Course Number and Title	MX 298: Mechatronics System Design - Capstone

Credit Hours	2

Course Description	This design project is a capstone for the Mechatronics Program. Projects are assigned based on interest, equipment and software availability, and the specific background of the student. Projects require planning, proposal presentation, scheduling, engineering, implementation, and written and oral presentations of project results. Students are encouraged to "design and build" and utilize concepts learned from courses throughout the program.

Prerequisite(s) and/or Corequisite(s)	

Required Textbooks/References/Course Materials:
None.

	General Education Outcomes
1	Utilize written and verbal language to discuss and comprehend information, incorporating a variety of technologies, such as text, data, and images (written language, verbal language, and information technology).
2	Identify and interpret relevant information in order to formulate an opinion or conclusion (critical thinking).
3	Demonstrate and communicate computational methods and mathematical reasoning in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate) (quantitative literacy and fluency).
4	Communicate in appropriate ways with those who are culturally diverse (intercultural competence).

	Program/Department Outcomes
1	Prepare students to become safe and competent electrical technicians
2	Provide opportunities to display critical thinking skills
3	Demonstrate responsible professional conduct and behavior.
4	Effectively communicate.
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	Course Outcomes (CO)	Bloom's Domain for CO (C, A, P), Category, and Level	Program/ Department Outcome(s)	Written Language	Verbal Language	Information Technology	Critical Thinking	Quantitative Literacy and Fluency	Intercultural Competence
1	Demonstrate the ability to read and understand technical instructions to design and construct a device to perform a specific function.	C-Applying (3)	1, 2, 4	1	1	1	1	1	0
2	Demonstrate ability to communicate technical information in both oral and written forms by generating drawings, written sequence of operation narrative, and oral demonstration of the project.	C-Applying (3)	4	2	1	1	1	1	0
3	Demonstrate concepts and principles learned applicable to the project assigned/approved.	C-Creating (6)	1	2	1	1	1	1	0
4	Demonstrate the ability to get along with others in a workplace like environment.	A-Valuing (3)	3	1	1	1	1	1	0
5	When applicable, prepare to take industry-based certification exams.	C-Applying (3)	1	1	1	1	1	1	0
6									
7									
8									
9									
10									

Bloom's Domain Legend
C = Cognitive
A = Affective
P = Psychomotor

General Education Outcome Legend
2 = Included and Measurable
1 = Introduced and/or Minimally Addressed and Not Measurable
0 = Not included

Approved: May 2021
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