

PHYSICS:

YOUR GATEWAY TO MULTIPLE CAREER OPTIONS



A degree in physics leaves one poised to enter many professions that include but are not limited to traditional physics. The discipline of physics teaches skills that are transferable to these professions. These transferable skills include: mathematical modeling, problem solving, designing experiments, interpretation of experimental data, reflecting on answers before testing them, research experience, laboratory technique, communications skills. Study physics and maximize your options!

AIP Member Societies: The American Physical Society | Optical Society of America | Acoustical Society of America | The Society of Rheology | American Association of Physics Teachers | American Crystallographic Association | American Astronomical Society | American Association of Physicists in Medicine | American Vacuum Society | American Geophysical Union

Other Member Organizations: Sigma Pi Sigma Physics Honor Society | Society of Physics Students | Corporate Associates



Why Physics?

Physics is interesting.

Physics helps us to **understand how the world around us works**, from can openers, light bulbs and cell phones to muscles, lungs and brains; from paints, piccolos and pirouettes to cameras, cars and cathedrals; from earthquakes, tsunamis and hurricanes to quarks, DNA and black holes. From the prosaic . . . to the profound . . . to the poetic . . .

Physics helps us to **organize the universe**. It deals with fundamentals, and helps us to **see the connections** between seemingly disparate phenomena.

Physics gives us powerful tools to help us to **express our creativity**, to see the world in new ways and then to change it.

Physics is useful.

Physics provides **quantitative and analytic skills** needed for **analyzing data and solving problems** in the sciences, engineering and medicine, as well as in economics, finance, management, law and public policy.

Physics is the basis for most modern technology, and for the tools and instruments used in scientific, engineering and medical research and development. Manufacturing is dominated by physics-based technology.

Physics helps you to help others. Doctors that don't understand physics can be dangerous. Medicine without physics technology would be barbaric. Schools without qualified physics teachers cut their students off from a host of well-respected, well paying careers.

Students who study physics do better on SAT, MCAT and GRE tests. **Physics majors do better on MCATs than bio or chem majors.**

Majoring in physics provides **excellent preparation for graduate study** not just in physics, but in all engineering and information/computer science disciplines; in the life sciences including molecular biology, genetics and neurobiology; in earth, atmospheric and ocean science; in finance and economics; and in public policy and journalism.

Physics opens the door to many career options.

More options, in fact, than almost any other college subject. Conversely, **not taking physics closes the door to more career options**. You can't become an engineer or a doctor without physics; you're far less likely to get a job in teaching; your video games will be boring and your animated movies won't look realistic; and your policy judgments on global warming will be less compelling.

College and corporate recruiters recognize the value of physics training.

Although the number of job ads specifically asking for physicists is smaller than, e.g., for engineers, **the job market for those with skills in physics is more diverse and is always strong**.

Because physics encourages quantitative, analytical and "big picture" thinking, **physicists are more likely to end up in top management and policy positions** than other technical professionals. Of the three top science-related positions in the U.S. government, two - Energy Secretary and Director of the White House Office of Science and Technology Policy - are currently held by physicists.

Physics is challenging.

This is one aspect that scares off many students. But it is precisely **one of the most important reasons why you should study physics!**

All of us - including professional physicists - find college physics courses challenging, because they require us to master the many concepts and skills that make training in physics so valuable in such a wide range of careers.

This also means that physics is **much harder to learn after college** (on your own or on the job) than other subjects like history or psychology or computer programming. You'll **get the most bang for your college buck if you take physics** and other hard-to-learn subjects in your undergraduate years. You don't need to earn As or even Bs. You just need to learn enough to have a basis for future learning and professional growth.

What can I do with a Physics Degree?

A Physics degree helps prepare you to do almost anything. An incredible range of careers benefit from the quantitative and analytical skills – [the problem solving skills](#) of physics, and from an understanding of the fundamentals behind science and technology that a physics degree provides.

Physics degree programs also give you **much more flexibility** than, e.g., engineering programs, to tailor your coursework and prepare you for your dream job.

What have Cornell Physics graduates done? A partial list:

- **Graduate school** – physics, applied physics, biophysics, astronomy, engineering, biochemistry, education, geophysics, oceanography, atmospheric and environmental science, economics
- **Professional school** – medicine, law, business
- **High school physics teaching** - at private and public schools, including via Teach for America
- **College and university teaching** - at community colleges, liberal arts colleges, state universities, and major research universities
- **Industrial research and development** – energy, transportation, telecommunications, nanotechnology, biotechnology, medical devices, space and satellites, defense
- **Government and academic research** – at national laboratories and universities
- **Hospitals and health care** – as doctors, MD/Ph.D.s, medical physicists for MRI, X-ray, ultrasound imaging and nuclear medicine
- **Military or national / international service**
- **Government policy and private think-tanks**
- **Management** and management consulting - e.g., at McKinsey
- **Finance** - many Cornell physics graduates work on Wall Street
- **Software and IT** - e.g., at Microsoft and Google
- **Science writing / journalism** - Cornell physics graduates write for Science and Physics Today
- **Technical Sales**, marketing and customer support

TOP 10 REASONS WHY YOU SHOULD TAKE PHYSICS

www.compadre.org/careers

#10

SOMEONE CALL A PHYSICIST!

If you get stuck inside of a black hole, you'll know how to **get out**.

#9

Physics teaches you how to **THINK!**



#8

Physics explains:

- Why the sky is blue
- Why the world goes round
- Why global warming will have the Alaskans trading in their **snow boots for flip-flops**.

#7 SAT LSAT

Physics will get you a **better score** on any test whose name has three or four capital letters—**SAT, ACT, MCAT, LSAT or GRE**

ACT GRE MCAT

#6

The laws of physics are **100%** recession-proof, and the jobs you can get with physics are pretty darn secure too.

Give Physics a Chance
PHYSICS PAYS YOU DIVIDENDS COLLECT \$200.
Community Chest of Physics
GET OUT OF RECESSION FREE CARD

#5 $F=ma$

Ever wonder why you're learning all that math? **TRY PHYSICS!**

π
 ∞
 $E=mc^2$

#4

If you study engineering, you can do engineering. If you study physics, you can **still do engineering...**

#3

or Explore the **mysteries of the universe**

Use **lasers** to develop new medical techniques

Become an **international rap sensation**

Help solve the **world's energy problems**

#2

Without physics there would be **NO:** grocery laser scanners, space rockets, light bulbs, digital cameras, cars, cell phones, airplanes, solar panels, fiber optics, DVD players, computers, MP3 players, flatscreen TVs...**get the picture?**

NUMBER **1** REASON

Physics makes you **more attractive** to university recruiters, future employers, and that cutie you have your eye on.



