What is Amazon Future Engineer?

**Amazon Future Engineer (AFE)** is Amazon's initiative to give students like you access to computer science learning, and provide access to college scholarships and internships at Amazon. We also connect you to amazing "cloud computing" resources from Amazon Web Services.

**Computer Science and Engineering Courses:** AFE partners with Edhesive to provide both introductory and AP level courses as well as support structures. AP Computer Science A - Java Programming, AP Computer Science Principles, and Computer Science 1 - Python Programming and Robotics are three courses open to all students who have an interest and math skills to succeed.

**Cloud Computing:** You might know Amazon Alexa, Amazon’s virtual assistant, but did you know that the data and computing power that lets her understand your questions is made possible by Amazon Web Services (AWS) cloud computing? As AFE school students, you will be provided cloud educational resources on how to build things like an artificial intelligence chat bot for your own web page. These courses will require AWS Educate access to complete certain modules.

**College Scholarships:** AFE provides college scholarships for students from communities underrepresented in the technology field who have completed or are currently taking an AP CS course and have been accepted to an accredited four-year university. Student can apply for a scholarship of $10,000 per student if they plan to pursue a CS major in college.

**Internships at Amazon:** The AFE internship provides a 12-week hands-on learning and building opportunity for college freshmen and sophomores. They work with new technologies, network with Amazon leaders, attend unforgettable events, and create lasting bonds.
Computer science is all about solving real-world problems. It's been around for years, but it's becoming more important than ever in today's world where technology is ubiquitous. Roller coasters, elevators, traffic signals, and even refrigerators: technology is everywhere. Now more than ever, we now need a basic knowledge of computer science just to understand the world around us.

But what is computer science? Is it simply being able to use a computer? Or write code?

In this course, we use the definition, “Computer science is the study of how we use computers to solve human problems.” This definition focuses on the problem solving aspect of computer science. One major theme of AP Computer Science, and really CS in general, is problem solving. It's about developing solutions that can scale up from simple problems to complex problems. On the AP CS A exam, you will be using the programming language Java to solve problems, design strategies, debug, and analyze potential solutions.

Any AP course is challenging and AP Computer Science is no exception. Even if you have programming experience or like to code for fun, you will still be challenged in AP Computer Science. However, don't be discouraged if you know absolutely nothing about programming or computer science in general. This course was designed for students new to computer science. We will begin with the basic building blocks of programming in Java. By the end of the course, you will use Java to solve some pretty complex problems! This course is a Mathematics (C)/Computer Science course and fulfills high school student requirements for the University of California’s admissions. AP CSA counts as a student's third or fourth recommended year of math.
Throughout this course, you will be introduced to this amazing world and the many ways that computer science has helped to shape nearly every aspect of your life. Whether it is the cell phone in your pocket, the game console connected to your television, the self-checkout register at the store, the robot-assisted surgery that saves your life, or the self-driving car that brings you to school, we are surrounded by the products made possible by centuries worth of technological advances in math, science, logic, and design.

The advent of the modern computer and its modular design, stored-program architecture, and ability to perform complex computations with both speed and accuracy opened the doors to a wealth of incredible innovations and fundamentally changed the way that we interact with others and the world around us. It is truly a remarkable time to live in, both as a consumer and as an innovator of the new ideas that will shape tomorrow’s digital world.

In AP Computer Science Principles, you will be introduced to a number of innovations in computing and digital media that have come to form the backbone of nearly all of our online and offline interactions. As you explore each new component of this digital landscape, you should get in the habit of asking yourself questions like the following:

- What does this innovation allow me to do that I couldn't do before?
- How can I use this innovation to create something that nobody has imagined?
- How can I use this innovation to create even better innovations of my own?

As this course guides you through the art and science of digital technology and helps you develop robust, computational thinking skills, you will become a master of innovation and be fully prepared to thrive in our digital world! This course is a Laboratory Science (D)/Computer Science course and fulfills high school student requirements for the University of California’s admissions. AP CSP counts as a student’s third or fourth recommended year of science.
From the time you wake up in the morning, until you go to sleep at night, technology is all around you. We take it for granted.

The food on your table came from a farm that may be using the latest in GPS technology to help the farmers maximize the yields of their crops. The text-messaging app you use with your friends utilizes complex code to make it work. The car you ride in has computers determining the optimal mixing of fuel and oxygen to maximize fuel economy, as well as sensors which keep your brakes from locking up if you hit the pedal too hard.

Technology is everywhere: roller coasters, elevators, traffic signals, and even refrigerators. The fact that everything works may seem like magic. But, the "magic" is performed by the programmers who write the code.

Computers are simple. They do only what you tell them. This course will help you learn to talk to computers using the Python language. During the course, you'll learn more about programming, create programs of your own using Python, and have a lot of fun along the way. And, who knows . . . you may end up writing the next big thing! Happy coding! Along with Python, students will become familiar and work with cloud computing with free access to powerful cloud computing tools.

This course fulfills the A-G elective requirement for the University of California's admissions. Computer Science I counts as an elective in Mathematics.
Combining the excitement of sport with the rigors of science and technology. We call FIRST Robotics Competition the ultimate Sport for the Mind. High-school student participants call it “the hardest fun you'll ever have.”

Under strict rules, limited resources, and an intense time limit, teams of students are challenged to raise funds, design a team "brand," hone teamwork skills, and build and program industrial-size robots to play a difficult field game against like-minded competitors. It's as close to real-world engineering as a student can get. Volunteer professional mentors lend their time and talents to guide each team. Each season ends with an exciting FIRST Championship.

The FIRST Robotics Competition gives high school students and their adult mentors the opportunity to work and create together to solve a common problem. Challenged to design and build a robot using a standard "kit of parts" and within a common set of rules to play a sophisticated field game – brings out the best in students and adults alike. The robot “game” changes every season and is always exciting.

FIRST redefines “winning” by rewarding teams for achievements not necessarily gained on the field of play – excellence in design, demonstrated team spirit, Gracious Professionalism®, and the ability to overcome obstacles are all recognized with awards. Winning is always secondary to the quality of the overall experience.
Building the future, bit by bit

Computer science opportunities, from childhood to career
Amazon Future Engineer aims to inspire and educate millions of students from underprivileged and underrepresented communities to try computer science and coding.

From learning computer science to working their first job, our four-part childhood-to-career program creates opportunities in all stages of a student’s path. Students, teachers, school administrators, and parents are encouraged to apply at amazonfutureengineer.com.
K-8

Apply year-round. Applications are taken based on school course planning cycles.

Each year, we give students the opportunity to try afterschool workshops, coding camps, and online computer science lessons. We partner regularly with other programs to create exciting experiences like our recent collaboration with Code.org to host an Hour of Code: Dance Party that lets students code their own dance troupe to songs from popular artists.

High School

Apply year-round. Applications are taken based on school course planning cycles.

We offer 2,000 low-income schools across the country Intro and AP computer science courses through our curriculum provider, Edhesive. Schools receive a fully sequenced and paced digital curriculum for students, including live online tutor support and professional development for teachers.

Scholarships

Applications open annually in the fall.

Amazon Future Engineer awards scholarships to 100 college students from underprivileged and underrepresented communities studying computer science. Scholarships provide $10,000 annually for up to four years to students who maintain a minimum GPA and stay on track with their degree requirements.

Internships

Each scholarship recipient receives a guaranteed paid summer internship at Amazon after their first or second year of college. Our interns partner closely with a technical mentor or manager, along with fellow interns, for a hands-on learning and building opportunity to innovate and create on behalf of Amazon customers.