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

MASTER SYLLABUS

ELEC 477 – Capstone Project

Prepared By: Stephen E. Frempong

SCHOOL OF ENGINEERING TECHNOLOGY
ELECTRICAL ENGINEERING TECHNOLOGY & ENGINEERING SCIENCE
DEPARTMENT
FALL 2018

A. ! <u>TITLE</u> : Capstone Project

B. <u>COURSE NUMBER</u>: ELEC 477

C. <u>CREDIT HOURS</u>: (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity)

   # Credit Hours: 3
   # Lecture Hours:
   # Lab / Activity Hours: One three hour block per week
    Other: per week

   Course Length: 15 Weeks

D. ! <u>WRITING INTENSIVE COURSE</u>: YES

E. ! <u>GER CATEGORY</u> : NONE

F. ! <u>SEMESTER OFFERED</u>: SPRING

G. ! <u>COURSE DESCRIPTION</u>: A learning experience by allowing students to propose, design and implement a project. This could be a study of a problem and solution of specific equipment, new product design, improvement of an existing product (re-engineering). All projects must be approved by course faculty or capstone committee. As part of this course, all students must take the exit examination before graduation.

H. ! <u>PRE-REQUISITES</u>: Completion of seven semester coursework or permission of program director.

I. !   <u>STUDENT LEARNING OUTCOMES</u>

   Institutional Student Learning Outcome (ISLO's)
    (1) Communication Skills   (2) Critical Thinking (3) Foundational Skills
    (4) Social Responsibility (5) Industry, Professional, Discipline-Specific Knowledge and Skills.

Accreditation Board for Engineering and Technology ABET- Student Outcomes (a-k) !

Course Objectives	ABET-Student Outcomes (a-k)	Institutional (SLO's)
1. Submit project proposal, perform research and design including calculations and provide weekly updates.	**(b) An ability to select and apply a knowledge of** mathematics, science, engineering, and technology to engineering technology	(2) Critical Thinking (4) Social Responsibility

	problems that require the application of principles and applied procedures or methodologies. (h) An understanding of the need for and an ability to engage in self-directed continuing professional development.	(5) Industry, Professional, Discipline-Specific Knowledge and Skills.
2. Construct project and perform all necessary test and measurements.	(d) An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives. (e) An ability to function effectively as a member or leader on a technical team.	(2) Critical Thinking (4) Social Responsibility (5) Industry, Professional, Discipline-Specific Knowledge and Skills.
3. Submit ten pages paper about the project and perform Oral Presentation.	(g) An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.	1. Communication Skills (4) Social Responsibility (5) Industry, Professional, Discipline-Specific Knowledge and Skills.

J.   APPLIED LEARNING COMPONENT: CAPSTONE PROJECT

K.   TEXTS: N/A

L. REFERENCES: NONE

M. <u>EQUIPMENT</u>: EET laboratory is used. Students are responsible for materials or components that may be needed to complete an approved project.

N. <u>GRADING METHOD</u>: A-F

O. <u>SUGGESTED MEASUREMENT CRITERIA/METHOD</u>S: Project proposal, Project construction quality, Final report, and Presentation/communications skills.

P. <u>DETAILED COURSE OUTLINE</u>:

1. Project Proposal
   a. Team or individual
   b. Must be approved by faculty review committee
   c. Must be submitted within the first two weeks of classes
   d. Two weeks extra time given to rejected proposal for resubmission
2. Project research and design
3. Project weekly update
   a. Individual or team project updates every month
4. Project Report
   a. Must follow standard as outlined in course syllabus
   b. Must include design, data, and diagrams
   c. Solution of the problem
5. Presentation
   a. Individual/group project PowerPoint presentation
   b. Public speaking/dress code
   c. Project demonstration
   d. Q&A from students, faculty and staff

Q. <u>LABORATORY OUTLINE</u>: PROJECT