

ESTABLISHMENT OF A NEW PROGRAM FOR THE BACHELOR OF SCIENCE IN GENERAL ENGINEERING

Recommendation

It is recommended that the Board of Governors establish a new degree program, the Bachelor of Science in General Engineering in the College of Engineering, effective Fall term, 2023.

Background

The College of Engineering is proposing the creation of a new degree program in General Engineering to meet a growing demand both domestically and internationally to produce graduates with skills in problem-solving and project management, as well as a strong grasp of physics, design systems, and math. General engineering programs are in demand as they provide a strong foundation in various engineering disciplines and prepare graduates to work on a wide range of projects and in various industries. The Bureau of Labor Statistics (BLS) projects that the employment of engineers will grow by 4% from 2020 to 2030. According to engineering data published yearly by the American Society of Engineering Education (ASEE), in 2020, 27,000 students were studying General Engineering across the United States. There are currently over 80 programs in the US with titles BS General Engineering or just BS Engineering according to ABET.

Program Description

The BS in General Engineering program is an interdisciplinary, broadly focused major studying concepts related to several engineering disciplines. Such a degree program does not fit with any of the traditional engineering disciplines but will draw from them. This degree targets students who have already garnered basic knowledge in the field of engineering from a bachelor's or associate's degree and have also spent time in a professional environment.

Admission Requirements

Admission to the undergraduate programs in the College of Engineering is dependent upon high school grade point average (GPA) and ACT or SAT scores for those students entering directly from high school and upon grade point average and level of curriculum completion for transfer students from community colleges or other universities. For admission to the Bachelor of Science program in General Engineering, students must satisfy the admission criteria of the Division of Engineering, College of Engineering. Admission to all these programs is contingent upon satisfaction with the general undergraduate admission requirements of the University. For the student who has attended another institution and been admitted to the College of Engineering, the amount of advanced standing will be determined by the College and will depend upon the quantity and quality of the degree work completed before enrollment in this institution. The General Engineering program will cater to transfer students, especially from international universities in a 3+1 arrangement. *It is anticipated that this program will be instrumental in recruiting a significant number of international students to Wayne State University.* Whether all or only in part, such transferred credit may be applied toward a degree at Wayne State depending on the requirements of the curriculum chosen.

Curriculum Requirements

The first two years of the BS in General Engineering will follow the general education, basic engineering, mathematics, and science curriculum of the College of engineering. Students can choose a minor in the 3rd year of the program from

- Various engineering programs
- Computer Science
- Business/Management
- Law
- Entrepreneurship

Students can select an area of concentration together with industry internships in the 4th year of the program in areas such as Data Analytics, Systems Engineering, AI, Mechatronics, etc.

Graduation Requirements

120-123 credits total credits are required for graduation in this program depending on the selection of directed electives.

Program Administration

The program will be managed by a Director within the Dean's office with the Associate Dean for Academic Affairs providing oversight. A faculty director and an academic advisor will be appointed for the day-to-day management of the BSGE degree program. Additionally, one non-tenure track teaching faculty will be hired to teach courses in Entrepreneurship and Capstone projects.

Budget and Resource Requirements

The required budget will grow commensurate with enrollment and will be allocated through the normal University budgetary procedures.

Accreditation

Accreditation is neither required nor anticipated for this program.

Approvals

This recommendation was approved by the Academic Operations Committee in the College of Engineering, the Dean of the College of Engineering, and the Provost.