

GENERAL INFORMATION

PHYSICS 131-132-133

Summary of Course Deadlines:

**Prior Lab Grade:** Use of a lab grade from a prior quarter was phased out as of the end of Spring Quarter 2008. All students must attend lab.

**Lab Make-Up:** No Lab make-ups allowed under any conditions.

**Lab Excuse:** Two weeks from the date of the missed Lab.  
No excuses to miss your regular lab time for an exam or lab in another course.  
No Make-ups: A single missed lab is dropped automatically.  
Multiple missed labs excused only with valid documentation.  
**Read the section: What if I Skipped a Quiz or Lab, and Then Missed Another One for a Valid Reason?**

**Quiz Excuse:** Two weeks from the date of the missed quiz.  
No Make-ups; A single missed quiz is dropped automatically;  
Multiple missed quizzes excused only with valid documentation.  
**Read the section: What if I Skipped a Quiz or Lab, and Then Missed Another One for a Valid Reason?**

**Missed Midterm:** No Make-ups; Midterms replaced by prorated final exam grade when excused; Excuse must be in within two weeks of midterm.

**Regrade Request:** Must be made within one week of return of quiz or midterm, no more than two weeks after the exam has been returned to the rest of the class. Request forms are in Room 1011V Smith Lab.

**Other Exam Problems:** Must be reported to course manager within 24 hours of the exam.

**Missed Final Exam:** Course Grade will be calculated with a 0 for the final. Must be made up and grade must reach the registrar by Friday of the sixth week of the following quarter. Student must have a valid excuse and be passing the course to receive a make-up exam.

**Homework:** Because a week is given to complete each homework assignment, extensions are not granted for last minute illnesses or computer failures. A request for a homework excuse must be in within one week of the missed homework.

## GENERAL INFORMATION

### PHYSICS 131-132-133

#### Required Statement

Physics 131, 132 and 133 are Physical Science courses in the Natural Science category of the GEC. The goals and objectives for this category are:

#### Goals/Rationale:

Courses in natural sciences foster an understanding of the principles, theories and methods of modern science, the relationship between science and technology, and the effects of science and technology on the environment.

#### Learning Objectives:

1. Students understand the basic facts, principles, theories and methods of modern science.
  2. Students learn key events in the history of science.
  3. Students provide examples of the inter-dependence of scientific and technological developments.
  4. Students discuss social and philosophical implications of scientific discoveries and understand the potential of science and technology to address problems of the contemporary world.”
1. Student preconceptions and alternate conceptions of physical law are addressed head-on in Physics 131, 132 and 133. This is a necessary component of any contemporary introduction to physics, and is addressed in all components of the courses.
  2. Students learn the scientific theories that have developed from the 1600s to the present day. They learn different modes of approaching the same phenomena, such as force and energy methods in mechanics.
  3. Students understand that Physics 131, 132 and 133 introduce the basic physical laws that underlie all engineering applications. Examples of applications are provided in the textbook and in demonstrations in lectures.
  4. Students understand that the social implications lie in the applications, and that in the case of physics the social implications are taken up more appropriately in the engineering courses that teach the applications. The reason for this is that physics does not go into details of how to build instruments or devices.

#### Course Information

Physics 131-132-133 is a three quarter introductory series of courses for physics, engineering and other science majors. There are six class meetings per week: three lectures, on Monday, Wednesday and Friday, two recitations, on Tuesday and Thursday, and a one hour forty eight minute laboratory session each week. The holidays for all classes, as well as particular days on which there are no labs, are indicated in the Assignment Sheet for each course. Quizzes, midterms and the final exam date and time are also stated. Unless other arrangements are announced by your lecturer, the final exam time is based on the Tuesday-Thursday recitation meetings, not the Monday lecture. Please check your assignment sheet for the correct date and time of the final exam. You are required to take the final exam at the appropriate time. Deadlines for the submission of excuses are on the front page of this handout.

**Prerequisites:** Successful completion of Math 151 is a prerequisite for Physics 131. Successful completion of Math 152 and Physics 131 is a prerequisite for Physics 132. Successful completion of Math 153, Physics 131, and Physics 132 is a prerequisite for Physics 133.

**Wait Lists:** The Physics Department attempts to place students on wait lists in course sections when possible. Notification for students on the wait lists will be placed outside the lecture hall, Smith Lab 1153, on the first or second day of the quarter and also outside room 1036 Smith Lab. Also please check daily with Buckeye Link if you are on the wait list.

**Students with Disability:** Please contact a course supervisor at the start of the quarter so that arrangements can be made to accommodate you. Students needing the services provided by the Office for Disability Services (ODS) will need to be certified by that office. The ODS is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>.

**ODS Exams:** Your lecturer must fill out the lecturer information at the top of the ODS form and the section on what is permitted on the exam. Then take it to Dr. Adelson, who will complete the rest of the information.

**Section Changes:** Changes in lecture, recitation or lab class times may be effected through Buckeye Link in the first week of the quarter if spaces are available. Vacant places in the wait list are filled in in order. If you drop the sections you are in to add others, someone else may be put in your place and you may be dropped from the course. If that occurs, you will move to the end of the wait list. Students with a work conflict should bring a letter from the employer on the employer's letterhead to the Office of Undergraduate Services in Room 1036 Smith Lab for assistance with the problem. Students with a course conflict should see Dr. Adelson. University rules require that a recitation instructor assign a grade of E if a student has not attended the correct recitation. We are following this rule.

**Communications:** When sending email to instructors, use an osu.edu address to preserve your privacy. Messages from other addresses may be trapped by the department spam filter. The Federal Right to Privacy Act, FERPA, does not allow us to send personal information to a non-osu.edu email address. Also, do not send email in html format: it may not be read.

**Grades:** Your lecturer will inform you of the procedures by which grades are assigned. Individual lecturers may require that minimum standards must be met.

**Labs:** The introductory lab session currently has different goals in the three quarters of the course. Students may take diagnostic tests which assist the department in measuring the effectiveness of its teaching. These tests, which are mandatory, are given in lab in the first and last weeks of lab. A grade on a diagnostic test does not count toward the course grade; however, a student automatically receives an additional grade in lab for completing a diagnostic test. Students also may begin work on the first lab.

**TEXTBOOKS:** The department has made arrangements with the publisher for a less expensive version to be available this year for Physics 131, 132 and 133 students and for transfer students who need to take Physics 133. It is Halliday, Resnick and Walker "Fundamentals of Physics," 8<sup>th</sup> Edition, Extended, Binder-Ready Version with WebAssign cards for a year included. This binder-ready version with web-assign cards may be purchased at a discounted rate at campus-area bookstores. The other alternative is web access to the book by signing up for WebAssign-Plus either on line or at a book store. Students who purchase only WebAssign-Plus will have access to the book on the web only for that one quarter. If you already have the book, you may purchase WebAssign cards online (less expensive) or at a bookstore (more expensive.)

**Computer-Graded Homework:** Computer-graded homework using the web site Web\_Assign will be assigned in Physics 131, 132 and 133. Webassign cards, good for three quarters, are included in the textbook package when you buy a new book at a campus-area bookstore. Only new textbooks include the web-assign cards. A separate memo will provide information about Web-Assign.

**LAB MANUALS:** Students need to purchase lab manuals at a campus area bookstore. There are separate lab manuals for each course. Students need to purchase new lab manuals because there are sheets that you write on during the lab in each lab manual. The lab manual for Physics 131 is "Physics 131 Laboratory Activities and Worksheets, 3rd Edition," ISBN 978-0-7380-3146-0. Do not buy the book called "Physics 131 Laboratory Manual": it is used only in honors courses.

The lab manual for Physics 132 is "Physics 132 Activities and Worksheets, 2nd Edition ISBN 978-0-7380-3147-7."

The lab manual for Physics 133 is "Physics 133 Laboratory Activities and Worksheets, 1st Edition ISBN 978-0-7380-3154-5.

**Lab Excuses:** These are no longer available. All three courses have new lab structures as of Spring 2008. We have introduced a new format that will better coordinate instruction of formerly discrete lab and recitation components of the course. As such, new lab activities will be included and reuse of lab grades' from prior quarters will no longer be permitted.

**Course Problems:** If a problem with the course cannot be resolved by your recitation instructor, lab instructor, or lecturer, you will need to see one of the course managers. Dr. Adelson will handle day-to-day problems such as missed labs and exams. Therefore, in general you should see him first about absences from class. If Dr. Adelson cannot resolve your problems, he will refer you to the Vice Chair for Administration. Dr. Adelson is in room 1036 Smith Lab, 292-2067.

**Final Exams:** The final exams are scheduled according to the Tuesday-Thursday recitation class times. The times given in the assignment sheets correspond to the times that the Master Schedule of Classes gives for classes meeting on Tuesday and Thursday.

NOTE: Scheduling a flight to depart before a final exam is not an acceptable excuse for missing a final exam. FINAL EXAMS ARE NEVER GIVEN EARLY.

**Pre-quarter ticket purchases:** If you or your parents have purchased a ticket BEFORE the first day of class, see Dr. Adelson before the end of the first week of the quarter with documentation proving both that the ticket was already purchased and that it was purchased before the assignment sheet or this course information sheet was provided in class. You will not receive an early exam, but you may be allowed to take a make-up exam in the following quarter.

**Missed Exams:** If you miss a midterm or a final examination for a serious unavoidable reason, then contact Dr. Adelson within 2 weeks of the date of the exam you missed. If you missed the midterm for a serious reason, such as illness, you may be excused. Vacation plans are not an acceptable excuse for missing an exam. For exam-related problems other than missed exams, you must contact either your recitation instructor or your lecturer or a course manager within 24 hours of the exam.

If an exam or any page of an exam is taken from the classroom, in fairness to other students it cannot be accepted later for grading.

**Missed Quizzes:** In order to take care of problems that arise, such as an illness that keeps a student out of school, some lecturers allow one quiz to be dropped. The lecturer for your course will tell you what his or her policy is. If you miss only one quiz, do not see the course manager. You will NOT be allowed to drop another one. If you miss more than one quiz and have valid reasons for missing them, then you should see Dr. Adelson as soon as possible after the quizzes have been missed in order to be excused. Unless you have a valid reason for taking longer, such as an extended hospital stay, you must take care of this within two weeks of missing the quiz.

**Missed Labs:** Some lecturers allow one lab to be dropped. Students who miss more than one lab should get in touch with Dr. Adelson, Room 1036 Smith Lab, 292-2067, as soon as possible after the second lab has been missed. Those who can document the reason for the absence may be excused. However, those who make a habit of missing labs will receive zeroes for the missed labs. A scheduled university activity is a valid reason for missing lab. Attendance at a rock concert or auto race, for example, is not. **Exams in other courses also are not valid reasons for missing labs**, as explained below. If you have a job interview, you cannot make-up the lab and will not be excused from it. To be excused from a missed lab, you must arrange for an excuse within two weeks of missing the lab. Note that there are no make-ups for missed labs in order not to interrupt group dynamics in or overcrowd other lab sections.

**What if I Skipped a Quiz or Lab, and Then Missed Another One for a Valid Reason?** In this situation, where there is a valid excuse only for one of two or more missed labs or quizzes, the first one missed for a valid reason will be dropped and any others for which there are valid excuses will be excused. Any labs or quizzes for which there is no valid documentation will receive a grade of zero.

**Requests for Regrading:** If you believe that there has been an error in the grading or addition of points on an exam or quiz, you must obtain a "Request for Regrading" form in Room 1011 Smith Lab. This form, along with the exam in question, must be submitted to your recitation instructor within one week of the date on which the exam was returned to you, but no more than two weeks after it was returned to the class. Requests will not be accepted if more than one week has passed after the

exam was returned to the rest of the class unless there is proper documentation showing that absence from class for more than one week was unavoidable.

If you submit a regrade request form, we will assume you are requesting a regrade of your work. For questions about a correct way to solve a problem, please consult your recitation instructor or lecturer. Please remember to indicate ANYTHING you added to the exam after it was returned to you. The material for which a regrade is requested will be compared to a copy made at the time the exam was graded.

If you have two answers to a question on your test paper, neither one crossed out, it will be construed against you, even if one answer is correct.

**Academic Misconduct:** Not to report academic misconduct is itself regarded as academic misconduct. Everyone in the university community has a duty to report suspected academic misconduct.

**Academic Misconduct in Lab:** Students are not always aware of what constitutes proper academic conduct in a laboratory situation. As a general rule, one should not bring into the lab any material with data taken at other times, or with any sort of answers written in ahead of time, whether in the lab report or in the lab manual or on any sort of substance, paper or not. The presence of any such material in the lab will be considered evidence of intent to commit academic misconduct. Any such materials used for study prior to the lab should be tucked away where they cannot be retrieved easily, in a back-pack or other such carrying case. To receive credit, the lab report must be handed in or checked off at the end of the period. If it is removed from the lab, in fairness to other students it cannot be accepted. In no case may a lab report be taken home and be handed in later.

**Academic Misconduct in Lecture:** When credit is given for use of "clickers", use of another student's clicker to obtain credit for that student must be reported to the Committee on Academic Misconduct.

**Academic Misconduct in Recitation:** The procedures of the Ohio State University Committee on Academic Misconduct include the following in the definition of academic misconduct: "Providing or receiving information during quizzes and examinations such as course examinations...". The Physics Department refers all suspected cases of academic misconduct to the Committee on Academic Misconduct and follows the committee's recommendations in every case. Exams and quizzes may be photocopied for comparison with exams handed in for regrading. All homework handed in for grading must be your own work. If an exam states that no notes or books may be used, you must demonstrate to your recitation instructor that your calculator memory is clear before the exam begins.

Students are permitted to work constructively with other students, and to obtain help from instructors or the tutor room when solving Web-Assign homework problems. Study by cooperative or collaborative methods is an excellent way to learn and retain understanding. Use of a complete solution or final equation provided by another student, a paid tutor, or any form of web site or consultation defeats the purpose of the homework assignment, and must be reported to the Committee on Academic Misconduct by instructors and other students. Posting of or provision of a complete solution or final equation by any form of transmission to other students, including, but not limited to, those listed above also defeats the purpose of the homework assignment and must be reported to the Committee on Academic Misconduct.

**Cell Phones:** Calls may not be made or answered in any class. Any student doing so will be asked to leave the class. You must turn off all such phones during an exam. If you answer or make a call during an exam, YOU WILL NEITHER BE ALLOWED TO COMPLETE THE EXAM NOR BE ALLOWED TO MAKE IT UP.

**Schedule Conflicts with Other Schools:** Students who are enrolled at other colleges and universities, but who are taking this course at Ohio State, are expected to make the necessary arrangements to fulfill all course requirements. These include attendance in labs and being present for all exams. In particular, activities or classes at another school do not take precedence over exams here.

**Schedule Conflicts with Other Courses and University Activities:** Students enrolled at Ohio State should be aware of Rule 3335-7-11 which states that "**Regularly scheduled class appointments shall have precedence over any special examinations...**," and of Rules 3335-9-21 and 3335-9-22 which state that students may be excused for non-class functions only when specified procedures are followed.

If another course schedules a common midterm that conflicts with your regularly scheduled lecture, recitation or lab time, university rules require that a make-up midterm must be available at a time when you do not have a regularly scheduled class. You will not be allowed to make up a lab missed because of a common midterm in another class.

**Schedule Conflicts with Employment:** We will make every effort to assist employed students in scheduling classes at hours that do not conflict with work hours. However, students are expected to make necessary arrangements to take all exams in class on the days and at the times listed in the Assignment Sheet. Bring a letter on your employer's letterhead to room 1036 Smith Lab if there is a conflict. The letter must state specifically on what days and at what hours you are employed. This can only be done after you have been employed, not in anticipation of employment. Please be aware that it is not always possible to accommodate all such requests.

**Note:** If there are no vacant places, it may not be possible to make such changes .

**Recitation Policy:** How recitations are handled will be explained in the individual courses. Problems may or may not be assigned specifically for particular days. However you are still responsible for all assigned problems, no matter whether they have been assigned for lecture or recitation, and whether or not they have been covered in class. Web-Assign homework must be submitted by the deadline. Since there is an extended period of time for the completion of Web-Assign homework, extensions will not be granted for last-day computer problems or illness.

**Extra Help:** Selected midterms, but no finals, may be made available on the course web site. The schedule for the availability of problems and midterms will be announced in lecture. There also are glass cases where the problem solutions may be posted in the hall near the laboratory rooms in Smith Lab. Some instructors may provide web pages with course information or post such information on Carmen.

**Problem-Solving Strategy:** Students often are confused as to what constitutes a proper answer to a question on a physics exam. In general, a statement of the correct answer, even if it is known and memorized, will receive no credit. The 131-2-3 courses are about how you solve problems and gain understanding of the underlying concepts. They are never intended to teach you a set of solutions that you simply memorize without understanding the method used to find the solution. Therefore, you should always start with a figure, list what is known and what needs to be found, follow with the basic equations and derive the result in algebraic symbols. If a numerical answer is required, substitute in only after you have completed the derivation of the algebraic quantity that is sought. The way you learn how to do this is by studying examples and working as many problems as possible.

**Cognitive Dissonance:** You will need to learn concepts which often conflict with "common sense". It is impossible to enter a physics course without bringing to it your ideas of how the world works. These ideas more often correspond to the physics of Aristotle than to the physics of Galileo and Newton. Therefore, you may often find yourself confused. This "cognitive dissonance", to use a term for the conflict between a preconceived notion and a scientific conclusion, is good, because it is a necessary step on the way to a new level of comprehension. To assist you in this process, the labs are specifically designed to overcome these alternate conceptions and help you make the basic ideas become "common sense" for you. For your part, the important thing is to work your way through this stage of the learning process. Since nothing is achieved without effort, you will need to plan to spend two hours doing homework for each hour in class, whether lecture or recitation or laboratory. You are also expected to attend all classes. The only variable for which psychologists have been able to find a correlation with grades is attendance in class. This is true for all the courses you are taking.