PICK YOUR DREAM

illustrated by: Haun Tran

Average Starting Salary For Engineering Bachelor's Degree Graduates: $60,465

01 aerospace engineering

Fascinated by flight? Aerospace engineers design and develop vehicles that fly through or above the Earth's atmosphere, from fighter jets to spaceships. Earthbound industries will need your skills, too – for instance, to make race cars and even golf balls more aerodynamic.

02 agricultural engineering

Modern agriculture is a high-tech industry. Agricultural engineers find ways to get crops the proper nutrients, design harvesting machinery or work on the disposal of agricultural wastes. You might also develop new biofuels or refine hydroponics – the science of growing crops in water.

03 architectural engineering

Great architecture is beautiful to behold. Major in architectural engineering, and you'll work on keeping buildings lit, plumbed and ventilated, as well as develop better construction methods. With skyscrapers soaring to new heights, you'll have your work cut out for you.

04 bio/biomedical engineering

Projected Employment Growth Through 2018 72%

Apply engineering solutions to medical problems – a truly life-enhancing proposition. You'll work with doctors and biologists, and your research could involve artificial organs, prosthetics and diagnostic tools.

05 chemical/biological engineering

Everything in nature is made of chemicals, and as a chemical engineer, you'll work with raw materials to produce valuable products, including medicines and "green" fuels. Or you might find ways to clean up toxic spills or make food production safer.

06 civil engineering

If you think big, then be a civil engineer. You'll work on roads, bridges, dams and other key structures. You might plan, design and supervise major construction projects – like airports and water-treatment plants – or structures for future high-speed trains or Mars habitats.

07 computer engineering

Want to be a general in the information-technology revolution? Computer engineers deal with all aspects of computing, including operating systems, networks, software and hardware. You might even design future quantum computers, which will be millions of times faster than today's supercomputers.

08 electrical engineering

U.S. Employment 157,800

Electrical engineers take energy from power sources and channel it to homes, factories and businesses. You might design components to move digital information around, making you an expert in computer, cellphone, satellite and TV technologies.

09 engineering management

All engineering projects need someone in charge. That'd be you. You'll plan and organize projects and allocate resources, from people to components. You'll use key organizational skills, as other managers do, but also have a deep understanding of engineering.

10 engineering science/physics

This is the big tent of engineering. You'll combine the practical with the theoretical. While you'll work comfortably across many disciplines, you might focus on a specific area of interest – from digital electronics design to nuclear radiation instrumentation.

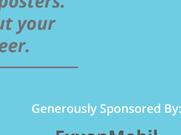
11 environmental engineering

Want to help solve environmental problems or find ways to prevent ecological disasters? You could work on water distribution, recycling, sewage treatment and pollution prevention and control systems. Or you could help improve air quality or cut pesticide use.

12 general engineering

Inventing a new technology requires one skill set. Bringing it to market demands another. You can learn both in general engineering, a program integrating basic and engineering sciences with design. You'll learn how to combine engineering with business principles, a recipe for career success.

13 industrial engineering



You'll create and run systems essential to society, from manufacturing to services. You'll juggle designs, materials, machines, information and people to keep industrial processes functioning smoothly. Your technical problem-solving skills will make you an ideal project manager.

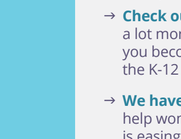
14 manufacturing engineering

Quality control will be your forte as a manufacturing engineer, no matter what you're producing. You'll be involved from start to finish, working with all aspects of manufacturing, including automation, production control and materials handling.

15 materials engineering

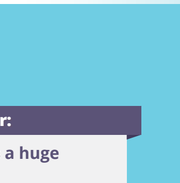
Ancient alchemists tried to turn base metals into gold. As a materials engineer, you'll be their modern equivalent – except with sound science on your side. You'll render raw substances – plastics, metals and ceramics – into useful products.

16 mechanical engineering



Do you love to tinker? Then head for mechanical engineering to design build and maintain machines of all types and sizes. You could also help to create new products. A mechanical engineering degree is an entry to many areas, including robotics, automotives and prosthetics.

17 mining engineering



Earth is chock-full of valuable resources. If you're a mining or mineral engineer, you'll work with geologists to find and appraise these minerals. You'll also design mine layouts and develop ways to harvest materials safely without destroying the land above.

18 nuclear engineering

As a nuclear engineer, you'll work to safely harness one of the most powerful energy sources known. You might create industrial or medical uses for radioactive materials or manage the safe disposal of nuclear wastes. You might even help design future power plants.

19 naval architecture engineering

As a naval architect, you'll design and produce vessels to transport people and cargo great distances. Scientific principles and engineering skill to design the ships and boats that ply the oceans.

20 petroleum engineering

Average Starting Salary $80,849

As a petroleum engineer, you'll work to discover and safely retrieve oil wherever it's found. You'll ensure that drilling is safe, economical and environmentally friendly. You might even develop alternative energy sources to eventually help us kick the oil habit.

21 ocean engineering

Oceans cover 70 percent of the earth, yet remain largely unexplored. As an ocean engineer, you'll solve problems ranging from beach erosion to energy recovery and pollution control. You might design piers, oil rigs or underwater tunnels.

22 software engineering

It takes software to harness the computational power of computers. That's where you, as a software engineer, come in. You'll analyze, design, construct and test computer programs using engineering methods. High-quality software will result from you working quickly and cost effectively.

23 system engineering

Engineering Disciplines Account for Seven Out of the Top 10 Highest Paid Majors!

Major engineering projects need the skills of many types of engineers. You'll be the team captain as a systems engineer. You'll ensure that various disciplines work together and meet cost and performance goals. That requires a deep working knowledge of all technical areas.

I'm proud to be an engineer because I make a difference!
Jennifer Opal Staudenmaier

Do I want to be an engineer?

- → **I have small ideas,** big ideas and sometimes, never-heard-of ideas.
- → **I'm constantly curious.** I have questions about how things do the things they do.
- → **I love to help others.** I want to make this world better.

Sound familiar? Let's explore more about engineering.

Why should I be an engineer?

I dream about a bright future. I may be young, but that doesn't mean I don't think ahead. I want to take care of myself and my family. I want to make an impact in my community and be a role model for other girls like me.

Engineering could get you there and could be fun at the same exact time.

CREATIVITY: Jobs in more fields than you could even imagine and the ability to make your dreams into reality.
MONEY: Higher salaries than average.
HAPPINESS: Personal satisfaction.
Be proud of the work you do.

SWE can help you Be That Engineer:

Deciding what you want to do is a huge decision, but we want to help.

- → **Check out our website:** swe.org. We have a lot more information and tools to help you become an engineer. Be sure to visit the K-12 section.
- → **We have a scholarship program.** We want to help women engineers succeed and part of that is easing the burden of college tuition.
- → **Be a part of the SWE community.** Sign up for SWENext, a program for students through the age of 18, today by visiting **swenext.swe.org**.

I like making cool things that make people's lives easier.
Ty Trapps

Make sure to go to Facebook.com/sweorg and share your answers and posters. Also, tweet @SWENEXT about your dreams to #BeThatEngineer.

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swe NEXT

AN ENGINEER *helps* **create** THE WORLD'S FUTURE

BE THAT ENGINEER

WHAT SWE is all about

The Society of Women Engineers—or SWE—has been working hard to help women in engineering and technology succeed for more than 65 years! We are here to help girls and women of all ages discover engineering and technology, support their passions and help them achieve their goals. SWE has more than 30,000 members, all around the world, and they were just like you once—girls that wanted to create new things!

Be a part of the SWE community!

Join SWENext which is our program for students through the age of 18. Being a SWENexter means you'll receive up-to-date information on engineering events, camps, scholarships, awards, meet-ups and much more. You can sign up for this FREE program by visiting **swenext.swe.org**.

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DISCOVER
Events • Scholarships
Women Engineers • Cool Projects
Contests • SWE Goodies
... and much more.

People doubted me too, but that only fuels my drive. Science is amazing. You never stop learning.
Charli Nicole

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YOUR DREAMS

MAY BE

BIG and BOLD

BUT IT TAKES

HEART & CREATIVITY

..... to make the world a better place .....

YOU'LL HAVE TO

TINKER • INVENT • BUILD

IT MEANS

BEING YOU

BE SILLY
BE OUTRAGEOUS
BE STRONG
BE AMAZING

JUST BE YOU

EXPLORE YOUR PASSIONS

..... achieve your goals .....

create THE WORLD'S FUTURE

LOOK AROUND YOU | BE INSPIRED BY

SPACE • SKYSCRAPERS • SMARTPHONES

WHEN YOU

DOWNLOAD
>>>>> FILL UP <<<<<
& GO GREEN

KNOW AN ENGINEER MADE THAT POSSIBLE

#BETHATENGINEER

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