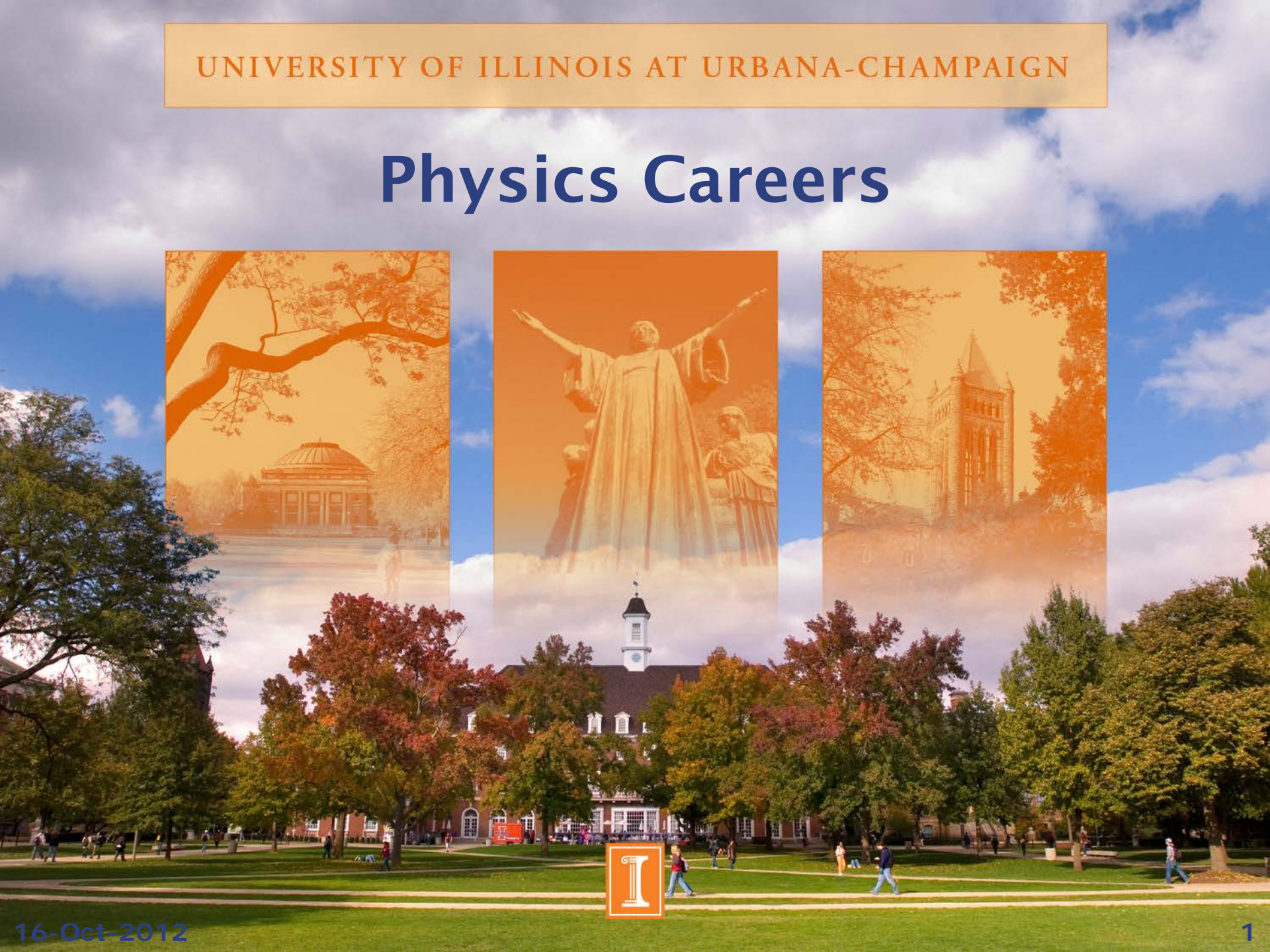
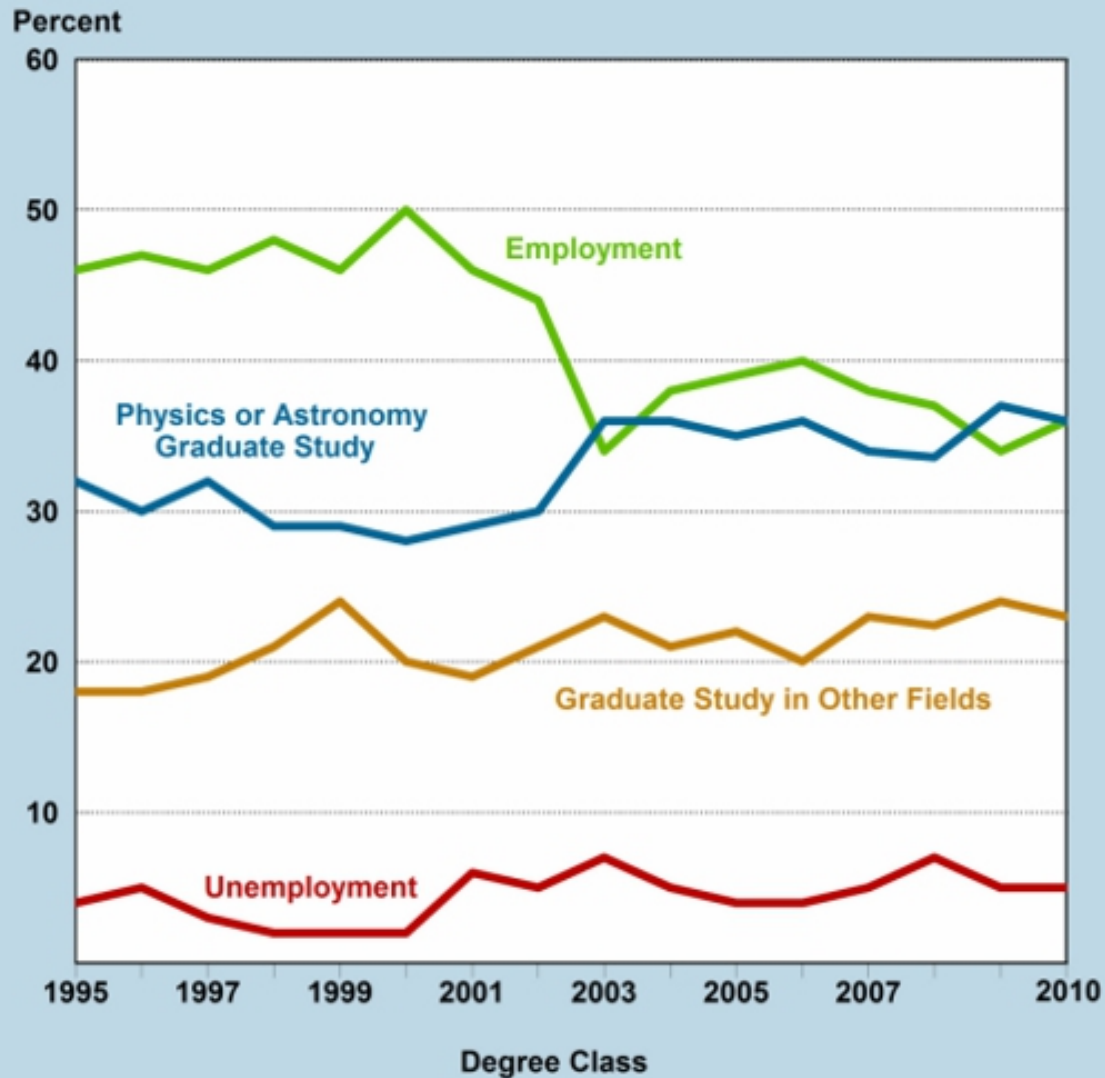


UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Physics Careers



Trends in Status One Year After Earning a Physics Bachelor's, Classes 1995 through 2010



<http://www.aip.org/statistics>

Class of 2013



- Total number of graduates: 60
- Physics grad school: Minnesota, Maryland, Michigan, MIT, Princeton, Case-Western, Ohio University, UIUC, U Chicago, Virginia, Johns Hopkins
- Other grad school: MatSE, Finance, Applied Stats, Law, Geophysics, ECE, Journalism, CS, Math, Nucl Eng
- Jobs: Viasat, Studio 222, IMC Finance, EPIC (2), Inservice Engineering, Creat-a-Soft, U-Line distributor, Qualcomm, Google, Twitch LLC, HS teaching (3), software startup, Jump Trading, Green Line, Olenick & Associates
- Several people “looking” taking a “gap year” or staying here for a year of research.



Class of 2012



About 60 grads, where did they go?

- **50% grad school in physics**
 - *Schools: Stanford, Princeton, Ohio State, Virginia, Notre Dame, MIT, Cornell, Michigan, Michigan State, Indiana*
 - *Fields: Atomic and molecular optics, biophysics, high energy physics, astrophysics, condensed matter physics, quantum computing, nuclear physics, nanotechnology.*
- **25% grad school in other field**
 - *economics, applied physics, architectural acoustics, biomedical engineering, secondary education, law school, neuroscience, astronomy and materials science*
- **20% industry**
 - *software firms, the Department of Defense, IBM, Google, and HRL Labs*
- **5% teaching**
- **5% military**



Class of 2011



About 50 grads, where did they go?

- 50% grad school in physics
 - *Schools: Stanford, Cornell, Princeton, Harvard, Caltech, Illinois, Northwestern, Michigan, Indiana, Washington, MIT, Colorado, University of California, University of Chicago, Wisconsin, Florida, Penn State, Carnegie Mellon, Maryland.*
 - *Fields: Atomic and molecular optics, biophysics, high energy physics, astrophysics, condensed matter physics, quantum computing, nuclear physics, nanotechnology.*
- 20% grad school in other field(CS, EE, NuclE, MatSE, Math)
- 20% industry
 - *Software engineer (CISCO Systems), manufacturing systems (Intel), information technology (Simplex Investments, Accenture Consulting), finance (Belvedere Trading Company), public policy.*
- 5% teaching
- 5% military (service or teaching)



What can you do???

- **ANYTHING YOU WANT!**
- ~50-70% of UIUC Physics graduates go to graduate school
 - (this number is closer to 50% nationally)
 - Mostly in Physics
 - Some related fields (Astronomy, CS, Econ, Engineering)
- Others find employment in a variety of fields.



Graduate School: Who/What/How?

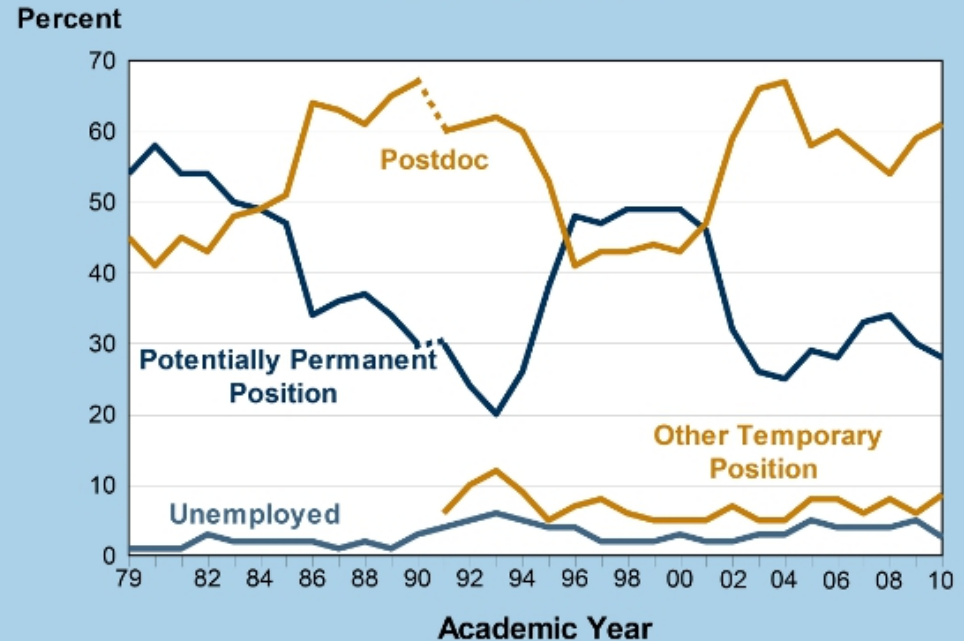
- **Grad school may be for you if you want to...**
 - do research and development
 - work at a national laboratory
 - teach/research at the college/university level.
- **Duration**
 - 1-2 year Master's, 5-6 year Ph.D.
- **Grad school**
 - Typically get remitted tuition + ~\$20k per year
 - Two years of course work (+ teach + research)
 - Three-four years of research + dissertation



Post Graduate (Ph.D.) Employment

- 65% get postdocs
- 30% get permanent jobs
- 5% other

Initial Employment of Physics PhDs in the U.S.
1979 through 2010.



In 1991, the survey questionnaire was changed to measure "other temporary" employment as a separate category. Data only include U.S.-educated PhDs who remained in the U.S. after earning their degrees.

<http://www.aip.org/statistics>



Overall employment rate
for Ph.D.'s is *very* high.

Grad school in other fields?

- **2011-13 UIUC Physics grads have gone to grad school in the following fields**
 - Electrical engineering
 - Materials Science
 - Computer science
 - Nuclear engineering
 - Economics
 - Architectural Acoustics
 - Biomedical Engineering
 - Law School
 - Secondary Education
 - Neuroscience
 - Astronomy
 - Materials Science
 - Finance
 - Geophysics
 - Applied Statistics
 - Journalism
 - Math
- **Any area of engineering is a possibility**
- **So is med school and law school**



What if you don't want to go to graduate school?



Illinois Employers of Physics Majors

- Accenture
- Advanced Diamond Technologies, Inc.
- Aerotek Scientific
- All About Eyes
- Analysts, Inc.
- Argonne National Lab
- Army Corps of Engineers
- Case-New Holland
- Chimp Studios
- CSG Systems
- Exelon
- Fermi National Lab
- Hewlett-Packard
- Highland Engineering, PC
- IBA Particle Therapy
- Illinois Tool Works, Inc.
- Ion Beam Applications
- Leo Burnett
- LG Electronics
- Magnetar Capital
- Navistar
- Nexus Engineering
- NorthShore University Health
- Orchid Tree Web Solutions
- RealTick
- Sargent & Lundy
- Sogeti USA
- Swedish Covenant Hospital
- Terracon
- Univ. of Chicago Schuster Lab
- Val-Matic Valve & Manufacturing Corporation
- VivaKi



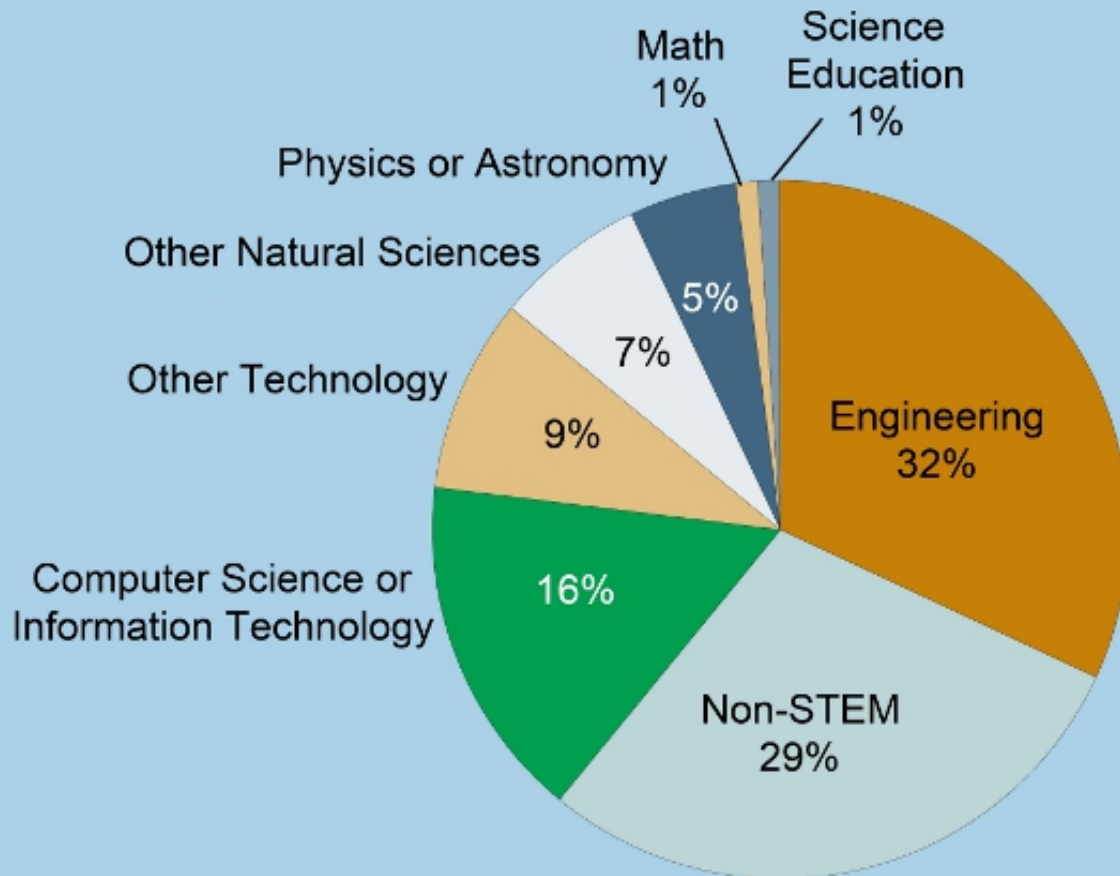
**Incomplete list
from 2009-2011**

Comment on career paths

- **Bad news:**
 - Physics does not provide a single, clear-cut career path.
- **Good news:**
 - A degree in physics offers great flexibility
 - Lots of opportunities for interdisciplinary work
- **We want to help you succeed!**



**Field of employment for physics bachelor's in the private sector,
classes of 2006 & 2007.**

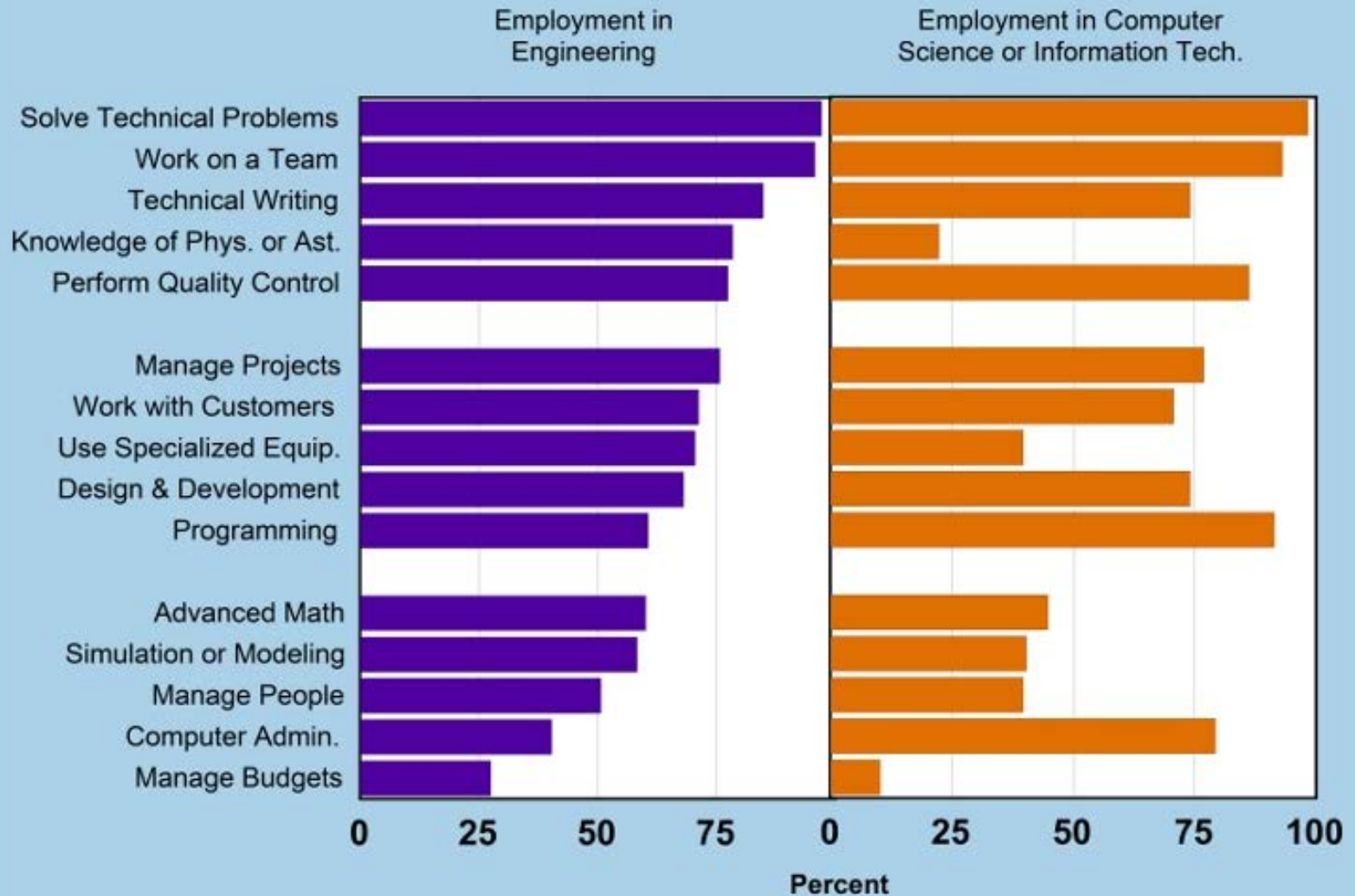


STEM: Natural Science, Technology, Engineering and Math

<http://www.aip.org/statistics>



Physics bachelor's who regularly perform the following activities or use the following skills, class of 2007.

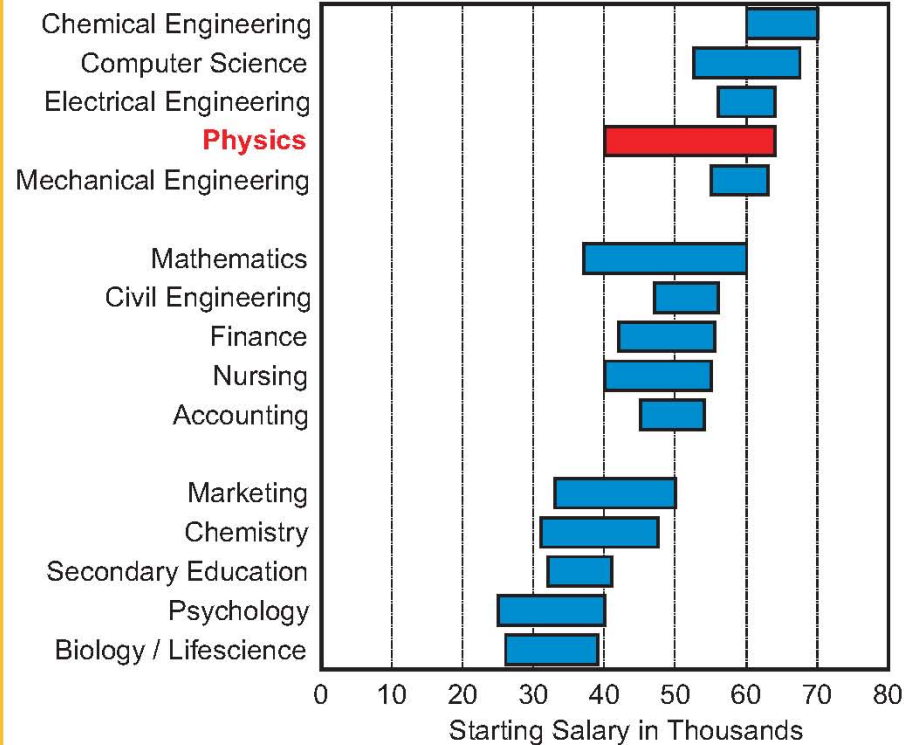


Percentages represent the proportion of physics bachelor's who chose "daily", "weekly", or "monthly" on a four-point scale that also included "never or rarely".

What's a Bachelor's Degree Worth?

Typical Salary Offers by Campus Recruiters, AY 2008-09

Bachelor's Field



Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles.

Reprinted from the Fall 2009 Salary Survey, with permission of the National Association of Colleges and Employers, copyright holder.

Typical starting salaries for physics bachelor's, classes of 2006 & 2007.

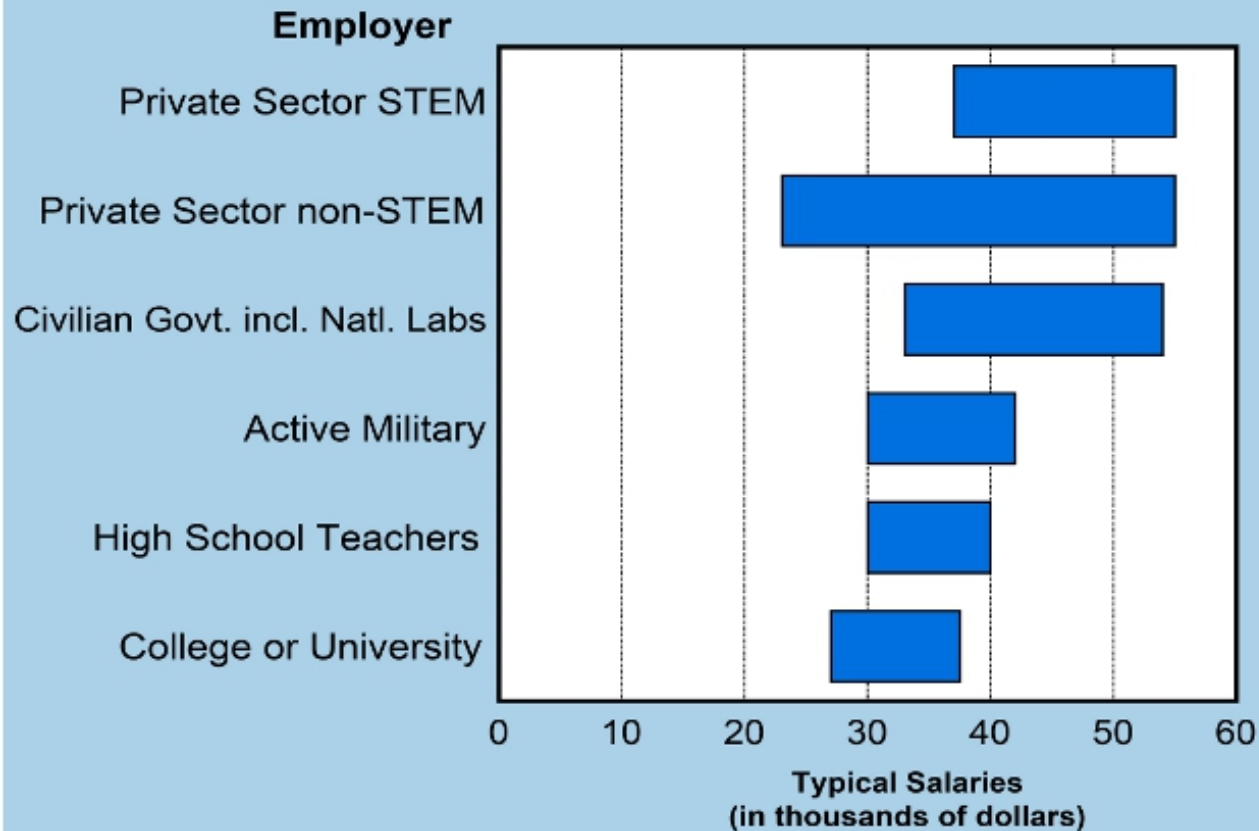


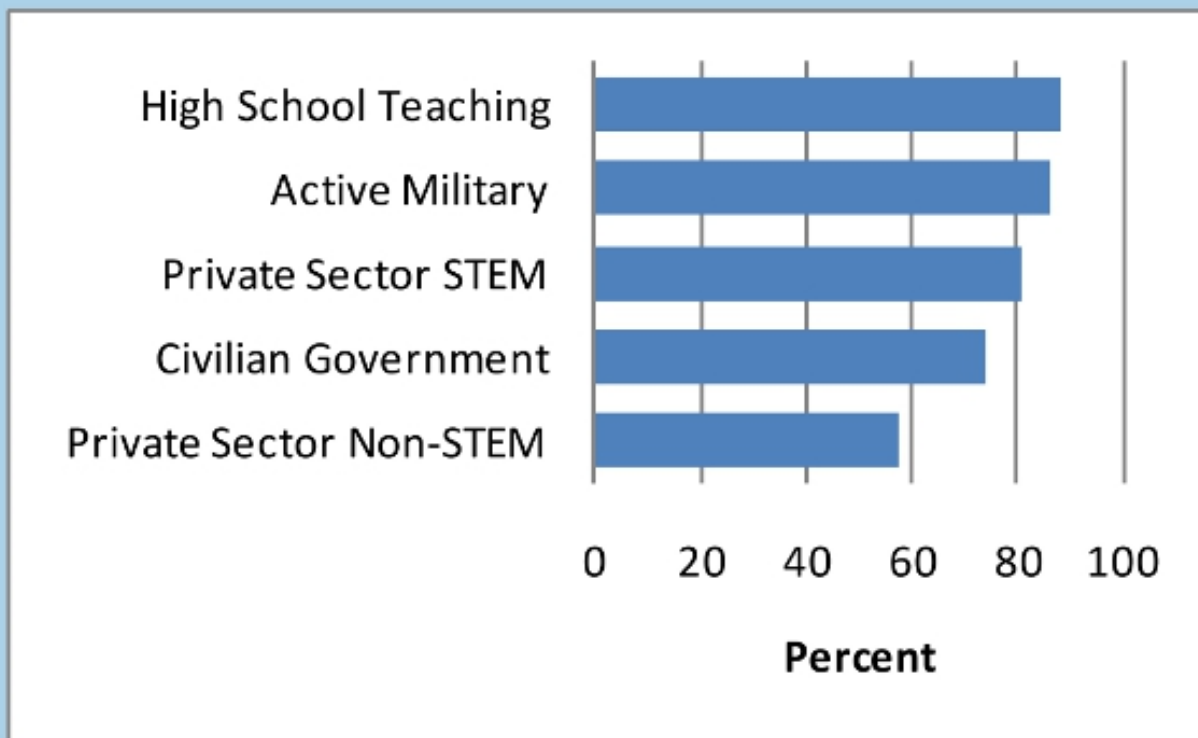
Figure includes only bachelor's in full-time, newly accepted positions.

Note: Typical salaries are the middle 50%, i.e., between the 25th and the 75th percentiles. STEM refers to positions in Natural Science, Technology, Engineering and Math.

<http://www.aip.org/statistics>



**Physics bachelor's "overall satisfaction" in their position,
classes of 2006 and 2007.**



Note: Percentages represent the proportion of physics bachelor's who chose "very satisfied" or "somewhat satisfied" on a four-point scale that also included "somewhat dissatisfied" and "very dissatisfied".

<http://www.aip.org/statistics>



Average MCAT Scores by Selected Majors, 2009.

	Physical Sciences	Biological Sciences	Verbal reasoning	Number of applicants
Biomedical Engineering	10.9	10.7	9.6	1,005
Physics	11.1	10.3	9.6	207
Electrical Engineering	10.9	10.5	9.4	195
Economics	10.4	10.5	9.7	566
Neuroscience	9.9	10.6	9.5	1,066
Mathematics	10.3	10.1	9.6	374
English	9.4	9.9	10.3	434
Biochemistry	9.9	10.3	9.1	2,594
Chemistry	9.8	9.9	9.0	2,091
Microbiology (or Bacteriology)	9.0	9.9	8.7	775
Psychology	8.8	9.4	9.1	2,421
Biology	8.7	9.5	8.7	12,705
Premedical	8.3	9.0	8.4	663
All Majors	9.2	9.8	9.0	41,487

PHYSICS



The Medical College Admissions Test (MCAT) has three sections of standardized multiple choice questions (total of 219 items) with an additional writing sample comprised of two essays. Scores of 9.5 to 11 in each section are considered competitive by most medical schools.

Source: Association of American Medical Colleges, Data Warehouse

<http://www.aip.org/statistics>

<http://physics.illinois.edu/>

Average LSAT Scores* by Selected Majors, 2009.

PHYSICS



	Mean score	Number of applicants
Physics	161.5	180
Mathematics	159.7	336
Economics	157.4	3,047
Electrical Engineering	156.3	546
Mechanical Engineering	156.0	427
Chemistry	155.7	355
English	154.7	5,120
Biology	154.5	1,055
Computer Science	154.0	682
Political Science	153.0	14,964
Psychology	152.5	4,355
Pre Law	148.3	1,078
Criminal Justice	145.5	3,306
All Majors	152.6	81,530

*The scores in the table are for individuals who applied to Law school for the 2007-08 academic year. All test takers are not represented. Individuals may have taken the LSAT months or possibly years earlier.

Source: AIP Statistical Research Center compiled data from the Law School Admission Council, Newton PA.

Read the blog View all posts

CAREERS IN PHYSICS, PARTS 1-10

By Kevin Pitts
August 31, 2012

Over the past year, I've posted many times about potential career paths. It might be hard for new readers to follow the older threads, so this post is an "index" of career posts. Several of these posts came from guest bloggers. [Here](#) is one example of the need for people trained in science.

Careers in Physics

Part I Job skills What skills do employers want that physics majors have?

Part II Elective options What are my curriculum choices for different career paths?

Part III Law Ever consider a career as an attorney? Physics is a good path to the law.

Part IV Salaries How much can you expect to make with a physics degree?

Part V Public service Many scientists work for the government.

Part VI the mysterious missing blog post

Part VII Atmospheric science Weather and climate are all physics.

Part VIII Medical imaging CT scans, MRI, PET scans, radiation therapy, all physics.

Part IX Teaching physics. We need more high school teachers! More on this [here](#).

Part X Music Acoustical engineering, architectural acoustics.

Other posts of interest:

Internships A great way to get experience.

Career fairs. Learn about what's available and market yourself.

Are there really jobs in physics? Answer is yes.

Summer research [here](#) and [here](#). A different kind of internship.

I have many more to come, so this is by no means the end of the list. We may never know what happened to the mysterious 6th post, but I will keep trying to update this post when I add more parts to this series.

If you have questions about the Physics Illinois Undergraduate Program, contact the Undergraduate Office, 217.333.4361.

If you have any feedback or suggestions for this blog, please contact Kevin Pitts.

Recent Posts

- Science Issues in Congressional Elections
- New Student Pizza Party
- The Benefits of Scientific Research
- Excellent Teachers
- The Value of a Ph.D.
- Posts on undergraduate and graduate programs
- Careers in Physics, Parts 1-10
- Students getting active!
- UIUC Physics by the Numbers
- The American Student

Associate Head



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More Career Data

- Illinois companies that hire physics bachelors:
<http://www.aip.org/statistics/trends/states/state.html>
- Education and Employment Trends:
<http://www.aip.org/statistics/>
- American Institute of Physics collects the most data on Physics Trends
- You can find the pot of gold with a physics degree!



Tailor your program

- **Have a specific interest?**
 - Elective options allow you to tailor your program
 - LAS Science and Letters or Engineering Physics
- **Example options:**
 - Astrophysics
 - Biophysics
 - Computational physics
 - Optical physics
 - Physical electronics
 - **User defined**
 - New options coming
 - *Nuclear physics, energy/sustainability, management, arms control ...*
 - Materials science
 - Pre-law
 - Pre-med
 - Science writing
 - Earth science
 - Environmental science



Recent user defined options

- **Electrical Engineering Technical Option**
- **Geology/Geophysics**
- **Pre-Optometry**
- **Mathematical Physics**
- **Prep for Grad School in Library Science**
- **Economics**
- **Acoustic Engineering**
- **Atmospheric Sciences**
- **Acoustics**
- **Biomedical Engineering**
- **Nuclear Physics**
- **Sustainable Technology Commercialization**



What we are doing

1. Working with industry to market our majors and explain the value of physicists!
 - Watch for job shadow programs.
2. Working with our majors (and Engineering Career Services) to make sure they market themselves and seek out opportunity.
3. Seek out internship opportunities for our students. (separate from research opportunities discussed soon)
4. Surveying our alumni to find out what careers they are in and create ties for future graduates.
5. Getting input from you...



Final Comments

- **Bad news:**
 - Physics does not provide a single, clear-cut career path.
- **Good news:**
 - A degree in physics offers great flexibility
 - Lots of opportunities for interdisciplinary work
- **We want to help you succeed!**

