

# Physics Undergraduate Degree Designed for Pre-Health Students

## Announcement

Beginning fall 2015 Emory University is awarding an undergraduate degree in physics specifically aimed at students pursuing a pre-health program. The **Bachelor of Arts in Physics for Life Sciences** will provide the students with a well-rounded pre-health program that is an excellent preparation for admission to medical and other healthcare related schools.

## Motivation



Physics majors are reported to generally score higher on MCAT and have a higher chance of admission to medical schools compared to other majors. This is not entirely surprising, because of the use of physics concepts in all fields of science and their widespread application in the medical profession. Physics concepts, techniques and diagnostic tools and instruments are routinely used throughout the field of medicine to evaluate and diagnose diseases. From basic concepts like temperature and pressure and simple tools like the microscope and stethoscope to latest research techniques in cancer diagnosis and therapy as well as powerful high resolution imaging techniques such

as the MRI and positron emission tomography, physics is now an integral part of the field of medicine.

## Goal

The BA in Physics for Life Sciences is designed to prepare students with a solid scientific foundation. This will enable them to meet the challenges of entering and succeeding in the healthcare professional schools. For those who decide not to enter a health related field, a physics degree is an excellent background for any field that requires a quantitative, scientific knowledge. Graduating majors can pursue further studies in such diverse areas as MD/PhD programs, as well as most fields of science, engineering, law, finance, or business, by taking just a few specialized courses.

## Requirements for BA in Physics for Life Sciences

**Core courses** consist mainly of math and science courses required of all pre-health students regardless of the major, and include:

Bio 141 and 142 w/lab

Chem 150 w/lab

QTM 100: Introduction to Statistical Inference

Math 111, 112, and 212: Calculus I and II, and Differential Equations

**Required Physics Courses** are judiciously selected to give pre-health students a solid foundation in concepts and techniques of physics commensurate with their future goal. The required courses are:

Phys 151\*: Physics for Scientists and Engineers I

Phys 152\*: Physics for Scientists and Engineers II

Phys 212: Computer Modeling for Scientists and Engineers

Phys 253: Modern Physics

Phys 333: Physics for Life Sciences

Phys 444W: Advanced Lab

Elective: One 300 or higher level Physics course

\*With permission of the Director of Undergraduate Studies, Phys 141/142 may replace Phys 151/152

## Physics at Emory



Emory physics majors are a close-knit group of students who enjoy a remarkably high degree of personal interaction with physics faculty. Class size for any course beyond the introductory level rarely exceeds 20 students. All undergraduate courses, without exception, are taught by the faculty. The department's emphasis on teaching enables undergraduates to develop close working relationships

with their professors that often result in exciting research and/or directed studies opportunities. The Physics Department's research groups in biophysics, soft condensed matter and theoretical physics are internationally recognized.

The goal of the Physics Department is to help majors develop strong analytical skills, good laboratory skills, effective written and oral communication skills, and of course a solid understanding of the fundamental laws of nature. These skills are the foundation of entering any exciting scientific field, such as medicine.

Majors have their own study lounge within the department adjacent to the kitchen available any time, around the clock. They are also encouraged to become active members of our chapter of the Society of Physics Students (SPS) where, during monthly meetings, they can relax, enjoy some pizza and explore a range of ideas. The department also fosters a sense of community through annual gatherings such as the Spring picnic, holiday party, and Fall welcome party for new graduate students.

## Contact

Please contact Dr. Tom Bing, Director of Undergraduate Studies, if you are interested in studying physics, and/or to arrange an appointment to visit the Department. E-mail him at [tbing@emory.edu](mailto:tbing@emory.edu) or call him directly at 404-727-0767.