

# Bachelor of Science in Applied Science (Mechanical Engineering)

The Bachelor of Science in Applied Science (Mechanical Engineering) program provides substantive and consistent training in mechanical engineering with maximum flexibility. This program is advantageous if a student wishes to pursue a more flexible program than the accredited Bachelor of Science in Mechanical Engineering (BSME) degree program.

Students who do not desire to become licensed engineers but who seek to acquire analytical engineering thinking skills may choose to pursue this program. The added degree flexibility allows these students to pursue additional second majors and/or minors and to increase their ability to participate in programs such as study abroad. It is especially suitable for a double major in combination with mathematics, physics, chemistry, biology, economics or another engineering discipline. The program can be planned to provide a background for graduate work in biological, medical or management fields. The Bachelor of Science in Applied Science is a nonprofessional degree; it is not accredited by the Engineering Accreditation Commission of ABET.

The degree requirements include the residency and general requirements of the university and the school. The Bachelor of Science in Applied Science (Mechanical Engineering) degree requirements are as follows:

- Complete a total of at least 120 applicable units
- Complete a minimum of 60 units at Washington University
- Complete at least 42 units at the 300 level or higher
- Complete at least 48 units in mathematics, natural science and engineering
- Complete at least 30 units of mechanical engineering (MEMS) courses
- Satisfy the McKelvey School of Engineering English composition requirement
- Satisfy the McKelvey School of Engineering humanities and social sciences requirement
- Satisfy the residency requirement of 30 units of 200-level or higher engineering courses
- Earn at least a 2.0 cumulative grade-point average in all applicable courses taken at Washington University
- Earn at least a 2.0 cumulative GPA in all engineering courses

## Pre-Medical Option

Research and practice in the biological and medical sciences increasingly involves advanced technology, including mechanical engineering. For those interested in a career in medicine, the pre-medical option in MEMS makes it possible to obtain an accredited

Bachelor of Science while simultaneously meeting the admission requirements of most medical and dental schools. The program also provides a foundation for graduate study and research in biomedical engineering. The essential requirements of the pre-medical option are two semesters of general biology (Biol 2960, Biol 2970); two semesters of general chemistry with a laboratory; two semesters of organic chemistry with a laboratory (Chem 111A, Chem 151, Chem 112A, Chem 152, Chem 261, Chem 262); and one semester of biochemistry (Biol 451). Psychology (Psych 100B) and sociology are highly recommended. One semester of organic chemistry may be counted as an upper-level MEMS elective; the student must take 6 units of other upper-level mechanical engineering electives to complete the 9-unit requirement. The pre-medical option is easier for those who have a high school background in biology or who, by reason of advanced placement in math/science, have reduced requirements in the Common Studies portion of the curriculum. For additional information about the pre-medical option, please refer to the Pre-Medical Education section of this *Bulletin*, which is located in the introduction to the McKelvey School of Engineering's Undergraduate Programs. Interested individuals may also contact the pre-health advisor, Jessica Allen, at [jessicaa@wustl.edu](mailto:jessicaa@wustl.edu) for additional information.