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

MASTER SYLLABUS

COURSE NUMBER – COURSE NAME
MKTX 477 – Mechatronics Capstone I

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Canino School of Engineering Technology

Department: Mechatronics Engineering Technology

Semester/Year: Fall/2018

A. **TITLE**: Mechatronics Capstone I

B. **COURSE NUMBER:** MKTX 477

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

 # Credit Hours: 2
 # Lecture Hours: 1 **per week**
 # Lab Hours: **per week**
Other: 2 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 first of a two course sequence for Mechatronics Capstone Project where students address open-ended problems.

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

Senior standing in Mechatronics Engineering Technology program or permission of instructor.

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 IA IM
Perform basic research	k, h		2-Crit Think 3-Found Skills ISLO	CA IA PS IM
Solve complex problems in a clear and systematic way	a, e		1-Comm Skills 2-Crit Think 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		2-Crit Think 5-Ind, Prof, Disc, Know Skills 3-Found Skills	CA IA IM PS
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
- ☐ Internship
- ☐ Clinical Placement
- ☐ Practicum
- ☐ Service Learning
- ☐ Community Service
- ☐ Civic Engagement
- ☒ Creative Works/Senior Project
- ☒ Research
- ☐ Entrepreneurship (program, class, project)

K. TEXTS:

N/A

L. REFERENCES:

N/A

M. EQUIPMENT: None ☒ Needed:

N. GRADING METHOD: A-F

O. SUGGESTED MEASUREMENT CRITERIA/METHODS:

- **Project team reports: (Project proposal; progress reports)**
- **Proposal presentation**

P. DETAILED COURSE OUTLINE:

I. Problem Investigation
II. Preliminary Literature Review
III. Preliminary Proposal
IV. Preliminary Proposal Presentation
V. Full Literature Review
VI. First Proposal with Budget and Timeline
VII. Proposal Revision.
VIII. Proposal Presentation

Q. LABORATORY OUTLINE: None ☒ Yes ☐