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

MASTER SYLLABUS

COURSE NUMBER – COURSE NAME
MSPT 122 - Powersports Electrical Systems Laboratory

Created by: Christopher Mayville

Updated by:

Canino School of Engineering Technology !

Department: Mechanical & Energy Technologies !

Semester/Year: Fall 2018 !

A. **TITLE**: Powersports Electrical Systems Lab

B. **COURSE NUMBER:** MSPT 122

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

 # Credit Hours: 1
 # Lecture Hours: **per week**
 # Lab Hours: 3 **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:**

The laboratory component of this course consists of hands-on activities involving theories learned in the classroom. Students use service information, both hard-copy and electronic. Testing involves batteries; series, parallel, and series-parallel circuits, as well as charging and starting systems component identification and service.

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

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

MSPT 112-Powersports Electrical Systems, or with permission of instructor

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***	
Demonstrate knowledge basic electrical and electronic theories	MSPT SO 2 MSPT SO 4		ISLO ISLO ISLO	Subsets Subsets Subsets Subsets
Interpret DVOM readings to diagnose electrical circuits	MSPT SO 1 MSPT SO 2 MSPT SO 4		ISLO ISLO ISLO	Subsets Subsets Subsets Subsets
Read and interpret electrical schematic charts	MSPT SO 4		ISLO ISLO ISLO	Subsets Subsets Subsets Subsets
Diagnose & service the charging, starting, and accessory systems	MSPT SO 1		ISLO ISLO ISLO	Subsets Subsets Subsets Subsets
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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**

*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:

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

K. TEXTS:

Instructor developed worksheets

L. REFERENCES:

Shop manuals of manufacturers

M. EQUIPMENT: None ☐ **Needed:** Snap-On 504 DVOM

N. GRADING METHOD: A-F

O. SUGGESTED MEASUREMENT CRITERIA/METHODS:

Lab activities, lab participation

P. DETAILED COURSE OUTLINE:

1. Introduction
- **a. Tools**
- **b. Safety**
- **c. Filing out a repair order**

2. Snap-On 504 Meter Training and Certification

3. Basics of Circuit Construction
- **a. Protection Devices**
- **b. Construction of Circuits on Training Boards**
  - **1. Series**
  - **2. Parallel**
  - **3. Series Parallel**

4. On-machine Service
- **a. Checking Fuses**
- **b. Jump Starting**
- **c. Charging a Battery**
- **d. Checking Continuity**
- **e. Checking Voltage Drops**
- **f. Checking for Parasitic Draw**
- **g. Checking Solenoids**

h. Battery Testing
i. Starter Testing
j. Charging System Testing
k. Accessories Testing (if time permits)

Q. <u>LABORATORY OUTLINE</u>: None ☒ Yes ☐