Majors Guide
Physics (Course 8)

Phys • ics *n:* the science that tries to understand the laws of nature and the relationship between energy and matter.

Skill Set

- Ability to work independently and in teams
- Analyzing data
- Attention to detail
- Apply and integrate fundamental scientific principles
- Critical thinking
- Curiosity
- Complex problem solving
- Communication skills
- Computer modeling
- Computer programming
- Innovation
- Logical reasoning
- Quantitative skills
- Making projections from data
- Mathematical modeling
- Mathematical reasoning
- Organizing and interpreting data
- Presenting skills
- Research and laboratory experience
- Statistical analysis

Possible Areas of Expertise

Astronomy	Communications Technology	Instrumentation Design & Fabrication
Acoustical Physics	Environmental Remediation	Imaging Technology
Astrophysics	Fluid & Plasma Physics	Medical Physics
Applied Mathematics	Finance	Nuclear Physics
Biophysics	Geophysics	Optical Physics
Computers	Health Physics	Science Education

Possible Careers

Architect	Editor	Quality Control Manager
Astronomer	Economic Advisor	R&D Scientist
Automotive Engineer	Engineer	Scientist
Actuarial Analyst	Forensic Scientist	Scientific Director/ Chief Science Officer

Acoustics Engineer	Lawyer	Satellite Data Analyst
Bio Engineer	Material Scientist	Semiconductors
Controller	Mechanical Engineer	Scientific Journalist
Civil Engineer	Medical Devices	Teaching in Higher Ed (Professor)
Consultant	Mission Control Director	Test Engineer
Computational Physicist	Mathematician	Teaching K-12
Cardiac Imaging Researcher	National Lab Researcher	Venture Capital
Chief Scientist	Nuclear Power Plant Manager	
Computer Scientist	Oceanographer	
Computer Modeling	Optics	
Doctor	Patent Lawyer	
Designer	Process Engineer	

Where Do You Want To Work?

? What problems do you want to solve?

Aerospace	Energy & Alternative Energy	Manufacturing
Automotive	Environmental Affairs	Mapping
Architecture	Finance	Mining
Biotechnology	Fiber Optics	Navigation/Guidance Systems
Communications	Fusion	Nuclear Power
Computer Service & Software Development	Government Agencies	Nuclear Weapons
Consulting	Legal	Nonprofit
City & Urban Planning	Laser Technology	Research & Development
Construction	Medical Technology	Pharmaceutical R & D
Defense	Medical Devices & Instrumentation	Publishing

Careers of Course 8 Alumni

- Product Manager, *Ford Motor Company*
- Marketing, *Bose Corporation*
- Engineer, *Boeing*
- Software Development Engineer, *Amazon.com*
- Analyst, *Home Land Security*
- Researcher, *Oak Ridge National Laboratory*
- Quantitative Analyst, *Deutsche Bank*
- Foreign Affairs Officer, *US State Department*

- Engineer, *Raytheon*
- Software Developer, *Google*
- Consultant, *Bain & Company*
- Analog Design Engineer, *Analog Devices*
- Engineer, *Vecna*
- Engineer, *Lockheed Martin Corporation*
- Associate Professor, *Columbia University*
- Professor of Astronomy, *University of California at Berkley*
- Staff Scientist, *Los Alamos National Laboratory*
- Quantitative Modeler, *Credit Suisse*
- Researcher, *Lawrence Livermore National Laboratory*
- High School Teacher, *Wheeling High School*

To contact Course 8 alumni, visit the ICAN network at http://alum.mit.edu/benefits/CareerGuidance/ICAN/index.jsp

Is a Career In Physics Right For You?

APS Career Assessment Advice: http://www.aps.org/careers/student/self-assessment.cfm
APS Career Development Guide: http://www.aps.org/careers/

Companies That Have Hired Course 8 Alumni

Adobe Systems	Aerospace Corp	Air Force
Akamai	Amazon	Argonne Nat'l Laboratory
BAE Systems	Ball Aerospace	Bank of America
Bechtel	Boeing	Boston College
Boston University	Bristol-Myers Squibb	Brookhaven Nat'l Laboratory
Brown University	CalTech	Carnegie Mellon
Case Western	Dept. of Defense	Deutsche Bank
E Trade	Ericsson	Exxon
Eye Research Institute	Fermi Nat'l Laboratory	Fidelity
Ford Motor	Fuji Photo	Gamma
General Electric	General Atomics	Goldman Sachs
Google	Harvard University	IBM
Institute International Economics	Intel Corporation	McKinsey
Merrill Lynch	Microsoft	Stanford University
Smithsonian Institute	Siemens	Sandia Nat'l Laboratory
Texas A&M	Texas Instruments	University of California
US Dept. of Energy	VMWare	Wachovia

For more detailed information about what you can expect after graduation, visit the MIT Graduating Student Surveys at *http://web.mit.edu/career/www/infostats/graduation.html*

Professional Associations

- **Acoustical Society of America** http://asa.aip.org/index.html
- **American Association for the Advancement of Science** http://www.aaas.org/
- **American Association of Physicists in Medicine** http://www.aapm.org/
- **American Association of Physics Teachers** http://www.aapt.org/
- **American Astronomical Society** http://www.aas.org/
- **American Center for Physics** http://www.acp.org/
- **American Crystallographic Association** http://aca.hwi.buffalo.edu/
- **American Geophysical Union** http://www.agu.org/
- **American Institute for Physics** http://www.aip.org/
- **American Meteorological Society** http://www.ametsoc.org/
- **American Nuclear Society** http://www.ans.org/
- **American Physical Society** http://www.aps.org/
- **Association of Women in Science** http://www.awis.org/
- **Board on Physics and Astronomy** http://www7.nationalacademies.org/bpa/index.html
- **Federation of American Scientists** http://www.fas.org/
- **Institute of Physics** http://www.iop.org/
- **National Academy of Sciences** http://www.nas.edu/
- **National Research Council** http://sites.nationalacademies.org/nrc/index.htm
- **National Society of Black Physicists** http://www.nsbp.org/
- **National Society of Hispanic Physicists** http://www.hispanicphysicists.org/
- **Optical Society of America** http://www.osa.org/

Career and Job Internet Search Resources

General Web sites

- **Sloan Career Cornerstone Center** (Physics Careers) http://www.careercornerstone.org/physics/physics.htm
- **Society of Physics Students** http://www.spsnational.org/cup/
- **Building a Career in Astronomy** http://www.astronomycast.com/astronomy/episode-67-building-a-career-in-astronomy/
- **Landing Your First Job: A Field Guide to Physics Students** http://www.physicstoday.org/jobs/seek/firstjob.html
- **Sigma Pi Sigma (Physics Honor Society)** http://www.aip.org/education/sps/sigpisig.htm
- **Physics Central** http://www.physicscentral.com/
- **AIP Corporate Associates Program** http://www.aip.org/ca/
- **Careers in Physics** http://www.aps.org/jobs/
- **The Princeton Review**: (Day In The Life of a Physicist) http://www.princetonreview.com/cte/profiles/dayInLife.asp?careerID=116
- **Physics Link** http://www.physlink.com/Directories/Societies.cfm
- **What Can I Do With A Major In Physics?** http://www.collegeboard.com/student/index.html?student
- **Google** www.google.com (do your own search on Google for areas of interest or Careers in Physics)

Internships, Job Listings, and Alumni Networking

- **MIT CareerBridge** https://www.myinterfase.com/mit/student/
- **The Nucleus: Summer Research Opportunities for students of Physics & Astronomy** http://www.compadre.org/student/research/index.cfm
- **National Science Foundation - Research Experience for Undergraduates** http://www.nsf.gov/crssprgm/reu/index.jsp
- **IAP Externship Program** http://alum.mit.edu/ccg/students/externships/index.html
- **ICAN** http://alum.mit.edu/cs/ican/index.html
- **UROP** http://web.mit.edu/urop/
- **Internships in Physics Websites (varied)**
  - http://ppd.fnal.gov/ipm/
  - http://www-cmels.llnl.gov/
- **MIT Career Development Center:** http://careers.mit.edu
- **Physics and Astronomy Job link**: http://www.physlink.com/Community/JobBoard.cfm
- **Journal of American Science Job link**: http://www.sciencejobs.org/
- **Physics Today Job link:** http://www.physicstoday.org/jobs/
- **National Security Agency (NSA) Internships** http://www.nsa.gov/careers/students_1.cfm
- **NASA Jobs** http://www.nasajobs.nasa.gov/
- **NASA Academy** http://academy.nasa.gov/
- **Jet Propulsion Laboratory (JPL)** https://careerlaunch.jpl.nasa.gov/
- **US Department of Energy** http://www.energy.gov/scholarships&internships.htm
- **American Statistical Association Internship Information**: http://www.amstat.org/education/index.cfm?fuseaction=undergrad
- **Student Resources** http://www.collegeboard.com/student/index.html?student
- **Careers In Physics** http://www.aps.org/careers/
- **Physics Today.org – Job Site** http://careers.physicstoday.org/search.cfm
- **Physics.org Careers Site** http://www.physics.org/careers.asp?contentid=381
- **A Day In The Life Of…** http://iopireland.org/activity/careers/A_day_in_the_life/page_18953.html
- **Careers In BioPhysics** http://www.biophysics.org/careers/

Salary Information

Salary.com *http://www.salary.com*
MIT Graduating Student Survey *http://web.mit.edu/career/www/infostats/graduation.html*
American Institute of Physics *http://store.aip.org/statistics/shop.do?cID=3*
PayScale.com *http://www.payscale.com*

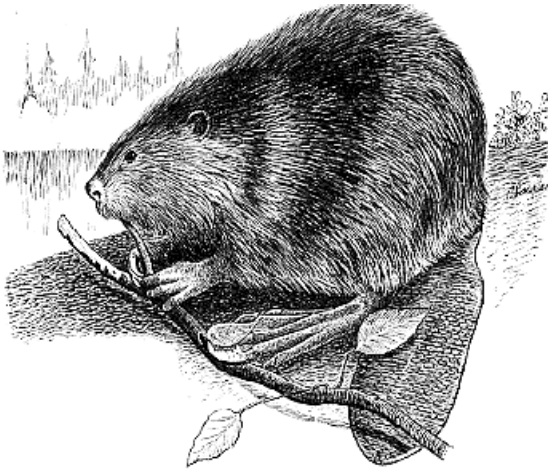
Departmental Homepage

MIT Department of Physics: http://web.mit.edu/physics/

- **What Do MIT Physics Majors Do after graduation?** http://web.mit.edu/physics/alumniandfriends/profiles/index.html
- **MIT Physics in the News** http://web.mit.edu/physics/newsandevents/physicsinthenews.html
- **Research Centers and Facilities** http://web.mit.edu/physics/research/researchctrsandfacilities.html

Next Steps

- **Visit the MIT Career Development Center (MITCO) 12-170:**
  - Meet with a career counselor to discuss your interests and to review your resume and cover letters.
  - Consult the Undergraduate Career Development Timeline: http://web.mit.edu/career/www/guide/timeline.pdf
  - Read our Career Development Handbook for tips on self-assessment, resumes, cover letters, networking, and interviewing skills *(available in print in our office or on the bottom of our homepage: http://web.mit.edu/career/www/)*
- **Meet with your academic advisor to discuss potential career paths in Physics**
- **Network with current students and alumni who work in your area of interest**
- **Go to your Professors Office Hours and let them get to know you**
- **Start creating your own networking web for:**
  - help and information on career decisions and your future
  - internships and job search advice
  - informational interview opportunities
  - letters of recommendation (future job applications and internships)
  - references



"The important thing is not to stop questioning. Curiosity has its own reason for existing."
~ Albert Einstein

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