

# PHYSICS JOBS

How do I get a job with a physics  
degree?

Dr. John Stewart

# Physics Job Titles.

<https://www.aip.org/statistics/common-job-titles-physics-bachelors>

## Engineering

- Systems Engineer
- Electrical Engineer
- Design Engineer
- Mechanical Engineer
- Project Engineer
- Optical Engineer
- Manufacturing Engineer
- Manufacturing Technician
- Laser Engineer
- Associate Engineer
- Application Engineer
- Development Engineer
- Engineering Technician
- Field Engineer
- Process Engineer
- Process Technician
- Product Engineer
- Product Manager
- Research Engineer
- Test Engineer
- General Engineer
- Technical Services Engineer

## Computer

### Hardware / Software

- Software Engineer
- Programmer
- Web Developer
- IT Consultant
- Systems Analyst
- Technical Support Staff
- Analyst

### Education

- High School Physics Teacher
- High School Science Teacher
- Middle School Science Teacher

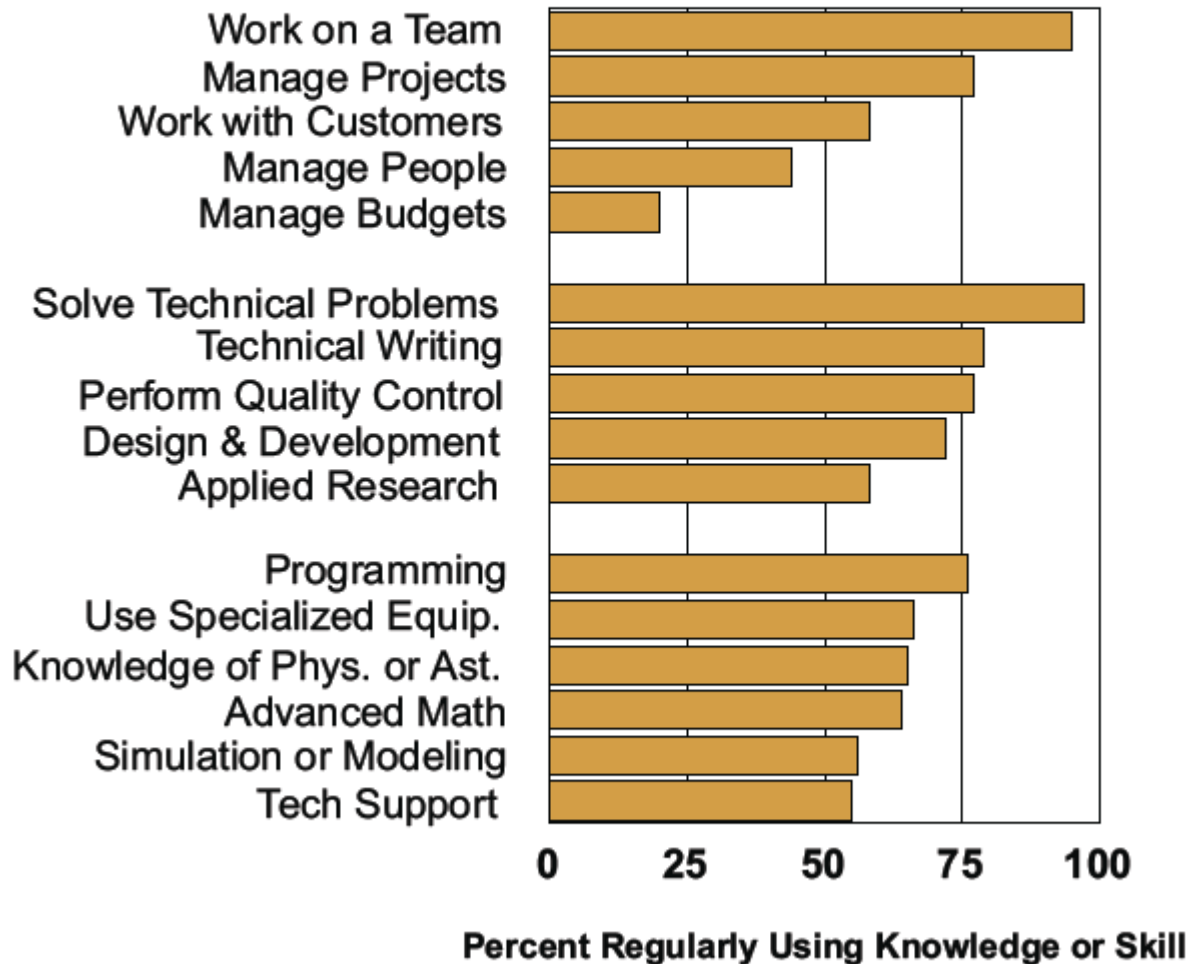
### Research and Technical

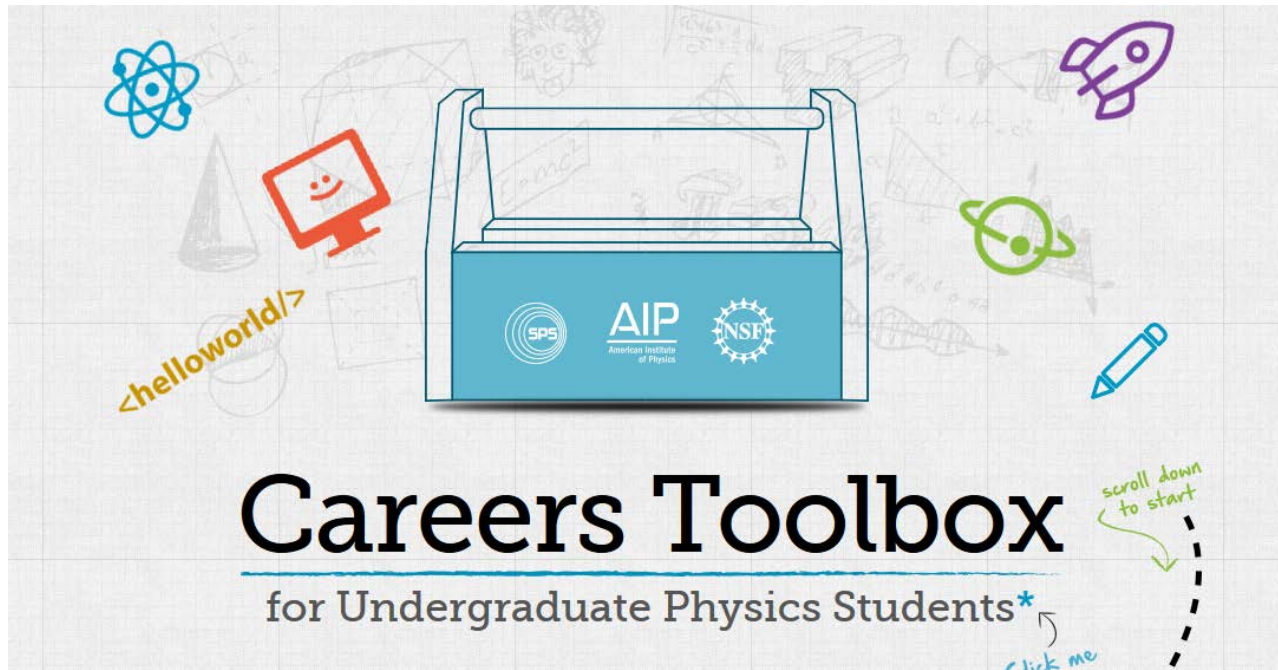
- Research Assistant
- Research Associate
- Research Technician
- Lab Technician
- Lab Assistant
- Accelerator Operator
- Physical Sciences Technician

Note: No physicist, so if you use the career center on campus, you need to be aware of the job titles you are actually searching for.

# Skills Used Regularly

## New Physics Bachelors Employed in STEM Fields



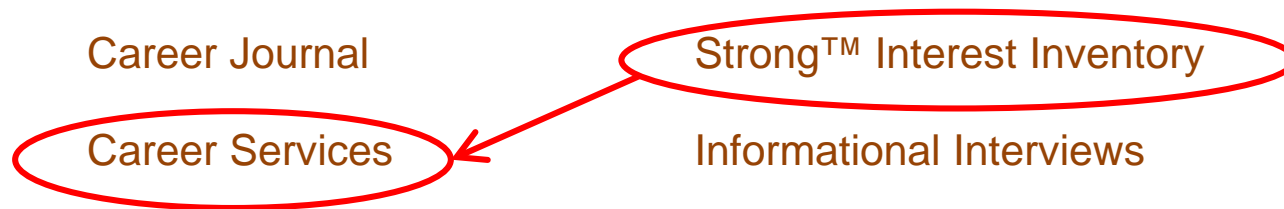


<http://www.spsnational.org/careerstoolbox/>

# What Can You Do?

## Career Planning and Self-Assessment

- Successful career fits students' skills, interest, AND VALUES!
- Self-assessment crucial for understanding what those are
- Keeping a career journal, an organized catalog of your skills and experiences is a crucial step to successfully finding a job.



APS Professional Development Guidebook – Chapter on Self-Assessment

[www.aps.org/careers/guidance/development/selfassessment.cfm](http://www.aps.org/careers/guidance/development/selfassessment.cfm)

# CAREER JOURNAL

- Document experiences that could in the future be used to as part of a resume.
- Specific accomplishments or skills developed in your research group.
- Substantial class or lab projects that required either computation, invention, analysis, or trouble shooting.
- Presentations or awards.
- Public outreach events.
- Leadership roles (SPS etc.)

# RESUME

- A one (sometimes two) page description of experiences and skills specific tailored to a specific job.
- Drawn from your career journal.

# SAMPLE RESUME FROM TOOLBOX

## **Caroline Quark**

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(990) 555-4567 caroline.quark@gmail.com

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### **Education**

California State University, Sacramento (CSU-Sacramento)  
BS in Physics, Minor: Computer Science  
Cumulative GPA: 3.68      Major GPA: 3.86

Sacramento, CA

Expected Graduation: May 2019

### **Skills**

**Programming:** Python (experienced), Java (proficient), C (proficient), C++ (limited)

**Software:** Microsoft Office, LabVIEW, gnuplot, Verilog

**Hardware:** Advanced electronics, analog and digital device design, machining tools

**Analysis:** Electronic noise, Electromagnetic field simulation of devices

**Languages:** Conversational Spanish



# SAMPLE RESUME FROM TOOLBOX

## Professional Experience

Logic Design Intern

May – August 2017

Intel Corporation

San Jose, CA

- Designed and implemented high speed memory interface IPs for low power applications
- Validated designs using standard test protocols
- Reduced error rates by 20% between test phases
- Developed advanced abilities in debugging using Verilog simulation tools

Undergraduate Research Assistant

June 2016 - Present

CSU-Sacramento, Dept. of Physics & Astronomy, Advisor: Dr. Isaac Newton

Sacramento, CA

- Built a temperature controller using a Programmable System on a Chip (PSoC)
- Programmed a PID controller system using C with a wide range of inputs
- Conducted extensive literature reviews and a patent search on comparable devices
- Strong familiarity with electronics, analog/digital electronic devices, and machining tools

# SAMPLE RESUME FROM TOOLBOX

## Leadership

President, Society of Physics Students, CSU-Sacramento Chapter

August 2016 – May 2017

- Conducted 12 science outreach events for local elementary and high schools
- Organized 20 students to attend 2016 Physics Congress (PhysCon) in San Francisco, CA

Resident Advisor, CSU-Sacramento

August 2016 – Present

- Mentored and counseled 45 first-year students
- Developed programming covering conflict resolution, sustainability, and study habits

## Awards and Honors

Sigma Pi Sigma Physics Honor Society

May 2017 – Present

Maxwell Physics Scholarship

August 2015 – Present

## Presentations (Poster unless noted)

*Low-temperature PID characterization of LaB6 crystals*

November 2016

2016 Physics Congress (PhysCon), San Francisco, CA

*Characterization of LaB6 devices in UHV*

August 2016

CA Space Grant Symposium, San Francisco, CA

# CAREER SERVICES

- WVU Career Services can offer help with resumes, searching for jobs, and interviews.
- <https://careerservices.wvu.edu/>
- You will have to educate them on the kinds of careers open to physics majors for them to be effective. Communicating the list of potential job titles is a good start.

# Take Advantage of APS Resources!!

## APS Online Professional Guidebook

- Detailed advice on key aspects of career development.
- Features 5-minute “webinette” clips from the top APS careers webinars
  - APS webinar “*Putting Your Science to Work,*” with Peter Fiske
  - APS webinar “*Career Self-Advocacy: How I Got A Six Figure Job in the Private Sector,*” with Meghan Anzelc
- Topics include self-assessment, networking, interviewing and negotiation strategies, and more.



[go.aps.org/physicspdguide](http://go.aps.org/physicspdguide)

## APS Careers Website

- APS Job Board
- Physicist Profiles and Job Prospects pages
- Employment and Salary Information
- APS Webinars archive



Physics Job Center



[www.aps.org/careers](http://www.aps.org/careers)

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