

General Physics I (Phys 101, section 1) Syllabus

Physics 101 provides an introduction to mechanics (how things move and what causes them to move), thermodynamics (heat, work and engines), waves, and fluids. Electricity, magnetism and optics are covered in Phys 102, a continuation of Phys 101, and modern physics in Phys 303-4. Calculus is not required but some basic concepts about calculus will be introduced. We will cover all of Volume I of College Physics, by Knight, Jones and Field. (Chapters 1-16).

Course Catalog Description

101 [PSCI] [P] General Physics 4 (3-3) Course Prerequisite: MATH 107 or 108 with a grade of C or better, ALEKS math placement score 75% or higher, or passing MATH 140, 171, 202, or 206. Algebra/trigonometry-based physics; topics in mechanics, wave phenomena, temperature, and heat; oriented toward non-physical science majors. Credit not granted for more than one of PHYSICS 101, 201 or 205.

Expected outcomes

By the end of the course, you should obtain a solid understanding of kinematics (motion, position, velocity, acceleration) and dynamics (force, work, energy). Also covered will be rotational motion and dynamics, thermodynamics (heat and work), and waves. You will learn how to solve problems using a four-step procedure: identifying an appropriate model, visualizing the problem, applying physical principles to arrive at a solution, and, finally, assessing the result.

General information

Instructor:	Professor Gary S. Collins, Webster 554, 335-1354.
Class hours:	MTWThF, 09:00- 09:50, Webster Room 16 (lecture hall on floor B).
Lab hours:	TTh, 13:30-16:20, Webster Room 441. Instructor: Auberry Fortuner
Office hours:	after classes M-F up to 10:15, when my door is open, or by appointment.
Email:	mailto:collins@wsu.edu (please preface heading with "Phys 101")
Required text:	<u>College Physics: a strategic approach, technology update</u> , Volume 1, Randall Knight, Brian Jones, Stuart Field (Pearson, 2 nd edition)
Required access:	MasteringPhysics Student Access Kit; http://masteringphysics.com/ Course and section ID: MPCOLLINSPHYSICS101SUMMER2015
Math prerequisites:	See above course catalog description.
Public home page:	http://www.wsu.edu/~collins/101
Syllabus:	http://www.wsu.edu/~collins/101/syllabus.pdf
Schedule:	http://www.wsu.edu/~collins/101/schedule.pdf
Department page:	http://mach.physics.wsu.edu/101/home.html (password-protected chapter powerpoints, Collins notes, and homework and exam solutions) Username: phys101 , Password: !physics01
More about me:	http://defects.physics.wsu.edu/gary_collins.html
Subject to change:	<i>This syllabus is subject to change without notice at any time.</i>

Course format and grading

Grading

The course grade will be based on preclass reading tests, homework and three hour-exams, the laboratory, and a final exam. See grading scale below. Exams will be closed-book but I will provide a sheet of important equations in advance that will also be attached to each exam.

Contributions to final grade		Grading scale (with plusses and minuses)	
Preclass quizzes on readings	10%	A	85-100 %
Homework + Hour Exams	3x15%= 40%	B	70-85 %
Laboratory	25%	C	55-70 %
Final exam	25%	D	45-55 %

Preclass quizzes on readings

To encourage you to read the text, I will often ask you to answer a brief question or two that should be easy to answer if you have read ahead. The quizzes will be either given online via *MasteringPhysics* the night before class or at the beginnings of classes.

Homework

Homework will be assigned weekly and normally due Mondays. It will be graded online using *Mastering Physics*, a required service for which students must purchase a code card in order to access the assignments and to submit your answers. Homework should normally be completed by class-time on Mondays. Late homework gets no credit! Please be attentive as deadlines may vary! I will be contacting you frequently with announcements by email using addresses stored in *MasteringPhysics* (MP), so be sure that your address is correct. Grades will be saved in MP.

Exams

Three hour-exams are scheduled during class periods. There will be NO make-up exams. A missed exam will count as a 0. However, your lowest hour-exam grade may be replaced by a greater homework score. Final exam will be Thursday, July 30, during the usual lab period.

Laboratory

Attendance in the laboratory is mandatory. Deficient performance in the laboratory (defined as less than 50%) will result in a failing grade for the entire course. Please note that grading of the lab experiments is handled completely independently of the lecture component of the course. Note that the lab director reserves the right to make adjustments in the grading to make the lab grades equitable (curving the grades). Please refer to the Physics Lab Syllabus found in the lab manual for more details on laboratory grading. The first lab period will be June 9, and will be used for a survey of your present knowledge of mechanics. Lab manuals will be distributed during the first lab session. The last regular lab will be on July 23 and a Laboratory final exam will be given on July 28. Questions about labs should be directed to Director Stephen Langford, 335-3398, Webster room 348 or to your lab instructor, graduate student Auberry Fortuner.

Tips for doing well

Summer courses move at a rapid pace. Especially in physics, later subject matter builds on earlier material, so keep up with your study and homework. Avoid falling behind. Attend all classes, and read ahead from the text. Exam problems will be similar to homework problems and sample problems in the text. I encourage you to study together with fellow students. It is fine to discuss approaches to solving homework problems among yourselves, but submitted homework and exam solutions must be your own! Please ask me for help; to make our meetings more effective, write down specifically what you don't understand. Please don't hesitate to contact me by email or phone call with questions.

About learning physics

Nearly all students studying physics for the first time come to it with mistaken conceptions about how the world works. It will be important for you to “unlearn” incorrect thinking as you progress through the course. For example, many students mistakenly believe that when there is no force acting on a moving object, it will slow down and stop, or even stop suddenly (see cartoon). But it isn't so!



Wile E. Coyote, from Roadrunner cartoons.

Important fine print

Academic Integrity: Academic dishonesty, including all forms of cheating, plagiarism, and fabrication, is prohibited [[WAC 504-26-010](#)]. The instructor reserves the right to take appropriate action. A failing grade in the class may result. Incidents of academic dishonesty will be referred to the Office of Student Standards and Accountability.

Disability Accommodations: Reasonable accommodations are available for students with documented disabilities. If you have a disability and need accommodations to fully participate in the lecture or lab, call or visit the Access Center in the Washington Building, Room 217 (Phone: 335-3417, E-mail: Access.Center@wsu.edu, URL: accesscenter.wsu.edu) to schedule an appointment with an Access Advisor. All accommodations must be approved through the Access

Center. Notify both your lecture instructor and the lab director during the first week of lecture concerning any approved accommodations. Late notification may cause the requested accommodations to be unavailable.

Campus Safety: Stay informed about safety issues and emergency procedures. General information on campus safety is posted at <http://safetyplan.wsu.edu>. For information on how to prepare for potential emergencies, visit oem.wsu.edu. Weather warnings and safety alerts are posted promptly at <http://alert.wsu.edu/>. Urgent warnings that apply to the entire University community will also be broadcast using the Campus Outdoor Warning System (speakers mounted on Holland Library and other buildings) and the Crisis Communication System (e-mail, phone, cell phone). For this purpose, it is important to keep your emergency contact information up to date on the zzsis system. To enter or update this information, click on the “Update Now!” link in the “Pullman Emergency Information” box on your zzsis home page, at <http://zzsis.wsu.edu/>.

Laboratory: Attendance in the laboratory is mandatory. Deficient performance (defined as less than 50%) in the laboratory will result in a failing grade for the entire course. For details on laboratory grading refer to the Physics Lab Syllabus in the lab manual. **The first physics laboratory will meet on Tuesday, June 9, the second day of classes.** Lab manuals will be distributed during the first lab session. The last regular laboratory exercises will be performed the Thursday, July 23. **All laboratory work must be completed and submitted by Tuesday, July 28.** The lab exam will be administered on Tuesday, July 28, during your regular lab session.

Syllabus and class schedule subject to change.

Gary S. Collins, June 8, 2015