

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



MASTER SYLLABUS

**COURSE NUMBER – COURSE NAME
MECH 377 – CAPSTONE RESEARCH AND PROPOSAL**

Created by: Dr. Lucas Craig

Updated by:

Canino School of Engineering Technology !

Department: MET !

Semester/Year: Spring 2019 !

- A. **TITLE:** Capstone Research and Proposal
- B. **COURSE NUMBER:** MECH 377
- C. **CREDIT HOURS:** (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity)

Credit Hours: 1
Lecture Hours: 1 per week
Lab Hours: per week
 Other: 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 course is part I of a senior design course. Its purpose is to allow the student to research and propose a project. The project will be constructed and tested in MECH477. Examples include, but are not limited to, new product development or improvements to an existing product. Course faculty must approve all projects.

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

Completion of 90 credit hours 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:

<u>Course Student Learning Outcome</u> <u>[SLO]</u>	<u>Program Student Learning Outcome</u> <u>[PSLO]</u>	<u>GER</u> <i>[If Applicable]</i>	<u>ISLO & SUBSETS</u>	
Perform basic research			3-Found Skills 3-Found Skills ISLO	IM QTR Subsets Subsets
Propose a standard project			2-Crit Think 4-Soc Respons ISLO	PS T Subsets Subsets
Prepare a proposal report			1-Comm Skills ISLO ISLO	W Subsets Subsets Subsets
Demonstrate classroom presentation skills			1-Comm Skills ISLO ISLO	O Subsets Subsets Subsets
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KEY	<u>Institutional Student Learning Outcomes [ISLO 1 – 5]</u>
ISLO #	ISLO & Subsets
1	Communication Skills Oral [O], Written [W]
2	Critical Thinking <i>Critical Analysis [CA] , Inquiry & Analysis [IA] , Problem Solving [PS]</i>
3	Foundational Skills <i>Information Management [IM], Quantitative Lit./Reasoning [QTR]</i>
4	Social Responsibility <i>Ethical Reasoning [ER], Global Learning [GL], Intercultural Knowledge [IK], Teamwork [T]</i>
5	Industry, Professional, Discipline Specific Knowledge and Skills

*Include program objectives if applicable. Please consult with Program Coordinator !

J. **APPLIED LEARNING COMPONENT:** Yes No

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

- | | |
|---|---|
| <input type="checkbox"/> Classroom/Lab | <input type="checkbox"/> Civic Engagement |
| <input type="checkbox"/> Internship | <input checked="" type="checkbox"/> Creative Works/Senior Project |
| <input type="checkbox"/> Clinical Placement | <input checked="" type="checkbox"/> Research |
| <input type="checkbox"/> Practicum | <input type="checkbox"/> Entrepreneurship |
| <input type="checkbox"/> Service Learning | (program, class, project) |
| <input type="checkbox"/> Community Service | |

K. **TEXTS:**

N/A

L. **REFERENCES:**

Hoffman, Harvey. The Engineering Capstone Course: Fundamentals for Students and Instructors. New York: Springer, 2014

M. **EQUIPMENT:** None Needed:

N. **GRADING METHOD:** A-F

O. **SUGGESTED MEASUREMENT CRITERIA/METHODS:**

Final Project Report:	50%
Final Project Presentation (Oral)	50%

P. **DETAILED COURSE OUTLINE:**

1. Project proposal

A. Team project

B. Must meet a standard established by faculty

C. Must be submitted within the first two weeks of classes

D. One week extra time given to rejected proposal for resubmission

* Project proposal must meet the standard which provides the student an experience of defining a problem, analyzing the problem, designing solution for the problem, and implementing the solution for the problem within the scope of Engineering Technology. The students should use the learned skills from the first seven semesters in the program, and apply them to the proposed project comprehensively.

Q. **LABORATORY OUTLINE:** None Yes