



## September 2021

Seniors – Finalize college list; work on applications & essays; review transcript for accuracy; request recommendation letters from teachers and counselors; meet virtually with college reps

Check Collegeboard.org and ACT.org for the latest information about available test dates and test cancellations

Visit [www.nacacfairs.org/virtual](http://www.nacacfairs.org/virtual) for a listing of upcoming virtual college fairs

Check your school's website for fall college rep visits to your area

## October 2021

10th & 11th grade students - Check with your school for date it expects to administer the PSAT

Attend virtual college fairs and meetings

Meet with college reps utilizing virtual visits

Seniors - Continue work on college applications; complete Early Decision/Early Action applications

Complete CSS Profile if required by colleges

FAFSA available October 1st

## Back to the Classroom

After over a year of on-line learning, most US students will be returning to the classroom this fall. Along with the excitement of seeing friends and resuming activities, many are feeling anxiety about the re-opening and return. What do you need to do to maximize your high school experience?

- Get involved. Join a club or activity that interests you and participate fully. It doesn't matter which one. Just follow your passions in finding a club that suits you or get together with a friend or two and start your own group. Extracurricular activities are what make high school fun and give you a place to belong.
- Challenge yourself. It might be tempting to take the easier route with grade-level classes, but try that AP or honors class and move beyond your comfort zone. Don't fear the teacher whom everyone says is really demanding—the best teachers are those who will encourage you to think outside the box and to stretch your mind.
- Ask for help. There's no glory in doing it all yourself; ask for help when you need it. On-line learning has probably created more learning gaps than usual, and more students will need help. Meet with your English teacher after school for help with an essay or ask your math teacher to explain a difficult concept. In this way you'll establish relationships with your teachers outside of the classroom and perhaps find yourself with a true mentor. Hopefully, you'll really get to know the individual who will write your college recommendation.
- Try not to focus on being with the "popular" kids. High school students tend to form cliques of like-minded individuals. Make your friends based on shared interests and values and welcome opportunities to get to know new friends throughout high school.
- Take care of yourself. That means eating well, getting an adequate amount of sleep and exercise, and finding ways to manage the stress that comes with being a high school student, especially in this time of COVID-19. Learn to manage your time well so you don't get caught with last-minute assignments. Set aside time each day to work on each subject, even getting ahead in reading or other assignments when you can. Make sure you build in time for fun and relaxation. Go for a run, play with your dog, read a novel, chat with a friend—anything to break up long hours of study.
- Do good—volunteer. Helping others will make you feel good about yourself. Look for volunteer activities that you generally care about, not just those you think will look good on your resume.
- Don't sweat the small stuff. You'll encounter a lot of petty ideas and petty people during your high school years, but you don't need to get caught up in focusing on things that really will not matter. Spend your time and effort on those things that are important to you.
- Keep your grades in perspective. Of course you'll want to do the best you can in each of your classes, but don't let one or two B's on your transcript convince you that you'll never get into college. There are wonderful colleges out there for students who've shown a range of achievement; there's a place for every student who truly wants an education.

## Career Paths for Applied Math Majors

- Analyst
- Actuary
- Business analyst
- Computer systems engineer
- Cryptographer
- Data analyst
- Data engineer
- Data scientist
- Engineer
- Finance analyst
- Financial advisor
- Management analyst
- Market research analyst
- Math teacher
- Mathematical modeler
- Meteorologist
- Pricing analyst
- Programmer
- Risk analyst
- Statistician
- Trader

## Majoring in Applied Math

In an annual CareerCast.com survey of the best and worst occupations in the U.S., mathematicians often land in the top few spots. With an average annual income of about \$95,000, enviable working conditions, and considerable autonomy, math majors don't only rank high, but math-related careers occupy over a third of the top twenty careers. If math has been one of your favorite classes in high school and you love to solve problems, especially those with only one "right" answer, you might want to consider a major in math. Don't see yourself as a mathematician? Look instead to a study of applied mathematics.

Applied mathematics is the study of the mathematical methods and modeling that are typically used in professions as varied as science, engineering, business, and industry. In this branch of mathematics, mathematicians work on practical problems rather than developing math theory. Although applied math majors spend much of their time studying pure math, they do so with an eye to using the skills they develop to prepare for a particular career or purpose. As an applied math major, you'll take courses such as calculus, differential equations, linear algebra and discrete mathematics, but you'll combine these studies with your career interests. For example, you might apply mathematical principles to problems studied in physics, computer science, statistics, systems design, engineering, probability theory, or computer programming.

What kinds of career paths are open to students who major in applied mathematics? Although many professions use math in their daily work, there are a host of careers for which a strong background in mathematics is a necessary prerequisite for success. According to the Society For Industrial and Applied Mathematics (SIAM), mathematicians and computational scientists may work in a variety of vastly different career areas. (See side bar.)

A bachelor's degree in applied math will prepare you for jobs in statistics, actuarial sciences, mathematical modeling, cryptography, and math education. You'll apply your knowledge of mathematical principles to solve real-world problems. For example, mathematical modeling is used to make predictions based on statistical evidence. This can be applied in physiology to determine what will occur as blood pressure increases, in medicine to track outbreaks of epidemics, or in engineering to determine how quickly heat can be dissipated. Financial institutions such as banks, investment companies and hedge funds use mathematical modeling to explain and predict the behavior of financial markets.

Actuarial science takes math and statistics and applies these subjects to the finance and insurance industries. Actuaries rank among the top few careers in the U.S. for both job satisfaction and salaries.

Cryptography deals with the practice of hiding information. Once used to aid spies during wartime, cryptographers might now focus on protecting the security of credit cards and ATM machines.

Computer animation and digital imaging combine diverse fields of study such as math, computer science, fine art, traditional animation, physics and biomechanics. This knowledge can be applied to a variety of areas such as medical diagnostics, entertainment, and fine art.

Climatology uses simulations to understand the forces that control our climate. These simulations utilize data from satellites, ocean buoys and other monitoring equipment, and create mathematical models to predict future events.

You'll find more careers for applied math majors at SIAM's website at [www.siam.org](http://www.siam.org).



### Financial Matters: Get Ready to File the FAFSA



The FAFSA (Free Application for Federal Student Aid) is the primary form used by colleges to determine eligibility for need-based aid. A small number of colleges will not even consider an applicant for merit aid unless that student has first submitted a FAFSA. The FAFSA should be filed as soon as possible after October 1st of the student's senior year, and then yearly while attending college. The FAFSA collects basic information about both the student's and

his/her parents' incomes and assets, and uses this information to determine an *expected family contribution* (EFC). The EFC is the amount that the student and family are expected to contribute towards that individual's college expenses during the next academic year. (Please note, the actual cost of attendance for the family may be higher than the EFC.) The difference between the EFC and the *total cost of attendance* at your college of choice is known as *demonstrated need*. Colleges use this information to prepare a customized financial aid package for each admitted student who qualifies for financial aid.

The package may include both grants and loans, as well as self-help such as

work-study opportunities. **Fewer than 75 colleges guarantee to meet 100% of established need, so financial aid may not cover all of your expenses at a particular college.**

Complete the FAFSA online at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). You'll need your prior, prior year tax return and other financial records noted on the site. You'll also want to apply for a Federal Student Aid ID (FSAID) for both the student and a parent so you can sign your form electronically.

Families of underclassmen can get an early estimate of eligibility for aid by completing the FAFSA4caster available at [fafsa.ed.gov](http://fafsa.ed.gov). This tool will also provide information about other sources of financial aid for college.

### Making the Choice to Apply Early Decision/ Early Action

Over 450 colleges offer Early Decision or Early Action application plans. Some offer both. Before deciding whether you should apply Early Decision or Early Action, it's important to understand the differences between applying through either one of these plans and applying in the regular decision round. Here are answers to some of the most common questions families have about Early Decision and Early Action.

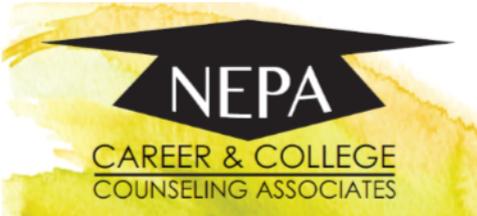
**What is Early Decision (ED)?** Early Decision is a *binding* admission decision plan. In exchange for receiving an earlier admission decision, students applying ED agree that, if they're admitted, they'll attend that college and withdraw all of their other college applications. Typically, Early Decision plans have deadlines in early November. Since ED is a *binding* agreement, students who've carefully and thoroughly researched their college options and decided with certainty that one particular school is their top choice are the best candidates for Early Decision. Some colleges also have a second ED round (ED2) with deadlines falling in early January. For ED1, applicants will

generally receive their decision before Christmas. In the second ED round, students will receive their decision a month to six weeks before regular decision candidates are notified.

**Will applying ED make it easier to get in?** Sometimes. Early Decision isn't a "miracle cure" for students whose grades and test scores are far below the students typically admitted to a college. If you wouldn't be a strong applicant for a particular college during the regular admission round, then it's unlikely that you'll be admitted simply because you apply under ED. However, when a student's grades and test scores put the student within the typical ranges for admitted students at a college, they can often have a better chance of admission during the ED round. Keep In mind, however, that ED acceptance rates vary greatly from college to college, and the early applicant pool is often extremely well qualified. At the most competitive colleges, the acceptance rates for ED applicants are still very low. Therefore, the decision to apply Early Decision shouldn't be made just for a hoped-for admission advantage; apply early decision if you

have decided that the school is your top choice college and you would like to receive your admission decision as soon as possible. While awaiting a decision, you need to keep working intensely on the rest of your Regular Decision applications.

**How will applying Early Decision affect financial aid?** If you're admitted during Early Decision, you'll typically receive the same financial aid package that you would have received if you'd applied in the regular admission cycle. However, one of the main disadvantages of applying Early Decision is that if you're admitted in the ED round, you won't be able to compare financial aid offers from other colleges. You won't, for instance, know whether you might have received a significant merit scholarship or fewer student loans elsewhere. Because you're giving up the right to compare financial aid and scholarship offers from other colleges by applying ED, it's smart for families to use the Net Price Calculators on different college websites to get estimates of how financial aid may vary before making the ED choice. (continued on p.4)



NEPA

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## Making the Choice to Apply ED/EA (continued)

**What happens when I receive my ED admission decision?** When you apply ED, you'll receive one of three decisions: Admit, deny, or deferred. If you're admitted, you must immediately withdraw all applications to other colleges, and send in an enrollment deposit to the ED college. If you're denied, you can't reapply to the college in the regular decision round. If you're deferred, the college will take a second look at your application during the Regular Decision round.

**What is Early Action (EA)?** Like Early Decision, Early Action allows students to apply and receive an admission decision earlier in senior year. EA, however, is not binding. If you're admitted in the EA round, you can still apply to other colleges and will have until May 1 to make your final decision. The most common EA deadlines fall in November and December, although a few schools have slightly later EA deadlines. EA applicants typically receive their admission decision six to eight weeks after the EA deadline.

**Will I have better chances of being admitted if I apply Early Action?** It depends. At some colleges, there's not much difference in the admission rates between students who apply EA and those who apply in the regular decision round. At many EA colleges, however, the percentage admitted in the EA round is higher than in the regular decision

round. If you would be a solid candidate in the regular decision round, and are able to prepare a strong application by the EA deadline, your chances may improve by applying EA. However, students who need more time to bring up their grades or test scores, or to finish their applications, may find that they'll have a better chance of admission by waiting to apply in the regular decision round.

**How does applying Early Action affect financial aid?** Students will typically receive the same need-based financial aid package when they apply Early Action that they would if they applied during the regular admission cycle. And your family will be able to compare financial aid offers from other colleges that admit you, before you make your final decision about where to attend.

**Can a student apply to different colleges using both ED and EA?** You may apply ED to only one college at a time. If you apply to a college in the ED 1 round and are denied or deferred, you may apply in the ED2 round at another college. A student applying ED can usually apply Early Action to other colleges. However, some colleges have Early Action restrictions that prohibit students from applying under Early Decision or Early Action elsewhere. Because each college has its own rules, the best bet is to carefully review each college's instructions before applying.