

ESTABLISHMENT OF A NEW PROGRAM FOR THE MASTER OF SCIENCE IN ROBOTICS

Recommendation

It is recommended that the Board of Governors establish a new degree program, the Master of Science in Robotics, in the College of Engineering effective Fall 2020.

Background

This is a proposal for a new interdisciplinary master's degree program in Robotics with three majors to be housed in the College of Engineering. The goal is to build a highly-visible and coherent program serving the interests of students, industry, and faculty in robotics foundations and applications. Students will elect one of the three majors, administered by an existing department in the College of Engineering.

Program Description

The interdisciplinary MS in Robotics is organized into three majors.

- Industrial Automation, administered by the Division of Engineering Technology
- Intelligent Control, administered by the Department of Electrical and Computer Engineering
- Smart Mobility, administered by the Department of Computer Science

All three majors have a common ten-credit core requirement. In addition, each has its own additional requirements. The rest of the elective credits are offered by each department.

Admissions Requirements

Applicants must meet requirements for admission to the Graduate School. Students must have a Bachelor's Degree or the equivalent in Engineering from an accredited college or university. Students from all science, technology, engineering and math (STEM) disciplines will be considered for admission. Professional experience will be considered in admission. Each major is administered by a department in the College of Engineering. Students applying for the MS in Robotics must meet the application requirements for the department administering the major to which they are applying.

Curriculum Requirements

The minimum requirements for the master's degree are thirty credits under one of two degree plans approved by the College of Engineering:

Plan A: consists of a minimum of twenty-four credit hours of coursework in combination with a minimum of six credits of thesis.

Plan C: consists of a minimum of thirty credits of coursework.

Students will be required to take ten credits in common core courses. Each track has additional required course(s). The rest of the elective credits is offered by each department.

Graduation Requirements

All coursework must be completed in accordance with the Graduate School and the regulations governing graduate scholarship and degrees.

Program Administration

The overall program will be administered at the College of Engineering by a committee of four co-directors, one leading each major and one representing the College of Engineering. A special Advisory Committee will be drawn from various robotics related industries. This committee will meet regularly with co-directors in order to perform a review/advice of the program.

Budget and Resource Requirements

This program is based upon the existing courses offered in the three departments: Engineering Technology, Electrical and Computer Engineering and Computer Science. As such, support for the faculty and facilities of the new (proposed) MS in Robotics is already in place. No additional expenses are expected.

Approvals

The proposal was approved by the faculty of the Division of Engineering Technology, Electrical and Computer Engineering Department, Computer Science Department, the Academic Operations Committee of the College of Engineering, the Dean of the College of Engineering, Graduate Council, the Dean of the Graduate School, and the Provost.