STATE UNIVERSITY OF NEW YORK
COLLEGE OF TECHNOLOGY
CANTON, NEW YORK

MASTER SYLLABUS

COURSE NUMBER – COURSE NAME
MKTX 478 – Mechatronics Capstone II
CIP Code: 15.0407

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Updated by: Dr. Lucas Craig

Canino School of Engineering Technology

Department: Mechatronics Technology

Semester/Year: Spring 2025

A. **TITLE**: Mechatronics Capstone II

B. **COURSE NUMBER:** MKTX 478

C. **CREDIT HOURS: (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity)**

 # Credit Hours: 3
 # Lecture Hours: per week
 # Lab Hours: per week
Other: 3 hours recitation **per week**

Course Length: 15 **Weeks**

D. **WRITING INTENSIVE COURSE**: Yes ☒ No ☐

E. **GER CATEGORY: None:** ☒ **Yes:** GER
***If course satisfies more than one*:** GER

F. **SEMESTER(S) OFFERED: Fall** ☐ **Spring** ☒ **Fall & Spring** ☐

G. **COURSE DESCRIPTION:**

This is the second of a two-course sequence for Mechatronics Capstone project where students demonstrate the proposed problem resolution.

H. **PRE-REQUISITES: None** ☐ **Yes** ☒ **If yes, list below:**

MKTX 477 Mechatronics Capstone I

CO-REQUISITES: None ☒ **Yes** ☐ **If yes, list below:**

I. STUDENT LEARNING OUTCOMES: (*see key below*)

By the end of this course, the student will be able to:

Course Student Learning Outcome [SLO]	***Program Student Learning Outcome [PSLO]***	***GER*** *[If Applicable]*	***ISLO & SUBSETS***	
Function on a multidisciplinary team	d, f		1-Comm Skills 5-Ind, Prof, Disc, Know Skills 4-Soc Respons	O T Subsets Subsets
Design, develop, process, manage, and document the phases of a project	b, c, g		1-Comm Skills 2-Crit Think 3-Found Skills	W CA IM IA
Conduct research on topics that are not known to the student	k, h		2-Crit Think 3-Found Skills ISLO	CA IA PS IM
Solve complex problems in a clear and systematic way	a, e		2-Crit Think 1-Comm Skills ISLO	W CA IA PS
Apply essential techniques, skills, and modern engineering tools	a		5-Ind, Prof, Disc, Know Skills 2-Crit Think ISLO	CA IA PS Subsets
Conduct Experiments and collect/analyze/interpret data	b		5-Ind, Prof, Disc, Know Skills 2-Crit Think 3-Found Skills	CA IA PS IM
Write technical reports and present them	g		5-Ind, Prof, Disc, Know Skills 1-Comm Skills ISLO	W Subsets Subsets Subsets

KEY	**Institutional Student Learning Outcomes [ISLO 1 – 5]**
ISLO #	**ISLO & Subsets**
1	**Communication Skills** Oral [O], Written [W]
2	**Critical Thinking** *Critical Analysis [CA] , Inquiry & Analysis [IA] , Problem Solving [PS]*
3	**Foundational Skills** *Information Management [IM], Quantitative Lit,/Reasoning [QTR]*
4	**Social Responsibility** *Ethical Reasoning [ER], Global Learning [GL], Intercultural Knowledge [IK], Teamwork [T]*
5	**Industry, Professional, Discipline Specific Knowledge and Skills**

J. APPLIED LEARNING COMPONENT: Yes ☒ No ☐

If YES, select one or more of the following categories:

☐ Classroom/Lab	☐ Civic Engagement
☐ Internship	☒ Creative Works/Senior Project
☐ Clinical Placement	☒ Research
☐ Practicum	☐ Entrepreneurship (program, class, project)
☐ Service Learning	
☐ Community Service	

K. TEXTS:

N/A

L. REFERENCES:

N/A

M. EQUIPMENT: None ☒ Needed:

N. GRADING METHOD: A-F

O. SUGGESTED MEASUREMENT CRITERIA/METHODS:

- **Project progress reports**
- **Project final reports**
- **Present prototype performance if applicable.**
- **Final team presentation**

P. DETAILED COURSE OUTLINE:

Topic

I. Use the information (Capstone I) collectively to finalize a project
II. Make the final result in a form of a presentation (prototype if applicable)
III. Function on multidisciplinary teams
IV. Understand professional and ethical responsibility
V. Communicate effectively
VI. Final project demonstration and presentation
VII. Final written report and documentation

Q. LABORATORY OUTLINE: None ☒ Yes ☐