

# Minnesota State College Southeast

## MECH 1800: Mechatronics Capstone

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 1

Lab Hours/Week: 4

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Students will devise capstone projects integrating their coursework in electronics, programming, automation, robotics, and system integration. Projects will be vetted through their academic advisor and will be presented to the class at the end of the semester. The course will require specification of design requirements, outline integration of technical solutions, and map how the project relates to both industry and their program curriculum. (3 credits: 1 lecture, 2 lab)

**B. COURSE EFFECTIVE DATES:** 05/12/2020 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Industrial problem identification
2. Robotics requirements generation
3. Integration of hardware, software, and electrical systems
4. Demonstration of solution solving a define problem

### D. LEARNING OUTCOMES (General)

1. Use of software programming to control an electromechanical system
2. Integration of hardware and software platforms
3. Cost estimating for project development and deployment
4. Public discussion of technical facets of program
5. Generation of mechatronics project requirements

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted