventory for ORU's Student Learning Outcomes

### Human Physiology Laboratory – PHS 224 Fall 2014

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