

# Tentative Syllabus for PHYS 111/112 General Physics

312382/310274 PHYS 111/112 UP 130, 5:30 – 6:45 p.m., T-Th, AY 07/08

PHYS 111/112 General Physics. PHY 111 General Physics I. Prerequisite: MATH 111 or MATH 117, or the equivalent. Topics: Vectors, Kinematics, Dynamics, Momentum, Work and Energy, Mechanical Waves, Thermodynamics, Electricity and Magnetism, Optics, Modern Physics

Please see the website for the course schedule (<http://www.physics.isu.edu/~hackmart/genphys.htm>).

**INSTRUCTOR:** Mr. Martin Hackworth (Martin), Senior Lecturer in Physics, ISU Department of Physics

**CONTACT INFO:** PS117B 282-4439 (Pocatello)

**Email:** [hackmart@physics.isu.edu](mailto:hackmart@physics.isu.edu)

**web:** <http://www.physics.isu.edu/~hackmart>

**MATERIALS:** *Physics*, by John D. Cutnell and Kenneth W. Johnson, 7<sup>th</sup> Ed., a scientific calculator (the TI-30Xa is the *calculator de jour* in this department), internet access (the website for this class is: <http://www.physics.isu.edu/~hackmart/genphys.htm>). There is a great deal of information about this course not included in this syllabus that is available there.

**OBJECTIVES:** To introduce the student to science and scientific thinking, to introduce the rudiments of how scientists think that universe are put together, to promote critical thinking.

**GRADING:** This course will be graded on a point system. You may acquire points from the following sources:

1. QUIZZES - A short (usually 5 - 10 minute) quiz will be given most class periods. Questions will be selected from lecture material and sections in the text covering material relevant to what is currently being discussed in class. All quiz points count toward the final total and there are no makeup quizzes given. These may be given anytime during the class period.
2. EXAMINATIONS - Four mid term exams will be given (the fourth exam will be given at the same time as the final). A calculator rule is in effect for all exams (see the website). All examination points count toward the final total and no makeup exams will be given. You will not be permitted to take an exam if you arrive after the first person to finish leaves. You must supply a student ID to be admitted to an exam. See the website for details.
3. FINAL EXAM – A comprehensive final will be given. Calculator rule is in effect. The makeup final will be an oral/essay exam administered by appointment. You will not be permitted to take the final exam if you arrive after the first person to finish leaves.
4. POTPOURRI – TBA, but I may award points based on class discussion, outside reading, contributions to the listserv, etc.

**Approximate Point Values:** Quizzes are worth 5 - 20 points each, exams are worth 50 points each, the final exam is worth a minimum of 100 points.

<b>Totals:</b> Exams	200 points
Quizzes	150 points
Final	150 points
Miscellaneous	0 – 100 points

**500 + points available**

Final grades will be based upon the following scale:

“A” > 400 points

“B” > 325 points

“C” > 250 points

“D” > 175 points

**ATTENDANCE:** My attendance policy is that I have none. I believe that our class time will be informative and will be useful to you. But if you choose not to attend class or if for some reason you are unable to attend class that's OK with me. As there are numerous opportunities for you to make up lost points from quizzes and exams, and many extra points built into the grading structure, there will be no makeup quizzes or exams. Please don't ask about makeup exams or taking an exam early.

**WHAT THE CLASS IS ALL ABOUT:** PHYS 111/112 is an introduction to physics and perhaps even to science (at any real level) for some of you. We will cover a wide variety of topics in what might seem like fairly rapid succession for some of you. I don't expect you to know much about physics, physics or mathematics (though if you do it's a bonus). I *do* expect you to be willing to read, listen and learn.

PHYS 111/112 are advanced general physics courses. Students are expected to be prepared for the necessary caliber of effort. You will regularly use mathematical techniques that you have encountered in prerequisite math courses. You will also be frequently challenged with new mathematical concepts. You will probably find an algebra textbook a useful reference. Homework will be assigned frequently, though it will not be graded or even collected. If you want to guarantee yourself a good grade in this course I suggest that you do the homework. I encourage you to see me for assistance if you have trouble with any of the problems we cover in class. See me as early as possible as we will be working at a fast and furious rate given that we have only 8 weeks to complete what is normally a 32 week offering.

Physics is largely an analytical field of study. We will be working a lot of problems. Your skill at solving these problems will largely determine your grade. If you pay attention during lecture, read the textbook, do the assigned homework, and put forth a reasonable amount of effort, I believe that you will find this course rewarding and not impossibly difficult.

Now the good news! Homework will not be mandatory. Your only assignments outside of class are reading, study, and a paper or presentation prep if you choose to acquire points in that manner. If you attend class regularly, pay attention during lecture, participate in class discussion, read the textbook *before* coming to class, and put forth a reasonable amount of effort, I believe that you will find this course rewarding and not very difficult.

**ACADEMIC INTEGRITY:** A vital part of your college experience is developing a good set of personal and professional ethics. We, as faculty, are painfully aware that a good number of you view college as a means to an end and ethical lapses as, at best, necessary to level the playing field and at worst, only bad if you get caught. We know all of this because it's what you tell us when you do get caught. No matter how prevalent you think cheating is it is simply wrong for you to either participate in it or not to report those you know are doing it.

It is very unfortunate that every year we catch students cheating in lower division courses such as PHYS 111. Please be forewarned that your instructor, lab supervisor, and the Department of Physics all take an extremely dim view of cheating. Everything in the structure of this course is designed to help you succeed on your own with a good honest effort. Because you have many opportunities to accrue points in this course I will consider any incident of cheating grounds for dismissal from the course with a grade of "F." Please understand that I am completely serious about this.

What constitutes cheating? Basically if you have to ponder the ethics of what you are doing you are probably already over the line. If you are unclear about what constitutes cheating please either ask me or consult the ISU student handbook: (<http://www.isu.edu/references/st.handbook/>). From the handbook:

### 3. Academic Dishonesty

*Dishonest conduct is unacceptable. In cases of academic dishonesty, such as cheating or plagiarism, students will be dismissed from class, given failing grades or otherwise disciplined by the faculty member. Before students are allowed to repeat the course, they must submit a petition to, and obtain approval from, the Scholarship Requirements Committee or the designated official of the college having jurisdiction over the course. Faculty members are responsible for deciding academic dishonesty cases which occur in their classes, except when a case involves additional violation of University policies. Such other violations may be resolved under the Student Code of Conduct, Rights, Responsibilities and Judicial Structure or other applicable procedures.*

(See *The Idaho State University Faculty and Staff Handbook, Part 6, Sec. IX, page 6.9.1* for definitions of cheating and plagiarism.) [http://www.isu.edu/references/fs.handbook/part6/6\\_9/6\\_9.html#dishonest](http://www.isu.edu/references/fs.handbook/part6/6_9/6_9.html#dishonest)

**ADA:** From the ADA office: "Our program is committed to all students achieving their potential. If you have a disability or think you have a disability (physical, learning disability, hearing, vision, psychiatric) which may need a reasonable accommodation, please contact the ADA Disabilities & Resource Center located in Graveley Hall, Room 123, 282-3599 as early as possible"

**ADDENDA:** A syllabus spells out the terms of a contract between us and is necessarily cast in formal language in order to be precise. Don't let it worry you too much. I have generally had a lot of fun with my classes. I am a big one for having fun (check my website for details). I like teaching a lot. I will do everything I can to make this course interesting. Don't be afraid of asking questions in class. My office door is generally open. If you are having a problem with this course (or with anything else for that matter) do not hesitate to come by. I hope that you all do well. Best of luck.