

PHYS 2014: General Physics I

Fall, 2014

Day, Time, and Place: TR 9:00-9:50AM (PS 141) and MW 9:30-10:20AM (PS 101)
Instructor: Dr. Mario. F. Borunda
Office: PS 231 (744-3364) **E-mail:** mario.borunda@okstate.edu
Office Hours: MTWR 11:00-11:50AM.
Recitation TAs: Paul Smith, Dmitri Sidorov
TAs: Sanaz Panahandeh, Jiating Ni, Lichao Zhao
TA Office Hours: <http://physics.okstate.edu/helproom>

Course Description:

From the University Catalog: *Calculus-based introductory physics course for science, math and engineering majors. Mechanics, waves, heat and thermodynamics.*

This means that you will be learning subjects such as Newtonian laws of mechanics, waves, and the basics of thermodynamics. Conservation laws for energy, momentum and angular momentum will be developed. Concepts such as torque will be introduced. Mathematical methods used in physics will be emphasized.

[Prerequisites:] Knowledge of calculus will be assumed, although it will only be necessary to know material from a calculus course at a concurrent level.

Finally, I hope that during this course you will begin to learn how to think like a scientist and appreciate some of the ways in which physics impacts your daily life.

Topics to be Covered:

1. Physics of Measurement
2. Vectors
3. Motion in one dimension
4. Motion in two dimensions
5. Newton's Laws of Motion
6. Circular Motion and other applications of Newton's Laws
7. Conservation of Energy
8. Conservation of Linear Momentum
9. Rotation of Rigid Bodies about a fixed axis
10. Angular Momentum
11. Static Equilibrium and elasticity
12. Law of Gravity
13. Oscillations and Wave motion
14. Sound Waves
15. Thermodynamics

Required Textbook:

Physics for Scientists and Engineers with Modern Physics, Ninth Edition with Enhanced WebAssign, by Raymond A Serway and John W. Jewett, Jr., Published by Brooks/Cole CENGAGE Learning, ISBN13: 9781133953982, ISBN10: 1133953980. You should have a version of this book with enhanced WebAssign access code. *Note: If you plan to continue with PHYS 2114, the textbooks will be the same, so do not sell the book at the end of this semester.*

Lectures:

Two per week

Attendance is a *critical* element for good performance in the course. The lectures will clarify the concepts introduced in the textbook, explain confusing issues, make you think critically, and help develop your problem solving skills. Past experience has shown that there is a high correlation between lecture attendance and overall course performance.

Teaching Assistants:

Two Teaching Assistants are responsible for the Recitation Sessions. These TAs will hold discussion sessions for smaller groups where concepts introduced in the main lecture will be reinforced and problem solving skills will be developed. They will also hold scheduled *Tutorial Sessions* outside of the Recitation sessions. It is highly recommended that you attend these tutorials. Concepts developed in the main lecture will be further elaborated here, and problem solving skills will be developed. The schedule of the tutorials will be announced by the TAs within the first two weeks of classes. In addition to the Recitation TAs, there will be grader TAs who will help with the grading of homework problems and exams, and who will hold office hours. The Physics Help Room (PS 052) has several other TAs as well who can help you with your questions. We also have a TA assigned to help with technical issues associated with WebAssign.

Recitation TAs:	Paul Smith	paul.smith@okstate.edu
	Dmitri Sidorov	Dmitri@okstate.edu
Grader TAs:	Sanaz Panahandeh	sanaz.panahandeh@okstate.edu
	Jiating Ni	Jiating.ni@okstate.edu
	Lichao Zhao	Sirius.zhao@okstate.edu
Webassign TA:	Wakun Lam	wk.lam@okstate.edu

Learning Assistants:

Five Learning Assistants have been assigned to this course, who can help you with conceptual material as well as your problem solving skills. These are undergraduate students who have taken this course recently (and have done well in the course). They will organize special learning sessions for small groups of students several times a week. You will have to sign up for these sessions ahead of time if you wish to take advantage of this opportunity. It is strongly recommended that you attend at least some of these sessions. *As an incentive, extra credit worth 2% will be given as bonus to those who attend at least two Learning Assistant sessions over the semester.* You will receive emails for further information on the schedule of these sessions.

Grading Scale:

The grading scale will be: F=(0-50%), D(51-60%), C=(61-70%), B=(71-84%), and A=(85-100%).

It is extremely unlikely that this will change. In other words, this class will not be “curved”.

Course Components (Points):

Your grade will be determined on the basis of 100 points apportioned between course components as follows:

Pre-class questions	5
Discussion section (quiz)	10
Homework	15
Laboratory	20
Midterm Exam 1	10
Midterm Exam 2	10
Midterm Exam 3	10
Final Exam	20
Total:	100

Bonus points of 2% will be given to those students who sign up and attend at least two sessions organized by the Learning Assistants over the course of the semester.

Preclass Questions:

In addition to the homework, there will be short, WebAssign (see below) questionnaires that must be **submitted by midnight before each class**. That is, you must submit your response for the Tuesday class at least by the preceding Monday before midnight, and for the Thursday class before midnight Wednesday. There will be thus two questionnaires per week. The primary goal of these questionnaires is to encourage you to prepare for class so that you can maximize what you get out of the lectures. The answers you provide will also be used to help structure each lecture. The questionnaires will be graded based on effort and not correctness; however you must make a reasonable effort. For example, submitting an answer such as “I don’t know”, or copying text directly from the internet will not be considered a reasonable effort and will receive no credit. Your grade for this component of the course will be calculated using the number of preclass questions for which you have made a reasonable effort. *We will drop three of your lowest scores from the preclass question component – but not from any other components – in computing the final grade.* Responses you provide (with name deleted) may be used to demonstrate concepts in the class.

Discussion Sessions and Quizzes:

The Discussion Sessions (also called Recitation Sessions) meet once a week, as shown in your schedule. Our Recitation TAs will lead these sessions. Examples similar to the homework problems will be discussed and one problem from the current homework is randomly selected as a quiz problem. These quizzes will be graded and will be handed back to you the following week.

Note: You must attend the discussion section in which you are enrolled.

Homework:

Weekly homework assignments will be given using the WebAssign online homework system (see below). The homework assignments are an essential part of this course. By doing the homework, you will develop the problem solving skills needed for success in the exams, and obtain a more complete understanding of the material. Unless otherwise stated, homework will be due Wednesday at 11:59 pm. **Late homework will not be accepted.**

You can enroll in WebAssign at webassign.net with the class key **okstate 8353 3778**. (Go to www.webassign.net, choose “I have a class key” option on the right, enter under class key the information given above in bold, choose “yes, this is my class”, continue appropriately to create an account.)

Laboratory:

One per week. Day depends on section number.

Please address all lab related questions to Ms. Edwards:

Lab Coordinator: Melissa Edwards, Office: 057 PS, Ph: 405-744-0303,

Email: melissa.g.edwards@okstate.edu

Exams:

There will be four exams: three midterms and one final. The midterm exams will test specific sections of the course, the final will be comprehensive. The schedule for the exams will be given shortly. **You must bring your OSU student ID card to every exam.** Make-up exams for midterms may be available, but only if you miss an exam due to an excused absence (see below).

Students with Disabilities: Appropriate accommodations and resources, in accordance with the recommendations outlined in the Accommodation Letter, will be provided. The student needs to meet with the instructor in order to discuss the Accommodation Letter.

Attendance, Absences, and Tardiness: Attendance is required. Students are responsible for all material covered in class or through out-of-class assignments *including* material missed due to absence. No make-up work will be given. Students are expected to arrive on time.

Late Work: Late work will not be accepted.

Extra Help: You are urged to visit with questions during office hours (indicated at top), or by appointment.

Withdrawals: The OSU Drop/Withdrawal Policies will be followed strictly. Students are responsible for knowing all university policies and deadlines pertinent to dropping or withdrawing from this course.

Make-up Examination Policy: Make-up examinations will ONLY be administered for DOCUMENTED reasons involving personal, medical, or family emergencies, or due to participation in College team sports and legitimate academic events (e.g., Model United Nations, scholarly conferences). If such documentation is provided, it is up to the instructors discretion to grant a make-up exam or to excuse the student from taking the exam without penalty. If a make-up exam is approved by the instructor, its content may significantly differ in format from the scheduled exam.

- Excused Absences*:** (1) Serious illness (verification from a doctor including signature and date);
(2) Death in your immediate family;
(3) Official OSU-sponsored activities;
(4) Serious unforeseen, catastrophic event.

*Final approval is at the discretion of Dr. Borunda.

Syllabus attachment: You are encouraged to consult the syllabus attachment for further clarifications (download from the *D2L* site).

Academic Integrity: All pertinent OSU policies will be followed strictly (see academic integrity hand-out available in *D2L*). Students are expected to:

1. Understand and uphold the academic integrity guidelines established by the University and the instructor. **2.** Present their own work for evaluation by their instructors. **3.** Appropriately cite the words and ideas of others. **4.** Protect their work from misuse. **5.** Accept responsibility for their own actions. **6.** Treat instructors and members of the Academic Integrity Panel with respect when violations of academic integrity are examined or appealed. **7.** Trust instructors and members of the Academic Integrity Panel to enforce the academic integrity policy and procedures.

Students are urged to sign the OSU Commitment to Academic Integrity statement and inform students or notify instructors when they observe violations of academic integrity. Behaviors that violate the fundamental values of academic integrity may include but are not limited to:

- A. Unauthorized collaboration
- B. Plagiarism
- C. Multiple submissions
- D. Cheating on examinations
- E. Fabricating information
- F. Helping another person cheat
- G. Unauthorized advance access to examinations
- H. Altering or destroying the work of others
- I. Fraudulently altering academic records

These behaviors may subject the student to disciplinary action including receiving a failing grade on assignment, examination or course, receiving a notation of a violation of academic integrity on the transcript, and suspension from the University. Serious violations discovered after a student graduates may lead to revocation of a degree. These behaviors are described in detail in the Academic Integrity Guidelines. Also, the instructors may identify other behaviors that violate academic integrity.

Cheating, Plagiarizing, and Copying: **Do not do it!** The expectation for all students is complete integrity demonstrated at all times. In the event of suspicion of academic dishonesty, faculty regulations require notification of advisers, deans, etc. If the instructor discovers sufficient information to substantiate an alleged violation of academic integrity and determines that it is more likely than not that a violation of academic integrity occurred, an Academic Integrity Inquiry Notification Form (including a list of possible Academic Integrity Facilitators) will be prepared and forwarded to the Office of Academic Affairs and the student. The student should contact the instructor within five school days of receiving the memo to schedule a meeting where the student, instructor, and Academic Integrity Facilitator meet to discuss the alleged violation and sign the Academic Integrity Resolution Form.

SANCTIONS The instructor will award an academic sanction for alleged violations of academic integrity based on the seriousness of the violation (see academic integrity hand-out available in *D2L*). Level one sanction: award a grade of “zero” or “F” for the assignment. Level two sanction: award a grade of “F!” for the course. Note that due to receiving a grade of zero for an exam or assignment may have earned that student an “F” for the course. You have the right to appeal the charge. Contact the Office of Academic Affairs, 101 Whitehurst, 405-744-5627, academicintegrity.okstate.edu.

For all HWs, you *are* allowed to discuss your *reasoning* with other students in the class. However, you are expected to *do your own work* (i.e., pooling or sharing answers will not be allowed!). Do not use graphing calculators during exams. Electronic devices with programmed information, data, formulas or equations are also forbidden during exams.

Remember; do not cheat, because if you do the consequences will be severe! Finally, certain violations (e.g., theft of an examination) may also violate the Student Code of Conduct.