

The Importance of Women in STEM

Are you a college student pursuing a STEM degree? Are you undecided on a major and wondering if a STEM field is right for you? Do you want to learn more about STEM careers?

If you answered “yes” to any of these questions, the United States Patent and Trademark Office (USPTO) has some useful insights to share with you. Our agency helps inventors and entrepreneurs introduce their innovations and products to the world.

We have over 12,000 employees, most of whom are patent examiners, reviewing applications to determine whether inventions are eligible for patents. Patent examiners typically studied STEM fields in college.

For this brochure we asked a few of our female leaders from the patents organization two questions:

- What advice would you offer a female college student pursuing a STEM career?
- Why do you think it is important for women to work in STEM fields?

Discover our [All in STEM Program](#), where you can read more stories of women in STEM at the USPTO.

If you would like to learn more about working for our agency and view our current opportunities, visit our [hiring page](#).

UNITED STATES
PATENT AND TRADEMARK OFFICE



Cheryl Tyler

Group Director, Mechanical Technologies

Work Location: **Alexandria, VA**

Degrees: **Master of Science, Mechanical Engineering and Bachelor of Science, Mechanical Engineering**

USPTO Career: **20+ years**



I would advise any female college student pursuing a STEM career to persevere. STEM courses in general may be more challenging than other college courses. However, the short term sacrifices will be worth it in the end when you graduate with an engineering degree. I would also tell female college students that it is okay to fail sometimes. Learn from the failure, and try not to repeat whatever it is that caused the failure. Additionally, I would encourage female college students to seek out assistance when necessary. It is not something that you have to do alone. Reach out to fellow engineering students, as well as professors and mentors, to gain a better understanding of whatever you are trying to learn. Finally, I'd share what one of my professors taught me: The best engineer/scientist is not the one who has all of the formulas memorized, but the one who knows where to find the formulas.

It is important for women to work in STEM fields because we offer a different perspective than what may traditionally be held. Consider the women from the 2016 biographical film "Hidden Figures." Without Kathryn Johnson's unique ability to solve a mathematical problem, the space program would not have been as advanced as it was; nor would Mary Jackson have become the first black female engineer at NASA; nor would Dorothy Vaughan have been able to teach herself and her staff how to program in FORTRAN. Further, STEM fields traditionally offer higher pay than other career fields, and it is important for women to be able to independently earn acceptable wages.

Susan Su

Primary Examiner, Medical Devices

Work Location: **San Jose, CA**

Degrees: **Bachelor of Science, Mechanical Engineering and Ph.D., Bioengineering**

USPTO Career: **Nearly 10 years**



I think most students, not just female students, tend to think that if you cannot get good grades in physics or math, then you cannot have a STEM career. However, a STEM career these days is no longer limited to the geeky stereotype we used to see. Check out www.uspto.gov/kids for a nice snapshot of the various sciences and technologies that go into extreme sports. It takes a team to make a successful product, and women are able to bring our own unique experiences and perspectives to the table. Even if you're not the top of your class in multivariable calculus, you may still have valuable input that everyone else on the team has failed to notice. Look inside yourself to find that uniqueness, and put it to good use!

One of the major reasons for women to be involved in STEM is to improve lives by sharing our perspectives (e.g. something as simple as seeing the need for a flat-bottom paper bag for easier transportation of goods), as neglecting the input of half the population would certainly limit development in all areas, not just STEM fields. Additionally, STEM fields generally provide more job security and better income. Therefore, women in STEM fields have a better likelihood of providing for our families, ensuring not only financial stability for our loved ones, but also, on a larger scale, economic and social stability for the country.

Quyen Leung

Supervisory Patent Examiner, Electrical Circuits and Semiconductors

Work Location: **Alexandria, VA**

Degree: **Bachelor of Science, Electrical Engineering**

USPTO Career: **20+ years**



If you're pursuing a STEM career, seek a job (paid/unpaid) for a summer or a semester. First, Google "STEM careers," pick one that interests you the most, and go for it! Update your resume with a very clear and concise objective: What is the one skill you'd like most to gain in the job you are seeking? This skill should make you more marketable for your next steps. Consult with your college career counselor for job opportunities matching your objective. Attend job fairs for additional job opportunities. Circulate and submit your resume and transcripts. Good luck!

It is important to have women work in STEM fields because these fields offer many well-paid job opportunities and career growth opportunities. STEM careers can run the gamut from A (e.g. actuaries, acupuncturists, acute care nurses) to Z (e.g. zoologists and wildlife biologists). STEM careers can involve teaching, research, development, design, practitioners, technologists, technicians and sales. Women increase diversity, creativity and competitiveness in the STEM workforce. We help grow businesses. And we help strengthen the nation's economy.

Shelley Self

Supervisory Patent Examiner, Manufacturing and Metal Working Technologies

Work Location: **Denver, CO**

Degree: **Bachelor of Science, Mechanical Engineering**

USPTO Career: **15 years**



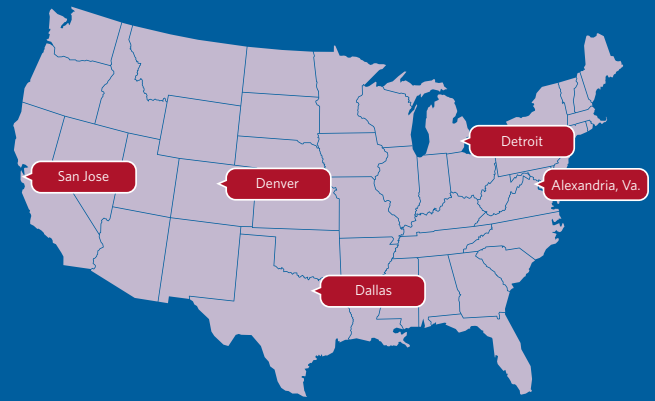
Young ladies pursuing STEM careers should be willing to ask questions; be fearless. Seek advice; if possible, reach out to a female professor as a mentor. Be confident; trust your ability and intellect, but be willing to learn. Be willing to work with others; volunteer, and take the lead on projects. Be willing to push yourself outside of your comfort zone to grow.

Currently, diversity is underrepresented in STEM fields. While there are vast opportunities in STEM professions, there are often few women, but STEM professions can result in greater

job security and job opportunities. The lack of diversity and presence of women in STEM fields lends to reduced problem solving. With diversity, there is a larger pool of talented individuals, which allows for inclusion of various viewpoints, problem-solving skills and talents. Women are able to bring a different perspective to the traditional views and opinions of the male dominated industry. This leads to better or improved inclusion, which ultimately leads to cultivation of others' talents and improved efficiency and higher work output.



The USPTO is headquartered in Alexandria, Virginia, with offices in California, Colorado, Michigan and Texas.



About the USPTO

Our work spurs the kind of American innovation that can change the world.

The U.S. Patent and Trademark Office has been serving the economic interests of America for more than 200 years. We are responsible for granting U.S. intellectual property rights for patents and trademarks.

Our efforts have provided inventors exclusive rights over their discoveries. It's an effort that continues to contribute to a strong global economy, to encourage investment in innovation and to cultivate an entrepreneurial spirit for the 21st century.

Why should you work for the USPTO?

- **Bringing innovation to life:** Your expertise will focus on analyzing advanced, complex concepts leading to America's modern breakthroughs
- **Challenging, Engaging Atmosphere:** USPTO is the largest IP rights entity in the nation where you'll gain experience, training and mentorship you won't get anywhere else
- **Your Career, Your Way:** You will have a well-defined career path that gives you specific milestones to reach for while advancing throughout your career
- **Flexible Work Schedules:** USPTO's award-winning telework program makes finding work-life balance very easy by providing you with the ability to create a lifestyle that suits your needs

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