



## December 2022

Check College Board and ACT websites for available test dates and sites in your area

Underclassmen — Review PSAT report (if available) with advisor and map out a plan for test preparation

Schedule spring SAT/ACT testing dates

Seniors — File any additional college applications before deadline dates

## January 2023

Check College Board and ACT websites for available test dates and sites in your area

Seniors – Search and apply for scholarships that match your qualifications

Seniors – File any additional college applications

## Honors Programs Offer Special Benefits

As seniors review their college lists, they might find themselves caught between their desire for the intimate learning environment of a liberal arts college and the options and experiences available at a large university. One way to have the best of both worlds is through a university honors program. Many public and some private universities offer honors programs that provide great benefits, including preferential class registration, special honors classes, enhanced advising and enrichment programs.

Honors classes attract top professors who enjoy teaching bright, motivated students. In most programs, students are not required to take all honors courses, and often take one or two honors classes each semester along with their other classes. Honors classes are smaller and students can pursue a subject in more depth. Some programs require students to complete a senior project to receive an honors designation on their transcript.

Many schools offer separate honors housing. Having a residential community where students take their studies seriously can be especially important at schools that are known for a party atmosphere. Honors students are generally not required to live in honors housing, but it's nice to have the option.

The University of Arizona and Arizona State University offer honors programs. These are such large universities, each with more than 30,000 students, that an honors program is a great way to create a sense of community and to be assured of having real contact with professors. Arizona State University's Barrett Honors College creates a living-learning community

featuring classrooms, advising center, computer room and residence halls. Honors advisors help students find opportunities for research, internships and study abroad. Students who are interested need to apply both to ASU and the Barrett Honors College.

Some honors programs provide financial incentives. Penn State University's Schreyer Honors College offers a renewable scholarship of \$5,000 to all first-year students, and provides grants to students who study abroad. The school offers more than 300 honors courses each year. Like many honors programs, Schreyers boasts of high placement rates to graduate and professional schools.

While many large public universities have honors programs, some states also offer the option of a separate honors college. St. Mary's College of Maryland may sound like a religious institution, but it is the state's honors college. With about 2,000 students, this liberal arts college offers a private school type of education, with small classes and lots of faculty interaction, at public school prices.

Private schools can also have honors programs. At Boston's Northeastern University, students have access to separate honors sections of courses, as well as interdisciplinary honors seminars. They can live with other freshmen honors students, and enjoy excursions to the theater and symphony.

These are just a few examples of the many honors programs available at colleges and universities across the country. While a few require a separate application, most schools will invite applicants with top grades and test scores to join their honors programs. These programs can offer terrific benefits, but as always, it's important to do your research and make sure the school is a good match.

## Career Paths for

### Biomedical Engineering Majors

- Software and hardware engineering
- Medical device industry
- Innovative design and development
- Research and development
- Manufacturing
- Equipment testing and field servicing
- Clinical patient evaluation
- Technical documentation
- Sales
- Hospital equipment selection and support
- Teaching
- Management
- Undergraduate preparation for medicine, dentistry or law



For more information, check out [www.abet.org](http://www.abet.org) Accreditation Board for Engineering & Technology. Includes information for students about the importance of accreditation, career options, and student perspectives.

## Focus on Majors: Biomedical Engineering

What makes a major “valuable”? Most would agree that competitive average starting pay, median mid-career pay, growth in salary, and wealth of job opportunities all contribute to value. Biomedical Engineering is one of the majors that is considered most worth your tuition, time and effort. But what is Biomedical Engineering?

The terms bioengineering and biomedical engineering are often used interchangeably. Sometimes, however, bioengineering refers to issues involving animal health and/or plants and agriculture, whereas biomedical engineering refers to a focus on human health.

There are four fields within biomedical engineering: clinical engineering, medical devices, medical imaging and tissue engineering. Clinical engineering involves operating and supervising the use of equipment within hospitals and medical facilities. Medical device engineering is concerned with the invention and operation of diagnostic devices; either devices that help cure diseases or devices that help the body operate normally such as pacemakers, diabetic pumps or dental implants. Medical imaging is concerned with the invention and use of equipment that takes images of the body to help diagnose and create treatment options for patients, including X-Ray machines and ultrasound equipment. Tissue engineering focuses on developing and implementing artificial organs. In some cases, this also includes inventing technologies to regrow organs or create entirely new ones. Other specialties within biomedical engineering are biomaterials, biomechanics, rehabilitation engineering, and orthopedic engineering.

Bioengineering programs provide students with the scientific knowledge and engineering tools necessary for graduate study in the engineering or scientific disci-

plines, continued education in health professional schools, or employment in industry. Top notch programs provide students with a rigorous education in engineering and fundamental sciences, offer experience in state-of-the-art research in bioengineering, and teach the problem-solving and team-building skills necessary to succeed in a bioengineering career.

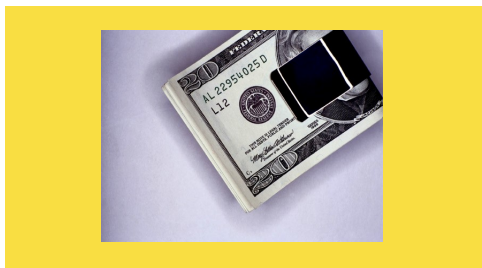
All students begin with foundation courses in biology, physics, chemistry, and math. They then take courses in basic engineering principles, computer science, statistics, and applied math. The last two years of most undergraduate programs include courses in materials, fluid mechanics, signals and systems, biomedical imaging, and ethics, among others. Students often have the opportunity to choose electives tailored to their individual interests.

Graduates with a bachelor's degree in bioengineering often work in collaboration with health care professionals. Effective communication skills, the ability to work in multidisciplinary teams, and an appreciation of the ethical and regulatory constraints governing the development, manufacture, and distribution of health care products, are all required.

Demand for biomedical engineers will be strong because an aging population is likely to need more medical care and because of increased public awareness of biomedical engineering advances and their benefits. The Bureau of Labor Statistics projects a 10% growth of job opportunities within this field, twice that for most engineering positions.

Engineering programs should be ABET accredited, meaning they meet the standards established by the Accreditation Board for Engineering Technology. Look for this accreditation when researching college programs.

### Financial Matters: Write Your Way to a College Scholarship



With one year of college costing over \$60,000 at many schools, even the most affluent families become grateful for any additional scholarship help. Although some essay contest committees consider need in selecting winners, many others look only at the merits of the essay. Writing a really dynamite essay can pay off handsomely, and, unless the topic is unusually specific, essays can often be tweaked to fit the requirements of several contests.

First, accumulate a list of essay contests and make note of the essay(s)

required for each. Group those that address similar topics, and spend your time crafting a really good essay. Your opening sentence needs to grab your reader—paint a scene and place your audience right in the middle. Use specific examples and work on those descriptive phrases. Spend time writing and revising; winning an essay contest can yield more money than a minimum wage job. Here's a list of essay contests to get you started—find more by Googling "scholarship essay contests".

Atlas Shrugged and The Fountainhead Scholarships: [www.aynrand.org](http://www.aynrand.org)

The Jane Austin Society Essay Scholarship: [www.jasna.org](http://www.jasna.org)

The National Peace Essay Contest: [www.usip.org](http://www.usip.org)

The American Mensa Educational & Research Foundation Scholarship [www.mensafoundation.org/what-we-do/scholarships](http://www.mensafoundation.org/what-we-do/scholarships)

Profile in Courage Essay Contest: [www.jfklibrary.org/Education/Profile-in-Courage-Essay-Contest](http://www.jfklibrary.org/Education/Profile-in-Courage-Essay-Contest)

Spirit of Anne Frank Award: [www.annefrank.com/fileadmin/safa/index.html](http://www.annefrank.com/fileadmin/safa/index.html)

American Foreign Service High School Essay Contest: [www.afsa.org/essay-contest](http://www.afsa.org/essay-contest)

Richard Zimmerman Journalism Scholarship: [www.pressclubinstitute.org/national-press-club-scholarship-opportunities/](http://www.pressclubinstitute.org/national-press-club-scholarship-opportunities/)

Scholastic Art & Writing Awards: [www.artandwriting.org](http://www.artandwriting.org)

### Responding to Early Admission Decisions

Cooler weather, holiday gifts and early college decisions generally arrive in December. When you receive a response to your early applications, how and when should you respond?

Seniors who receive an offer in response to their early decision application must promptly respond, accepting a place in the freshman class. Early decision is binding; students are required to accept the offer and to withdraw any other college applications that may be pending. The only way a student can refuse an offer from her early decision college is if the school was unable to provide a financial aid package that makes the institution affordable to her family. If this situation applies to you, you need to contact the college's office of financial aid immediately to discuss any special family needs.

Early action acceptances are not binding. Students who receive such an offer can take a deep breath of relief, but they are not required to respond to the offer until they have made their final choice in the spring. Be sure to make note of the date the response is due; don't lose your place in the class by failing to respond in a timely manner.

Some students will receive an offer from a college with rolling admissions. Generally, students do not have to commit to these colleges until the common reply date of May 1st, but carefully check each college's own deadlines. If the college wants to know sooner, write and tell them of your interest, but explain that your final decision is pending word from other colleges. Sometimes, housing is offered on a space available basis, so you might need to

hold a place in the residence hall.

Early applications may also result in less favorable decisions. Students may be denied a spot or may have their applications reevaluated with those of the regular decision pool. A denial is final—it's ok to feel sad for a day or so, but then it's time to move on to your other colleges and perhaps look again at your final college list to be sure that you've applied to an appropriate range of colleges. Deferrals, however, should be seen as an opportunity to make yourself a stronger applicant in the regular pool. Contact your admission officer and ask what additional information you can provide that might yield a favorable decision. Send mid-year grades, an extra recommendation if suggested, as well as any new information that might make you a stronger candidate.



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## Character Counts

You hear a lot about the importance of grades, AP courses and test scores in the college admission process. But a 4.3 GPA and a nearly perfect SAT score mean nothing if a student is seen as dishonest or unethical. Integrity is one of the less discussed but very important parts of the college admission process.

Admission officers are assembling a freshman class of students who will be studying and living together, and one of the questions they consider as they read applications is "Would I want this person in my community?"

There are many ways to assess the character of a student. Admission officers pay close attention to counselor and teacher recommendations. While they probably won't reject a student for smoking a cigarette on school grounds, disciplinary action for cheating is a major red flag.

There is an epidemic of cheating in high schools. One group of high-scoring students started a moneymaking scheme where they would take the SAT for other students. While college admission officers do like to see students demonstrate an entrepreneurial spirit, this is not the type of entrepreneurship they seek.

Students are under a lot of pressure, and it can be very tough to resist the temptation to cheat. With competition for college

admission at an all-time high, students can fear being at a disadvantage if they don't cheat when their peers do. Even strong students who don't need to cheat might fear being labeled selfish if they don't share the answers to a biology test.

While unethical behavior may bring rewards in the short term, kids who cheat can't feel genuine pride in their accomplishment. Once they start, it's tough to stop cheating, and they may be afraid they can't manage in college without it.

The intense competition for admission also makes it easy for some students and parents to justify exaggerating accomplishments on college applications or having someone other than the student write an application essay. But the University of California and other schools do ask some students to verify what is on the application. Admission officers are very savvy in determining if an essay is truly the applicant's.

Even after being admitted, students can jeopardize their college future. Some families are tempted to "double deposit," sending the enrollment deposit required by May 1 to two schools, so the student can have the summer to decide which one he prefers. But the family may lose much more than a few hundred dollars, since there have been cases where both schools revoked the offer of admission. Character counts!