The biomedical engineering department at Saint Louis University's Parks College of Engineering, Aviation and Technology originated in 1997 and quickly developed into a strong and successful undergraduate program. The biomedical engineering (BME) undergraduate program prepares students for careers ranging from fundamental engineering research to the application of engineering principles to the solution of biomedical design problems.

The BME degree combines Saint Louis University's strengths in medicine and life sciences with engineering. Students learn to apply science and engineering principles to biological and medical sciences. They also discover opportunities for collaborative research in areas such as biomechanics and orthopedics, tissue engineering, kinetics and metabolism, neuroengineering, medical robotics, and medical imaging.

Many laboratory experiences coincide with courses, such as in the basic science and engineering courses. Some lab courses are built around a series of experiences in several different labs throughout campus. This variety gives the student insight and appreciation for the rich diversity of opportunities in biomedical engineering. Each student completes a senior project, a hands-on experience. This year-long project may be explored as an individual, but the projects most often involve groups of students from biomedical engineering, other engineering or computer science departments, biological or medical departments, or engineers from corporations. Well-equipped laboratories emphasize measurement techniques and experimental methods. Each biomedical engineering student's sequence of courses will vary according to credits taken in high school, ability level, individual preference and career goals.

In addition, all students in the biomedical engineering program are exposed to entrepreneurship and the entrepreneurial mindset through the curriculum and extracurricular opportunities.

DEGREE(S)

+ Bachelor of Science (B.S.) in biomedical engineering
+ Minor in biomedical engineering

PROGRAM OVERVIEW

The B.S. degree in biomedical engineering is designed with three tracks to accommodate the different career paths of graduates.

The curriculum leading to the B.S. degree offers considerable flexibility, allowing time for electives within and outside the department. The curriculum is designed for students whose post-undergraduate career plans include graduate school, industry or professional schools (medicine, law or business). The courses and laboratory experiences provide a broad fundamental preparation for any of these career paths. The program is designed with an emphasis on providing a BME focus in all core engineering classes that integrates undergraduate research into the students experience from the very beginning.

The capstone course is designed to fully embed the student in a project that will challenge even the exceptional student to integrate their previous training and to develop their abilities as an engineer.

Because of the flexibility in our degree, our undergraduates participate in a number of academic programs across campus, including the Medical Scholars Program and the University Honors Program. BME majors can also complete certificates, minors or second majors in a variety of disciplines ranging from the liberal arts or science to business or technology. The department also offers a minor for students interested in developing a focused study within the field of BME.

The flexibility available within the major offers students increased opportunity to experience research. More than 25 percent of our undergraduate student population take part in an organized research experience within the department.

ABOUT THE FACULTY

The mission of Saint Louis University’s biomedical engineering department faculty is to prepare students for careers in health care delivery, ranging from fundamental research in science and engineering to the direct application of knowledge to solve problems and improve the quality of life for all people.

CURRICULUM

OFFICE OF ADMISSION, ONE NORTH GRAND BLVD., ST. LOUIS, MO 63103
(800) SLU-FOR-U • (314) 977-2500 • admitme@slu.edu • www.slu.edu • beabilliken.com

Admission.Slu.EDU

Contact

Parks College of Engineering, Aviation and Technology
314-977-8203
parks@slu.edu

Graduate Programs

+ Master of Science (M.S.) in engineering, concentration in biomedical engineering
+ Doctor of Philosophy (Ph.D.) in engineering, concentration in biomedical engineering

Revised March 2016
In addition to the general admission and matriculation requirements of the University, Parks College engineering programs have the following additional requirements:

- **GPA:** Minimum cumulative 3.00 high school GPA for freshmen applicants and 2.70 college GPA for transfer applicants.
- **ACT/SAT:** ACT composite score of 24 or higher, or SAT composite score of 1100 or higher. ACT sub scores minimums of 22 in English, 24 in Mathematics, 22 in Reading Comprehension and 22 in Scientific Reasoning, or SAT Math sub score of 600.
- **Coursework:** Fifteen total units of high school work are required: three or four units of English; four or more units of mathematics including algebra I and II, geometry and precalculus; three or four units of science including general science, introduction to physical science, earth science, biology, physics or chemistry; two or three units of social sciences including history, psychology or sociology; and three units of electives.

**WHY CHOOSE THIS PROGRAM?**

- Biomedical engineering students can choose from a variety of courses to prepare them for their personal career goals, including graduate school, industry or professional schools (medicine, law or business).
- The flexibility of the biomedical engineering degree allows our undergraduates to participate in a number of academic programs offered through SLU, including the Medical Scholars Program, the University Honors program and study abroad at our Madrid campus.
- Over 25 percent of our students participate in an undergraduate research experience within the department.

Benefits of the BME program also include several career and internship opportunities. Summer internships and cooperative education programs are available within regional health care industry and the University hospital. Independent study on a biomedical engineering topic can be arranged under the direction of a faculty member. This opportunity encourages individual effort on theoretical or experimental research. Teaching assistantships are available for advanced undergraduates. These may involve assisting a faculty member in a course or laboratory. In addition to a stipend, assistants gain valuable teaching experience.

As a biomedical engineer, there are a variety of career paths to choose from, including industrial or consulting positions; graduate school; and professional schools such as medicine, veterinary medicine or business administration. Our curriculum allows students to specialize in and explore the biomedical engineering program, while still providing a solid background in biological/physical sciences, mathematics and basic engineering.

**SCHOLARSHIPS AND FINANCIAL AID**

There are two principal ways to help finance a Saint Louis University education:

- **Scholarships:** awarded based on academic achievement, service, leadership and financial need.
- **Financial Aid:** provided in the form of grants and loans, some of which require repayment.

For priority consideration for merit-based scholarships, applicants should apply for admission by Dec. 1 and complete a Free Application for Federal Student Aid (FAFSA) by March 1.

For information on other scholarships and financial aid, visit the student financial services office online at finaid.slu.edu.