

**Resolution 2020-2021B**  
**Revolution to Approve New Major, Robotics and Mechatronics, in Bachelor of Science**  
**in Mechanical Engineering**

Recommended by the Commission on Undergraduate Studies and Policies

First Reading:

September 14, 2020

Faculty Senate:

Staff Senate:

Graduate Student Assembly:

Student Government Association:

Second Reading:

September 28, 2020

Approved by University Council:

Approved by the President:

First Effective Date to Declare Major: Fall 2020

First Effective Date to Graduate: Winter 2022

**WHEREAS**, the Major in Robotics and Mechatronics will advance knowledge and education to make the next generation of sophisticated robots and intelligent machines that will assist humans in different aspects of their lives; such as 1) dangerous situations, industrial accidents, homeland security events, or natural disasters, 2) labor-intensive tasks, and 3) industry, farms, homes, hospitals, or offices; and

**WHEREAS**, Robotics and Mechatronics represents a unique academic and interdisciplinary field that will educate the next generation of engineering students with a hands-on as well as theoretical career on emerging topics of robotics, mechatronics, control and intelligent systems, artificial intelligence, dynamical systems, manufacturing, and computer programming; and

**WHEREAS**, the Department of Mechanical Engineering supports the mission of continued emphasis on robotics and mechatronics by educating the next generation of robotics engineers; and

**WHEREAS**, the new curriculum will allow students to fundamentally understand the principle of robotics, mechatronics, and control and intelligent systems, and apply them to the next generation of complex real-world systems in a wide range of applications including, but not limited to, industrial automation, autonomous vehicles, aerial and ground vehicles, manufacturing, healthcare, prosthesis and orthotics, and disaster response; and

**WHEREAS**, the Major in Robotics and Mechatronics is designed for students who wish to pursue a career in industrial robots, rescue robots, biomedical robots, mechatronics, industrial automation, autonomous cars, and unmanned vehicles; and

**WHEREAS**, students in the Major in Robotics and Mechatronics will gain a comprehensive and interdisciplinary education of complex dynamical systems, robotic systems, mechatronics and hardware, engineered control systems, and computer programming.

**THEREFORE, LET IT BE RESOLVED** that the Major in Robotics and Mechatronics be approved for the addition to the Bachelor of Science in Mechanical Engineering effective Fall 2020 and the proposal forwarded through University governance and to the President for the approval.