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

MASTER SYLLABUS

MECH 377 – Capstone Research and Proposal

CIP Code: 15.0899
For assistance determining CIP Code, please refer to this webpage
or reach out to Sarah Todd at todds@canton.edu

Created by: Dr. Lucas Craig
Updated by: Dr. Lucas Craig
A. TITLE: Capstone Research and Proposal

B. COURSE NUMBER: MECH 377

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

# Credit Hours: 2
# Lecture Hours ___ per Week
# Lab Hours _4__ Week
Other ___ per Week

Course Length (# of Weeks): 15 weeks

D. WRITING INTENSIVE COURSE: N/A

E. GER CATEGORY: N/A
Does course satisfy more than one GER category? If so, which one?

F. SEMESTER(S) OFFERED: Fall

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: Completion of 90 credit hours or permission of instructor
CO-REQUISITES:

I. STUDENT LEARNING OUTCOMES:

<table>
<thead>
<tr>
<th>Course Student Learning Outcome [SLO]</th>
<th>PSLO</th>
<th>GER</th>
<th>ISLO</th>
</tr>
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<tbody>
<tr>
<td>a. Perform basic research</td>
<td>3</td>
<td></td>
<td>3 – Foundation Skills, IM, QTR</td>
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b. Propose a standard project | 2,3 | 2 – Critical Thinking (PS), 4 – Soc. Response (T)
c. Prepare a proposal report | 3 | 1. Communication (W)
d. Demonstrate classroom presentation skills | 3 | 1. Communication (O)

<table>
<thead>
<tr>
<th>KEY</th>
<th>Institutional Student Learning Outcomes</th>
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<tbody>
<tr>
<td>ISLO #</td>
<td>ISLO &amp; Subsets</td>
</tr>
<tr>
<td>1</td>
<td>Communication Skills Oral [O], Written [W]</td>
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<tr>
<td>2</td>
<td>Critical Thinking Critical Analysis [CA], Inquiry &amp; Analysis [IA], Problem Solving [PS]</td>
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<tr>
<td>3</td>
<td>Foundational Skills Information Management [IM], Quantitative Lit./Reasoning [QTR]</td>
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<td>4</td>
<td>Social Responsibility Ethical Reasoning [ER], Global Learning [GL], Intercultural Knowledge [IK], Teamwork [T]</td>
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<tr>
<td>5</td>
<td>Industry, Professional, Discipline Specific Knowledge and Skills</td>
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J. APPLIED LEARNING COMPONENT: Yes___x___  No_______

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

Classroom/Lab_x___  Civic Engagement___
Internship___  Creative Works/Senior Project___
Clinical Practicum___  Research___
Practicum___
Service Learning___
Community Service___

Entrepreneurship___
   (program, class, project)
K. TEXTS: N/A

L. REFERENCES:

M. EQUIPMENT: N/A

N. GRADING METHOD: A-F

O. SUGGESTED MEASUREMENT CRITERIA/METHODS:
Final report
Final presentation

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: N/A