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**En**

Engineering

Red White & Blue

# *Engineering* JOBS

Using Your Engineering Skills to Build a Stronger America



PARTNERSHIP  
FOR  
PUBLIC SERVICE

[www.calltoserve.org](http://www.calltoserve.org)



## PARTNERSHIP FOR PUBLIC SERVICE

[www.ourpublicservice.org](http://www.ourpublicservice.org)

*The Partnership for Public Service is a nonpartisan, nonprofit organization dedicated to recruiting and retaining excellence in the federal civil service.*

*Through an aggressive campaign of agency reform, legislative advocacy, focused research and educational efforts, the Partnership encourages talented people to choose federal service for some or all of their careers and works with the government to help retain high-achieving federal employees.*

### **A Call to Serve: Leaders in Education Allied for Public Service**

[www.calltoserve.org](http://www.calltoserve.org)

The Partnership for Public Service has joined with the U.S. Office of Personnel Management to develop a national initiative, A Call to Serve: Leaders in Education Allied for Public Service, to educate a new generation about the importance of a strong civil service, help reestablish links between federal agencies and campuses, and provide students with information about federal jobs.

A Call to Serve was launched in April 2002 on the campus of The George Washington University in Washington, D.C.

### **The Red, White and Blue Jobs Handbook Series**

#### **All the Information You Need About Federal Job Opportunities – Based on Your Major**

No matter what your major, the federal government offers major opportunities to advance your career while making a difference. There are literally thousands of federal jobs that match your interests or aspirations – and over 80% are located outside Washington, DC.

Finding and applying for these great jobs can seem daunting, but these handbooks offer all the information you need to succeed. Find out what kinds of opportunities await you in the federal government, how to find and apply for federal jobs, and the benefits of working for Uncle Sam – all based on your major.

Visit [calltoserve.org](http://calltoserve.org) for more information on the Red, White and Blue Jobs Handbook Series, or to order handbook copies using our online order form.

# Engineers *Building a Better World*

*Engineers working in the federal government have made a lasting impact on our world and helped expand the frontiers of space. Among their many achievements, these engineers have:*

- 1 Helped develop the Internet and the World Wide Web.
- 2 Made it possible for humankind to travel in space and for spacecraft to explore the universe.
- 3 Led a decade-long renovation of the Pentagon - the world's largest office building under one roof - that strengthened the building and saved lives on September 11, 2001.
- 4 Planned and completed the reconstruction of damaged portions of the Pentagon within one year of the attack.
- 5 Developed purification systems that ensure the quality and safety of the water we drink.
- 6 Arrested a cholera epidemic in India and developed wastewater treatment systems in Third World countries.
- 7 First used energy technology that keeps wheat from being damaged by insects.
- 8 Developed a radiation measurement instrument for understanding clouds and their impact on climate.
- 9 Helped build the Kennedy Space Center in Cape Canaveral, Florida, and the Space Shuttle complex at Edwards Air Force Base in California.
- 10 Developed hydroelectric power and new methods of flood control on the nation's rivers.



## Did You Know?

*Many Internet technologies that revolutionized the world in the 1990s were first developed by Defense Department engineers thirty years earlier.*

## Find and Apply for Federal Jobs Online

USAJOBS at [www.usajobs.opm.gov](http://www.usajobs.opm.gov) is a great place to begin your job search. Because it is administered by the U.S. Office of Personnel Management, the federal government's human resources agency, it has a frequently updated listing of all federal job openings. You can also build your resume and learn about the federal jobs that best match your interests.

[Studentjobs.gov](http://Studentjobs.gov) was specifically designed by the U.S. Office of Personnel Management as a place for students to search for jobs, create a job seeker's profile and build an electronic resume.

Get the facts on applying for federal jobs and the benefits of government work at Monster Public Service ([publicservice.monster.com](http://publicservice.monster.com)), the Partnership for Public Service's online collaboration with leading global careers Web site Monster.



# Engineering *Careers* in the *Federal Government*

Over 120,000 of the nation's 1.5 million engineers work in the federal government, making it the largest U.S. employer of engineers. Here are the ten federal agencies employing the most full-time, permanent engineers:

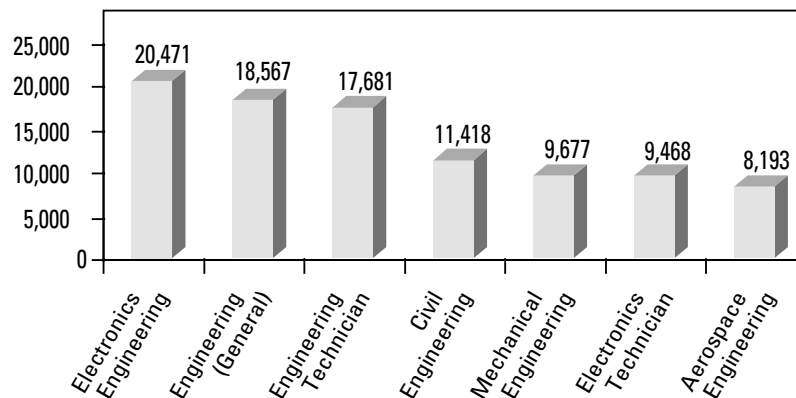
1. Department of Defense	77,523
2. National Aeronautics and Space Administration (NASA)	10,615
3. Department of Transportation	6,190
4. Department of Agriculture	3,668
5. Department of Energy	3,214
6. Department of the Interior	2,920
7. Environmental Protection Agency	2,149
8. Department of Veterans Affairs	1,797
9. Department of Commerce	1,515
10. Department of Justice	1,259



## A Sampling of What Government Engineers Do

Engineers in the federal government work in just about every engineering field, from aerospace to civil engineering to mechanical engineering.

Here are the fields in which most work:



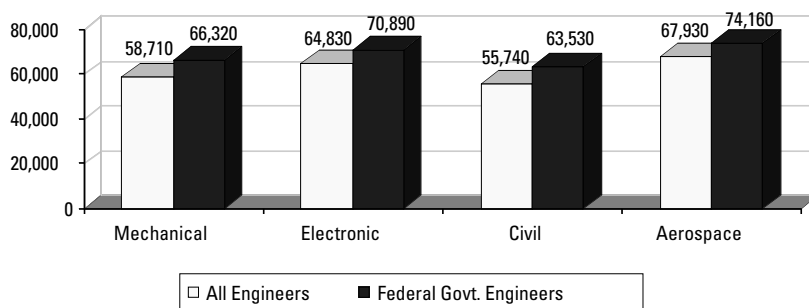
## Did You Know?

*There are engineering jobs with the federal government all over the country, and overseas too. In fact, 84 percent of all federal jobs are located outside Washington, DC.*

# Government Engineers *Earn More*

On average, salaries for federal government engineers exceeded those for engineers in key engineering fields in 2000, according to the Bureau of Labor Statistics:

## Median Engineering Earnings in 2000, All vs. Federal Government



### Did You Know?

U.S. Forest Service civil engineers work on everything from managing forest lands to overseeing the construction of roads, bridges and campgrounds.

**OPTIONAL APPLICATION FOR FEDERAL EMPLOYMENT - OF 612**

You may apply for positions with agencies, the Army, or other organizations. If your resume or application does not provide all the information requested on this form and is the job, resume or application, you may use this form to provide the missing information.

**PERSONAL INFORMATION**

1. LAST NAME: \_\_\_\_\_ FIRST AND MIDDLE INITIAL: \_\_\_\_\_ SOCIAL SECURITY NUMBER: \_\_\_\_\_  
 2. CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_  
 3. HOME PHONE: \_\_\_\_\_ WORK PHONE: \_\_\_\_\_  
 4. EDUCATION: \_\_\_\_\_  
 5. EXPERIENCE: \_\_\_\_\_

**WORK HISTORY**

6. NAME OF FEDERAL AGENCY: \_\_\_\_\_ POSITION: \_\_\_\_\_ DATE: \_\_\_\_\_  
 7. NAME OF FEDERAL AGENCY: \_\_\_\_\_ POSITION: \_\_\_\_\_ DATE: \_\_\_\_\_  
 8. NAME OF FEDERAL AGENCY: \_\_\_\_\_ POSITION: \_\_\_\_\_ DATE: \_\_\_\_\_

**ADDITIONAL INFORMATION**

9. OTHER EMPLOYERS: \_\_\_\_\_  
 10. OTHER EMPLOYERS: \_\_\_\_\_  
 11. OTHER EMPLOYERS: \_\_\_\_\_

**DECLARATION AND SIGNATURE**

I hereby declare that the information furnished on this form is true and correct to the best of my knowledge and belief, and that I am not currently employed by any federal agency.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**THE FEDERAL GOVERNMENT IS AN EQUAL OPPORTUNITY EMPLOYER**

### How Do I Apply?

Applicants usually must submit a resume, a description of relevant knowledge, skills and abilities, and any supporting information called for in the job announcement.

The information currently on your resume may not be enough to satisfy government employers. OPM's "Applying for a Federal Job" booklet ([www.opm.gov/forms/pdfimage/of0510.pdf](http://www.opm.gov/forms/pdfimage/of0510.pdf)) lists all the information you need to apply for federal employment.

One way to make sure you've got all your bases covered is to print yourself an "Optional Application for Federal Employment" form ([www.opm.gov/forms/pdf\\_fill/of0612.pdf](http://www.opm.gov/forms/pdf_fill/of0612.pdf)) that is the closest thing to a federal resume and can be used as part of your application for virtually any federal job.



# A Sampling of Government Engineering Internships

*The best way to find out if working for the federal government is for you is to try it out. The federal government offers a wide range of opportunities for summer internships as well as employment opportunities during the school year. The following list will give you an idea of what's available:*

## **The Environmental Protection Agency (EPA)**

- Engineering and science students can get practical research experience in an EPA office or lab through the **National Network for Environmental Studies Fellowship Program**. Approximately 60 fellows are expected to receive grants ranging from \$6,000 to \$10,000 per award in 2003. Learn more at: [www.epa.gov/enviroed/students.html](http://www.epa.gov/enviroed/students.html).

## **The National Institutes of Health (NIH)**

- Biomedical engineering students participate in cutting edge biomedical research projects under the mentorship of NIH scientists at labs in Bethesda, Maryland, during the 10-week **Biomedical Engineering Summer Internship Program**. Between 12 and 16 interns will be selected in 2003. Get the details at: [www.nih.gov/od/ors/dbeps/besip/index.htm](http://www.nih.gov/od/ors/dbeps/besip/index.htm).

## **The National Security Agency**

- The **Summer Network Evaluation Intern Program (SNEIP)** is open to computer/electrical engineering or computer science majors between their junior and senior year. Students learn to apply their skills on state-of-the-art hardware and software systems that improve national security. Are you up for the job? Find out at [www.nsa.gov/programs/employ/index.html](http://www.nsa.gov/programs/employ/index.html).

## **Making a Difference**

### **Jim Weaver of the Environmental Protection Agency**

Jim puts to work both his forest engineering and civil engineering degrees as an EPA hydrologist. He develops and tests simulation models for ocean oil spills and ground water contamination problems, and applies them to real spill situations. "I like feeling that I can contribute to the solution of environmental problems by applying my knowledge or creating a new approach," he said.

# More Government Engineering Internships

## U.S. Department of Energy

- The **Robert Gee Partnership Intern Program** gives undergraduate and graduate engineering and science students the chance to work with leading Energy Department scientists and engineers in one of many participating offices nationwide. Find out more at: [www.ma.mbe.doe.gov/pers/gee/index.htm](http://www.ma.mbe.doe.gov/pers/gee/index.htm).
- The **Oak Ridge Institute for Science and Education (ORISE)** offers educational and research experiences for both undergrads and graduate students in the Energy Department and other federal agencies. Several internship lengths are available, from summer terms to 18-month, full-time assignments. Find out what opportunities are available at: [www.ornl.gov/orise/educ.htm](http://www.ornl.gov/orise/educ.htm).

## U.S. Department of Transportation

- Engineering internships are available through the **Summer Transportation Internship Program for Diverse Groups (STIPDG)**, an initiative to promote diversity at the Transportation Department. College juniors and seniors participate in a 10-week internship in Washington, DC, or in Transportation Department field offices. Visit [www.fhwa.dot.gov/education/stipdg.htm](http://www.fhwa.dot.gov/education/stipdg.htm) for more information.
- College graduates with an interest in highway transportation and technology can get two years of entry-level experience through the Federal Highway Administration's **Professional Development Program**. Participants are eligible for funding to pursue engineering graduate or postgraduate studies. More details are available at: [www.fhwa.dot.gov/aaa/pdp/index.htm](http://www.fhwa.dot.gov/aaa/pdp/index.htm).



### Did You Know?

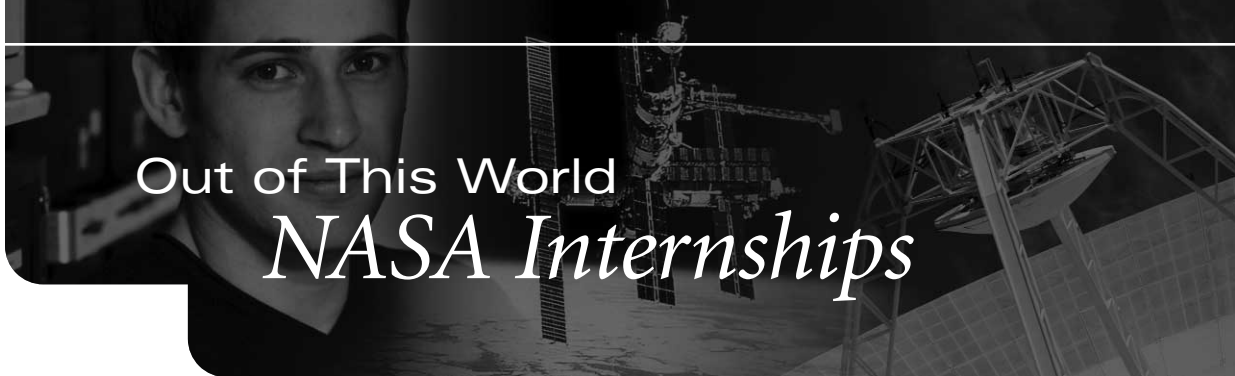
*The U.S. State Department hires engineers to identify security risks to its facilities at 260 locations worldwide, and to help design and maintain embassies and other office buildings.*

## Making a Difference

### Jeffrey Schmidt of the Federal Highway Administration

Jeffrey turned his civil engineer degree into a career as a highway engineer in the Eastern Federal Lands Highway Division. "I enjoyed all my assignments," he said of his time in the Federal Highway Administration's Professional Development Program.

"Compared to most jobs where you're stuck in one spot, right out of college, here you can move around a lot" He now solves engineering and design problems and ensures that current development program participants get the right training.



# Out of This World *NASA Internships*

*“The challenge faced by a lack of scientists and engineers is real and growing by the day,” says NASA Administrator Sean O’Keefe.*

*National Aeronautics and Space Administration (NASA) engineers expand the frontiers of space and improve the quality of life here on earth, but they need an influx of new engineers to get the job done. Engineering students can reach for the stars through these internship programs:*



- The **Undergraduate Student Research Program (USRP)** began offering mentored research experiences for college juniors and seniors at 10 NASA centers nationwide in 2001. One-hundred students from 70 colleges and universities participated in the 10-15 week program during its first year. Students receive a stipend of up to \$7,500. Learn more at: [www.vsgc.odu.edu/html/usrp.html](http://www.vsgc.odu.edu/html/usrp.html).
- **ACCESS (Achieving Competence in Computing, Engineering, and Space Science)** is a paid summer internship program for students with disabilities sponsored by NASA and the American Association for the Advancement of Science.

Students work with NASA mentors on projects related to their interests and abilities. Get the details at: [students.jsc.nasa.gov/under\\_grad/access.htm](http://students.jsc.nasa.gov/under_grad/access.htm).

- The **Structured Intern Program (SIP)** is a three-week, unpaid internship program for high school and college students at the Goddard Space Flight Center in Greenbelt, Maryland. Students learn sophisticated computer design programs and build computer models of spacecraft components later used by NASA engineers for conceptual spacecraft designs. More information can be found at: [oops.gsfc.nasa.gov/sip/](http://oops.gsfc.nasa.gov/sip/).

## **Making a Difference**

### **Deborah Amato of NASA**

Deborah started her NASA career as a student intern in 1993 and began working as a full-time NASA engineer the following year. She now works at the Goddard Space Flight Center in Greenbelt, Maryland, translating “what scientists want into a working instrument.” Working at NASA has been a long-term goal for Deborah, and she says it’s been a great experience. “I get to work on things that no one else is doing. This is cutting-edge technology, and I’m working with scientists who are at the forefront.”

## **Did You Know?**

*Engineers and scientists  
make up nearly 60 percent of  
NASA’s workforce.*



# Uncle Sam Wants *Engineers*

*The U.S. Department of Defense is the largest government employer of civilian engineers. The following list offers just a few of the many civilian engineering jobs and internships offered by the military:*

## **U.S. Air Force**

- College graduates get entry-level civil engineering positions with pay, travel opportunities and employee benefits that include tuition for graduate study through the **PALACE Acquire Civilian Intern Program**. It also offers two to three years of formal and on-the-job training with performance-based annual promotions. Learn more about the program that is considered the civilian equivalent to Air Force officer training at: [www.afpc.randolph.af.mil/cp/cecp/paq.htm](http://www.afpc.randolph.af.mil/cp/cecp/paq.htm).

## **U.S. Army**

- The **U.S. Army Materiel Command's Intern Program** brings entry-level engineers into the agency responsible for developing, buying and maintaining the Army's sophisticated weapons systems. Internships last from 18 months to three years, with full pay and benefits. Learn more at: [www.dacp16.net/IH.html](http://www.dacp16.net/IH.html).
- The **Career Related Experience in Science and Technology Program (CREST)** offers summer and/or part-time employment for student engineers and opportunities for engineer positions in the Army Intern Program after graduation. Participants work with an Army sponsor and get practical work experience in their field of interest. Program details are available at: [www.dacp16.net/ELERest.html](http://www.dacp16.net/ELERest.html).



## **Did You Know?**

*Before he became the nation's first president, George Washington was an engineer who recognized the possibilities of submarine warfare over a century before submarines were first used effectively in war.*

## **U.S. Navy**

The Navy's Carderock Division employs over 2,000 engineers at its headquarters near Washington, DC, and in Philadelphia. It offers two programs for engineering students and graduates:

- The **Science and Engineering Apprenticeship Program (SEAP)** exposes high school and college students to state-of-the-art Navy projects and programs; some students even visit Navy test sites and ships during their apprenticeship. Participants receive an educational grant. Visit [www.dt.navy.mil/div/employment/seap.html](http://www.dt.navy.mil/div/employment/seap.html) for more information.
- The three-year **Scientist and Engineer Development Program** gives newly-hired engineers on-the-job training and mentoring. Participants may also pursue advanced degrees through Virginia Tech and Villanova University. Get the details at: [www.dt.navy.mil/div/employment/development.html](http://www.dt.navy.mil/div/employment/development.html).

# Red, White and Blue Jobs: *Finding a Great Job* in the Federal Government

*The Partnership for Public Service has published a handbook to better connect you with federal employment opportunities.*



*It has information for students and graduates about federal government employers (including links to their Web sites) and describes the many benefits of working for Uncle Sam.*

*Download a free PDF version at:  
[www.calltoserve.org](http://www.calltoserve.org).*

*“Let public service be a proud and lively career. And let every man and woman who works in any area of our national government, in any branch, at any level, be able to say with pride and with honor in future years: ‘I served the United States government in that hour of our nation’s need.’”*

**– John F. Kennedy,  
35th President of the  
United States**

*“Public service in America today is not just another job. It’s an important act of citizenship.”*

**– George W. Bush,  
43rd President of the  
United States**



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