

WHICH PHYSICS COURSES TO TAKE? A GUIDE FOR THE PERPLEXED

Physics is a fundamental science, helping you to understand many of the things that happen in the world. As a result, many students at Michigan will take at least introductory courses in Physics, either to satisfy their own interests or because this foundational material is an essential prerequisite for the subjects they have chosen. This brief guide will help you select the most appropriate introductory physics course.

An Important Note: If you have *any* doubts or questions about which Physics course you ought to take, please contact a Physics Concentration Counselor to talk over your options. You can make an appointment to talk to one of us via the [online advising calendar](#) or by calling Matt Blank in the Physics Student Services Office (734-764-5539). Also, if you think you might be interested in a concentration in Physics or a related science, please come in to talk with us. We can help you with lots of information about courses and requirements, but more important, we can help you with many informal factors like undergraduate research, funding opportunities, and possible career trajectories.

Courses about physics

The Physics Department offers a number of courses which will teach about some of the important ideas of physics without requiring you to learn how to *do* much physics. These are great courses for those interested in the subject but unsure whether they might like to pursue it, or for those students seeking to meet natural science distribution requirements. Among these courses are:

- Physics 106: Everyday Physics
- Physics 107: 20th Century Physics
- Physics 112: Cosmology: the Science of the Universe (Freshman seminar)

Introductory courses emphasizing how to *do* some physics

Most students taking introductory physics will be asked to learn how to use the laws of physics to quantitatively analyze physical situations. About 1600 students a year will take courses like these. They all include:

- Two weekly lectures which feature student participation through electronic response units and extensive lecture demonstrations
- Two discussion sections per week, usually led primarily by faculty and some lecturers with PhDs
- Online homework systems which allow you to work on your homework until you get it right, giving real time feedback as you work
- A Physics Help Room, staffed with faculty, graduate students, and advanced undergraduates which is open from 9-6 daily
- Student study groups which you can join (organized by the Science Learning Center)

Many students intending to pursue professional school training in medicine, dentistry, or architecture will be required to complete a sequence of introductory physics courses. The traditional course sequence for these students is usually **125 & 126** together with the associated

labs **127 & 128**. This sequence is algebra based, and covers a somewhat broader range of material in less depth.

Students planning on concentrations in the Life Sciences (including Biology, Biophysics, BioEngineering) and students planning on applying to medical school should consider the new course sequence “Physics for the Life Sciences”: Physics **135 & 235** together with the associated labs **141 & 241**. This new physics sequence is specifically designed for students pursuing careers in the life sciences. It will focus on those aspects of physics most important for understanding life, and will provide solid preparation for MCAT exams.

Students thinking about majoring in any science or technical field as undergraduates, (Physics, Chemistry, Biology, Astronomy, Engineering, etc.) should take the Physics **140 & 240** sequence, together with the associated labs **141 & 241**. This is true for anyone majoring in a science field, even if their ultimate goal might be to attend medical school. This sequence uses calculus, which was invented to enable us to understand physics. This approach, and the material emphasized in this sequence, is very important intellectually for aspiring scientists of any kind to experience.

Students in the Honors program, especially those who have some exposure to physics at the high school level, and even many of those who have already earned AP credit in the subject, may wish to pursue the Honors Physics sequence: Physics **160 & 260** along with the associated **141 and 241** labs. This sequence meets in small sections of 35 four times a week with a single professor, and provides a substantially more in depth and rigorous training in basic physics.

Waitlist procedures

Waitlists are maintained in intro physics courses for discussion sections and labs. If you are on a waitlist for a discussion section, go to the first meeting of the section and ask the instructor for an override. Once you are registered for the discussion you will be able to add the lecture course. Lab waitlists are similar. You should go to the first meeting of a lab you are on the waitlist for and ask for an override. The Student Services Office will work with students to help them find an open section.

Who to contact in Physics Student Services

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Student Services Office Oversight and
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