

Sloan Career Cornerstone Center

Pre-College Career Planning Tips

In middle and high school there are several steps you can take to help prepare for careers in science, engineering, mathematics, technology, computing, or medicine. It is never too early to consider a career and the things you can do before college to help keep your career options open. Many of these ideas can help you focus on a career path by giving you exposure to the types of activities with different career areas. For live links to many of the resources described below head to www.careercornerstone.org/precolprep.htm.

► Explore Different Career Paths

Step one is finding a resource where you can explore objective information about career paths, including salary data, employment trends, what degrees are required, what an average day might be like, and what work is done in different fields. The Sloan Career Cornerstone Center (www.careercornerstone.org) is designed to help you do this! Explore information about over 190 career options in science, technology, engineering, mathematics, and medicine (STEMM).

► Course Selection and Learning Options

While in school, or in optional after-school programs, try to take as many math and science courses as you can. Taking additional courses will help you determine if you enjoy the subject matter, and will also give you a head start on advanced coursework. It will also give you an opportunity to meet other students with similar interests. In middle school, consider exploring pre-algebra or geometry -- read text books on these subjects if they are not available to you through your school. In high school, besides the standard algebra and geometry, explore advanced chemistry, calculus, trigonometry, physics, electronics, and engineering concepts. Some high schools offer biotechnology classes or other options. The bottom line is to take as many math and science courses -- and AP classes -- that you can safely handle with your workload while maintaining good grades.



► AP Course Options

The College Board's Advanced Placement Program enables students to pursue college-level studies while still in high school. Thirty-seven courses in 22 subject areas are offered. Based on their performance on rigorous AP Exams, sections of which are scored by college faculty and experienced AP teachers, students can earn credit, advanced placement, or both for college. More than 3,600 colleges and universities around the world recognize AP for credit, placement, and/or admissions decisions, including more than 90 percent of four-year colleges and universities in the U.S. Some of the subjects that relate to fields covered on the Sloan Career Cornerstone Center include Biology, Calculus AB, Calculus BC, Computer Science A, Environmental Science, Macroeconomics, Microeconomics, Physics B, Physics C, Psychology, and Statistics.



► Participate in Programs and Projects

Join in on engineering, math, or science projects and events that may be offered in your area. These are great opportunities to network with other students, meet professionals in the field, and gain experience. There are dozens of mathematics, science, and engineering competitions - many sponsored by local schools. Links to suggested national projects is available at www.careercornerstone.org/pcproj.htm.



► Precollege STEM Summer Programs and Camps

Precollege summer camps that focus on science, mathematics, technology or engineering can provide students with great hands-on experiences working on activities that explore how these fields have an impact on the world. Many universities that offer engineering programs offer programs in the summer for middle and high school students. Companies and science museums also often offer summer activities for high school, and occasionally middle school students. Check your local university, or visit www.careercornerstone.org/pcsumcamps.htm for some examples.

► Lesson Plans and Online Activities

Whether in a classroom, home school environment, or online, there are many lesson plans and online activities to explore. We've compiled a list of resources for lesson plans and online interactive games and activities for you to explore everything from virtual knee surgery to designing and testing a solar car. These can be explored at www.careercornerstone.org/pcactivities.htm.



► Scholarships and Internships

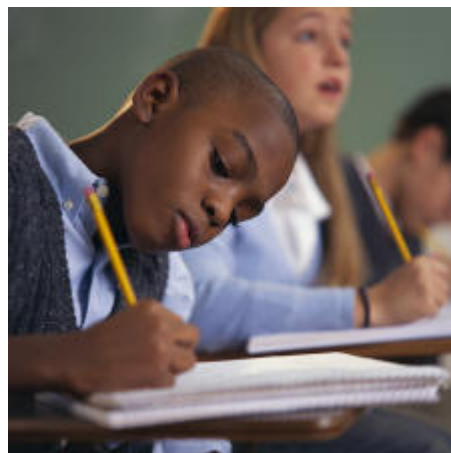
Many organizations and universities offer special opportunities for students considering careers in science, mathematics, technology, engineering, computing, or medicine. These include scholarships and internships that provide real work experience in a field of interest. Links to many scholarship and internship options are at www.careercornerstone.org/pcopps.htm.

► Student Networking

Try to keep in touch with other students who are also interested in engineering, math and science. Join a math or science club after school, or participate in science, math, or engineering competitions.

► School Counselors

Visit your school's career counselor, and find out what suggestions they have for exploring career paths in science, technology, engineering, math, computing, or medicine. They may be able to suggest courses, internships, or extracurricular activities. Some university career centers also have good resources for pre-college students, and many offer career days for high school students. They can also advise you about local and national college fairs.



Pre-College Career Planning Tips from the Sloan Career Cornerstone Center

► Connect with Professionals

If you, or your family, knows someone who works as an engineer, mathematician, scientist, or medical professional -- see if they would be able to mentor you -- or provide advice and exposure to their career path. Perhaps you could join them at work for a day, or ask for guidance in gaining internships, or summer jobs in your field of interest. Whatever field interests you the most, it is a great idea to network with people who are already working in the field to find out what they do, and see if it might be the right field for you!



► Learning Resources at Science Centers and Museums

Many science museums offer lessons, activities, and programs that can help students explore science, technology, engineering, mathematics, computing, and healthcare. The Sloan Career Cornerstone Center offers an online directory of science centers and museums organized by state throughout the United States at www.careercornerstone.org/muscenters.htm, but also check with your local center to see what they have to offer. Many science centers and museums offer virtual experiences through their website, so you can participate interactively and online.

► Lesson Plans and Activities

A great way to introduce students to career options is through lesson plans and online activities that provide hands on, or virtual experiences. Whether a student is home schooled or participating in a classroom setting, these experiences can introduce lifelong skills and spark a career path at an early age. We have brought together a list of many excellent resources for lesson plans and also selected and tested many online activities that focus on STEMM education. Most of the lessons are aligned to educational standards, and we also avoid online experiences with advertising and other distractions. Explore these at www.careercornerstone.org/pcactivities.htm.



► College Fairs

Local and national college fairs provide a good opportunity to compare a wide range of college and university options in one setting. They can be a bit overwhelming, so if you plan to attend a large college fair such as those sponsored by the National Association of College Admission Counselors that are held in large convention centers, download a map of the event ahead of time and plan out a route through the booths that will let you explore the schools you are most interested in. Plan out your questions in advance. For example, if you want to know what type of co-op program the engineering department sponsors, be sure to ask that of each school. You'll also end up with load of brochures and catalogs, so be selective in what you take because you'll end up carrying it throughout the day. Consider pre-printing mailing labels with your name, address, and the year you'll begin college and providing these to the university reps so they can mail you appropriate materials.



Pre-College Career Planning Tips from the Sloan Career Cornerstone Center

► Advice to Precollege Students from those Profiled on the Sloan Career Cornerstone Center

The following excerpts from Cornerstone profiles offer suggestions for K-12 students. More profiles may be found at www.careercornerstone.org/profiles.htm.

► Marshall Capps

Software Systems Engineer
Texas Instruments
DLP® Products
Dallas, TX

Advice to students? "Find something that you can be passionate about, and look at your classes through that lens. Being passionate about an end goal will make learning the basics much easier."



► Angela Benson-Grier

Fisheries Research Biologist
Indiana Department of Natural Resources
Columbia City, IN

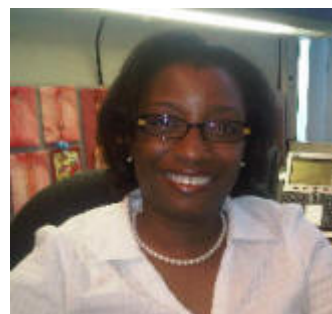
Advice to students? "Throw yourself into whatever it is you have an interest in doing. Put yourself out there, make connections with people, cultivate those connections, and ask a lot of questions. Find what you are truly passionate about because passion will help make you successful in whatever it is you choose to do"



► Tracy Lynn Hamilton

System Quality Assurance Director
Texas Instruments
Education Technology

Advice to students? "Don't be afraid to take the more difficult math and science courses like Calculus and Physics. Challenge yourselves, be confident in your skills, and fly alone if you must. There may not always be someone who looks like you in the class but maybe you'll be a role model for someone else. Find an educator or counselor whom you're comfortable with."



► Kimberly W. Jones

Natural Resources Manager
Town of Bluff

Advice to students? "Internships are valuable and should be sought. Not only will they give you much needed practical experience, but an opportunity to "test" out a career before fully committing to it so that you can tweak your "life plan" if necessary."

