

Physics for Scientists and Engineers I

Physics 201 - Summer 2016

Instructor: Nicholas Cerruti

Office: Webster 1252

Office hours: M-F 11:30 am - 12:30 pm or by appointment
(walk-ins are always welcome)

Phone: 335-2711

E-mail: ncerruti@wsu.edu

Web site: Blackboard (<https://learn.wsu.edu/>)

Text: *Physics for Scientists and Engineers: A Strategic Approach*, 3rd Edition, Randall D. Knight

Ancillary: MasteringPhysics Student Access Kit (for homework)

Prerequisite: Math 171 with a grade of C or better or placement into Math 172 or higher

Learning Goals: To use physical evidence and context to arrive at correct physical conclusions about the natural world; to solve quantitative problems from a wide variety of authentic contexts and everyday life situations; to use and develop scientific inquiry skill, and amass a body of useful knowledge applicable to the world at large, from personal decision-making to global concerns; to obtain information from empirical experiments and outside sources, evaluate it, apply it in real-world situations, share it with peers, and use it ethically.

Disability: Reasonable accommodations are available for students with documented disabilities. If you have a disability and need accommodation to fully participate in class, call or visit the Access Center (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 the instructor during the first week of class 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 safety issues 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 MyWSU system. To enter or update this information, click on the "Update Now!" link in the "Pullman Emergency Information" box on your MyWSU home page, at <http://mywsu.wsu.edu/>.

Academic Integrity: Academic dishonesty, including all forms of cheating, plagiarism, and fabrication, is prohibited [WAC 504-26-010(3)]. The instructor reserves the right to take appropriate action. A failing grade in the class may result. Incidents of academic dishonesty will be reported to the Office of Student Conduct.

Grading Policies

1. Percentage weighting:

25% Lab

45% Homework & Hourly Exams

30% Final exam

2. Scale (including plus and minus grades):

A: 85% - 100%

B: 70% - 85%

C: 55% - 70%

D: 45% - 55%

3. Homework: Every class period homework will be assigned through MasteringPhysics, an on-line homework service for this textbook. Homework is due at midnight on the following class period (except on Fridays, when it will be due on Saturday). More details on accessing the homework can be found on Blackboard.

4. Laboratory: Attendance in the laboratory is mandatory. Deficient performance (defined as less than 50%) in the laboratory will result in a failing grade in the entire course. For more details on laboratory grading please refer to the Physics Lab Syllabus found in the lab manual. **The first physics laboratory will meet on Monday, June 6 (Lab Section 3) and Tuesday, June 7 (Lab Sections 1 and 2).** Lab manuals will be distributed during the first lab session, but you will need to bring your own lab notebook with a carbonless copies. They may be purchased at the Bookie or online. If your chemistry notebook is otherwise suitable and has enough blank pages, it will work. The last regular lab will meet on Wednesday or Thursday, the week of July 18. **ALL laboratory work submitted for credit must be received by 4 PM Monday, July 25. The lab exam will be administered Monday or Tuesday of the week of July 25, during your regular lab session.**

5. Hourly Exams: There are 3 hourly exams scheduled. There will be NO make-up exams given. A missed exam is counted as a 0. However, your lowest hourly exam grade may be replaced by your homework score.

6. Final Exam: It is tentatively scheduled for:

Thurs. July 28, 2016 at 2:30 - 4:30 pm (during the reserved lab time)

Schedule

<u>Date</u>	<u>Reading</u>	<u>Lab</u>
6/6	Chap. 1 - Concepts of Motion	
6/7	Chap. 2 - Kinematics in One Dimension	Mechanics Survey
6/8	Chap. 2 -	
6/9	Chap. 2 -	Free Fall
6/10	Chap. 3 - Vectors	
6/13	Chap. 4 - Kinematics in Two Dimensions	
6/14	Chap. 4 -	Force Table
6/15	Chap. 5 - Force	
6/16	Chap. 5 -	Projectile Motion
6/17	Chap. 6 - Dynamics I: Linear Motion	
6/20	Chap. 6 -	
6/21	Chap. 6 -	Newton's Second Law
6/22	Chap. 7 - Newton's Third Law	
6/23	Chap. 7 -	Simple Pendulum
6/24	EXAM I (Chaps. 1 - 6)	
6/27	Chap. 7 -	
6/28	Chap. 8 - Dynamics II: Planar Motion	Friction
6/29	Chap. 8 -	
6/30	Chap. 9 - Impulse and Momentum	Newton's Third Law
7/1	Chap. 10 - Energy	
7/4	Independence Day Holiday - No Class	
7/5	No Class	No Labs
7/6	Chap. 10 -	
7/7	Chap. 11 - Work	Ballistic Pendulum
7/8	Chap. 11 -	

<u>Date</u>	<u>Reading</u>	<u>Lab</u>
7/11	Chap. 12 - Rotational Motion	
7/12	Chap. 12 -	Work and Energy
7/13	EXAM II (Chaps. 7 - 11)	
7/14	Chap. 12 -	Rotational Dynamics
7/15	Chap. 14 - Oscillations	
7/18	Chap. 14 -	
7/19	Chap. 15 - Fluids	Spring-mass Oscillations
7/20	Chap. 15 -	
7/21	Chap. 16 - Macroscopic Description of Matter	Buoyancy
7/22	EXAM III (Chaps. 12,14,15)	
7/25	Chap. 17 - First Law of Thermodynamics	
7/26	Chap. 17 -	Lab Exams
7/27	Chap. 18 - Micro/Macro Connection	
7/28	Review	Final Exam
7/29	No Class	

In Thermal Physics: Thermodynamics and Statistical Mechanics for Scientists and Engineers Physics for Scientists and Engineers. 1,584 Pages • 2010 • 38.26 MB • 1,613 Downloads. . PART V. LIGHT. 31. Properties of Light / Wave-Particle Duality and Quantum Physics / 1173. 35 Physics f Student Solutions Manual, Volume 1 for Serway/Jewett's Physics for Scientists and Engineers, 8th ed. 419 Pages • 2009 • 12.06 MB • 1,208 Downloads. Serway and Jewett's. Physics. For scientists and engineers. Volume one. Eighth edition. 7 Physics for Scientists & Engineers with Modern Physics, 4th Edition Instructor Solutions Manual The distance h is much smaller than the distance R , and so $h \ll R$ which leads to $d \approx R \theta^2$. We also have from the same triangle that $d/R = \tan \theta$, and so $d = R \tan \theta$. Combining these two relationships gives $d \approx R \theta^2 = R \tan^2 \theta$, and so $R = \frac{d}{\tan^2 \theta}$. The angle θ can be found from the height change and the radius of the Earth. Density units = mass/volume units = $\frac{kg}{m^3}$. 36. (a) For the equation $v = At^3 + Bt$, the units of At^3 must be the same as the units of v . So the units of A must be the same as the units of v/t^3 , which would be L/T^4 . Also, the units of Bt must be the same as the units of v . After clearly describing and explaining motion, Physics for Scientists and Engineers will then explore in detail the areas of Force and its relation to Motion. This textbook will clearly explain force magnitude through a study a skydiver. Several videos are incorporated to explain tension change, sliding on an incline, and a car race. More practical problems are then addressed as the student studies the proper way to lift and push by exploring in detail the laws of motion. Physics for scientists and engineers then presents the skier problem again in its discussion of Magnitude of Forces, acceleration