

Syllabus for
PHY 101—General Physics I Lecture
3 Credit hours
Summer 2018

I. COURSE DESCRIPTION

An introduction to the laws and principles of physics including mechanics, heat and sound. Primarily for liberal arts and biological science students. Not applicable to physics major or minor.)

Prerequisite: MAT 113

Corequisite: PHY 101 Lab.

II. COURSE GOALS

The purpose of this course is to enable the student to do the following:

- A. Become familiar with the laws of mechanics and heat and how they can be applied to explain many physical phenomena around us and to build or improve devices that are beneficial to people.
- B. Become familiar with the technical terms and names of significant individuals in physics.
- C. Comprehend the basic concepts of classical physics (such as vectors and harmonic motion).
- D. Become acquainted with the basic laws of classical physics (such as Newton's Law, the law of Universal Gravitation, Archimedes' Principle, Laws of Thermodynamics, etc.)

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. Define or identify a given term or name.
- B. Match a given statement with the appropriate term or name.
- C. Discuss a given concept.
- D. Select the proper description of a given concept from several choices.
- E. Describe a given physical law.
- F. Write the mathematical formulation of a given law.
- G. Apply the terms, concepts, and basic laws of classical physics.
- H. Solve problems similar to those in the textbook.
- I. Solve an unfamiliar problem using familiar laws and concepts.
- J. Identify a particular law when expressed by a given mathematical formula.

IV. TEXTBOOKS AND OTHER LEARNING RESOURCES

A. Required Materials

1. Textbooks
None
2. Other
Scientific calculator

B. Recommended Materials

1. Textbooks
Serway, Raymond A. and Jerry S. Faughn. *College Physics*. 9th ed. Belmont, CA: Brooks/Cole, 2012. ISBN-13: 978-0-8400-6206-2
2. Other
None

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 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. Department Policies and Procedures

1. A fee of \$15.00 is assessed for all late exams. This policy applies to all exams taken without notifying the professor prior to the regularly scheduled exam time and to all exams taken late without an administrative excuse.
2. Any student whose unexcused absences total 33% (5 classes) or more of the total number of class sessions receives an F for the course grade.

C. Course Policies and Procedures

1. Evaluation Procedures

- a. The final grade is a composite result of performance in exams, quizzes, homework problems, and class participation. You can also earn extra credit by doing a special project. The final exam constitutes approximately 25% of the final average, 25% of the final grade is based on 3 hour exams, 25% is based on homework problems, and 25% is based on quizzes
- b. Homework will be through Webassign and will be due at the beginning of next class. The due date is always before the next class. The amount of problems varies between 10-15 per assignment.
- c. The final average of the semester will be reduced by 0.5% for each unexcused absence above the first three.

Grading scale:

A = 90-100%	Excellent
B = 80-89%	Above Average
C = 70-79%	Average
D = 60-69%	Below Average
F = 59% and below	Fail

2. Whole Person Assessment Requirements

None

3. Other Policies and/or Procedures

- a. Make-up assignments are given only in extremely unavoidable situations upon **prior arrangement with instructor** or with valid medical excuse.
- b. Homework and lab reports are to be turned in at the beginning of next class meeting.
- c. No points awarded for late homework and lab reports.
- d. Messy papers (nontrimmed, nonstapled, or nonreadable) result in a lower grade.
- e. A short quiz will be through Webassign and will be due at 4:00 pm of the day of class. Exams will cover several chapters.
- f. The final exam is comprehensive. Partial credit applied.
- g. You can bring a formula sheet and submit it with your exam (handwritten, no copies, no work out problems). Illegal formula sheets result in a 0 score for the assignment. No calculator sharing! No cell phone! Show all work for the full credit.

- h. Due to accelerated nature of the course students can't miss more than 5 classes, unless legitimate excuse paper provided. Each absence (excused or unexcused) will result in 0.5% in final grade reduction (-1.5% maximum). Perfect attendance results in a 1.5% increase in the final score.
- i. Students are expected to be prompt for classes. Two tardies equal one absence. Students are responsible for keeping up with the rest of the class (even if they are absent). Please find out what we studied during the class you missed from another student.
- j. Chapters to be covered during a class period should be read before the class. There is a direct relationship between the amount of time you invest in a course and how much you learn. In keeping with my goal to maximize your learning, this course requires a significant amount of your time. Form study groups. Learn from your mistakes: examine graded work carefully to understand your errors.
- k. Please turn off your cell phones.
- l. No food in the classroom without valid medical reason.

Instructor may change the assignment schedule at any time by verbal or written notification to the class.

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VI. COURSE CALENDAR

Day	Topic	Chapter
1 (M)	Introduction	1
2 (T)	Motion in One Dimension	2
3 (W)	Two Dimension Motion	3
4 (R)	Laws of Motion	4
5 (F)	Work and Energy	5
6 (M)	Exam 1	1- 5
	Assignments due over	1- 5
7 (T)	Momentum and Collisions	6
	Circular Motion and Gravity	7
8 (W)	Rotational Equilibrium	8
9 (R)	Solids and Fluids	9
10 (F)	Thermal Physics	10
11 (M)	Exam 2	6-9
	Assignments due over	6-9
12 (T)	Heat	11
	Laws of Thermodynamics	12
13 (W)	Vibrations and Waves	13
14 (R)	Sound	14
15 (F)	Final Exam	1-14
	Assignments due over	10-14

Course Inventory for ORU's Student Learning Outcomes
PHY 101—General Physics I Lecture
Summer 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
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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	