

# Powersports Performance and Repair Canino School of Engineering Technology 2018 Assessment Report

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## Mission

The Canino School of Engineering Technology (CSOET) at SUNY Canton is committed to providing an educational experience that prepares students for a career in a technologically oriented society. The curricula are focused on providing career skills reviewed by industry partners and accreditation agencies. Our programs provide opportunities for every student to find a suitable starting point for their academic endeavor. Graduates have the ability to work in teams, think critically, utilize the tools of their trade or industry, and communicate effectively.



# What was assessed? Student learning outcomes list:

- *PSLO 1 – Diagnose and Repair*
  - *Test the ability to diagnose and repair electronic management problems related to Powersports vehicles*
- *PSLO 2 – Mathematical and Analytical Thinking Skills*
  - *Develop mathematical and analytical thinking skills necessary to perform both electrical and engine measurement calculations*



# What was assessed? Student learning outcomes list:

- *PSLO 3- Communication Skills*
  - *Demonstrates the ability to effectively present, organize, and articulate thoughts, ideas, viewpoints, and conclusions both orally and/or in writing.*
- *PSLO 4 - Technical Skills*
  - *Create opportunity to master techniques, skills, and modern tools used in the Powersports industry.*



# Where were outcomes assessed?

- *PSLO 1 – Diagnose and Repair*

*MSPT 110 Engine and Power Transmission Svc*

*Outcomes: MSPT 110.6*

*MSPT 112 Powersports Electrical Systems*

*Outcomes: MSPT 112.3 and 112.4*

*MSPT 113 Powersports Engine Diagnostics*

*Outcomes: MSPT 113.1, 113.2, and 113.5*

*MSPT 114 Powersports Engine Diagnostics Laboratory*

*Outcomes: MSOT 114.2, and 114.6*

*MSPT 122 Powersports Electrical Systems Laboratory*

*Outcomes: MSPT 122.2 and 122.4*



# Where were outcomes assessed?

- *PSLO 2 – Mathematical and Analytical Thinking Skills*

*MSPT 101 Motorsports Service*

*Outcomes: MSPT 101.1 and 101.3*

*MSPT 110 Engine and Power Transmission Svc*

*Outcomes: MSPT 110.1, 110.2, and 110.3*

*MSPT 112 Powersports Electrical Systems*

*Outcomes: MSPT 112.1 and 112.2*

*MSPT 113 Powersports Engine Diagnostics*

*Outcomes: MSPT 113.2, 113.3, 113.4, and 113.5*

*MSPT 114 Powersports Engine Diagnostics Laboratory*

*Outcomes: MSPT 114.5*

*MSPT 122 Powersports Electrical Systems Laboratory*

*Outcomes: MSPT 122.1 and 122.2*



# Where were outcomes assessed?

- *PSLO 3 – Communication Skills*

*MSPT 101 Powersports Service*

*Outcomes: MSPT 101.3*

*MSPT 120 Frame and Suspension Systems*

*Outcomes: MSPT 120.3*



# Where were outcomes assessed?

- *PSLO 4 - Technical Skills*

*MSPT 110 Engine and Power Transmission Svc*

*Outcomes: MSPT 110.1, 110.4, and 110.6*

*MSPT 112 Powersports Electrical Systems*

*Outcomes: MSPT 112.4*

*MSPT 114 Powersports Engine Diagnostics Laboratory*

*Outcomes: MSPT 114.3, 114.4, 114.5, and 114.6*

*MSPT 122 Powersports Electrical Systems Laboratory*

*Outcomes: MSPT 122.2 and MSPT 122.3*

*MSPT 130 Marine Propulsion Systems*

*Outcomes: MSPT 130.1, MSPT 130.2, and MSPT 130.3*





# How was the assessment accomplished?

- Student work assessed:
  - Quizzes
  - Homework
  - Lab activity worksheets
- Measurement strategy:
  - % of questions answered correctly
  - Rubrics
- Sample size:
  - All students are included in the assessment
  - Class size is 3 to 7 students



# Assessment results: What have the data told us?

- *PSLO 1 – Diagnose and Repair*
  - *Out of a total of 12 measures, 9 met the standard.*
- *PSLO 2 – Mathematical and Analytical Thinking Skills*
  - *Out of a total of 16 measures, 11 met the standard.*
- *PSLO 3 – Communication Skills*
  - *Out of a total of 2 measures, 2 met the standard.*
- *PSLO 4 - Technical Skills*
  - *Out of a total of 14 measures, 12 met the standard.*



# Assessment results: What have the data told us?

- *The majority of the measures that were “Not Met” are in the electrical lecture MSPT 112 and lab MSPT 122.*
- *The Series, Parallel, and Series-Parallel worksheets were used as measures in many Outcomes.*
- *With a small number of students, the failure of one or two students to meet the standard can have a large impact.*
  - *With 3 students, the failure of one means a success rate of 67%.*
- *With a standard of “60% percent of the students will achieve a 60% or higher” most of the “Not Met” measures would have been “Met”.*
  - *Normally when two students failed to meet the standard, one of them achieved a grade higher than 60%*



# What resources were used or have been requested to close the loop?

- All of the assessments were reviewed with the students and any questions were addressed.
  - Most assessment content is covered in future cumulative assessments.
- The students are given a chance to perform remedial work to improve their grade on an assessment. **None of them chose to take advantage of this opportunity.**



Data-driven decisions: How the program has or plans to “close the loop” based on these results.

- Create more worksheets for ohms law and circuit calculations.
- The small number of students makes it difficult to make an accurate conclusion from the data.



# Attachments: 2018 SLO Findings



# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

Course	Outcome	Target	Finding
MSPT 110	MSPT 110.6	70% of students will achieve 70% or better	Met
MSPT 112	MSPT 112.3	70% of students will achieve 70% or better	2 of 3 measures not met
	MSPT 112.4	70% of students will achieve 70% or better	Not met
MSPT 113	MSPT 113.1	70% of students will achieve 70% or better	Met
	MSPT 113.2	70% of students will achieve 70% or better	Met
	MSPT 113.5	70% of students will achieve 70% or better	Met
MSPT 114	MSPT 114.2	70% of students will achieve 70% or better	Exceeded
	MSPT 114.6	70% of students will achieve 70% or better	Exceeded
MSPT 122	MSPT 122.2	70% of students will achieve 70% or better	Met
	MSPT 122.4	70% of students will achieve 70% or better	Met



# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

### Outcome: MSPT T10.6

Practice fundamentals associated with engine blueprinting

#### Measure: Lab Activity Direct - Other

Details/Description:	The students will write a report about the measurements they perform during their engine inspection and what parts needed replacement.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20102, 20104

#### Findings for Lab Activity

Summary of Findings:	.100 percent of the students achieved a grade higher than 75
Results :	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None





# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

### Outcome: MSPT 112.3

Write and recite battery, starting, and charging systems theory of operation

#### Measure: Battery Quiz Direct-Exam

Details/Description:	The students will complete a quiz about battery function and maintenance.
Target:	70 % of the students will achieve a score of 70% or higher
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10837

#### Findings for Battery Quiz

Summary of Findings:	100% of the students achieved a score of 70% or higher
Results :	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	None



# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

<b>Measure:</b> Charging System Quiz <i>Direct - Exam</i>	
Details/Description: The students will complete a quiz about charging system operation and testing.	
Target:	70% of the students will achieve a grade of 70% or higher
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10837
<b>Findings for Charging System Quiz</b>	
Summary of Findings:	33% of the students achieved a score of 70% or higher
Results:	Target Achievement: Not Met
Recommendations:	None
Reflections/Notes:	The students are given the option to make corrections to the quiz as remedial work and to improve their grade. None of them chose this option. There is not enough time to give multiple assessment on this subject to determine if they learned from the review of this quiz. One of the three students did achieve a 60%, which is slightly below the target.



# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

▼ **Measure:** Starting System Quiz  
*Direct - Exam*

Details/Description:	The students will complete a quiz about starting system operation and testing.
Target:	70 % of the students will achieve a grade of 70% or higher
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10837

### Findings for Starting System Quiz

Summary of Findings:	33% of the students achieved a score of 70% or higher
Results :	Target Achievement: Not Met
Recommendations:	None
Reflections/Notes:	The students again did not make any corrections to improve their score and one of the students came very close to the target with a 60%



# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

### Outcome: MSPT 112.4

Evaluate wiring diagrams to produce a simplified version to show understanding of the above.

#### Measure: Charging System Wiring Diagram

Direct - Student Artifact

Details/Description:	The students will draw a simplified diagram of the charging system from a powersports machine.
Target:	70% of the students will achieve a grade of 70% or higher.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10837

#### Findings for Charging System Wiring Diagram

Summary of Findings:	33% of the students achieved a score of 70% or higher.
Results :	Target Achievement: Not Met.
Recommendations:	None
Reflections/Notes:	Again, the students made no attempt to make corrections and improve their grade. One student came close to the target with a 60%



# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

### Outcome: MSPT 113.1

Demonstrate knowledge and understanding of ignition systems.

#### Measure: Distributor Ignition Quiz

*Direct - Exam*

Details/Description:	The student will complete a quiz on the operation and maintenance of ignition systems.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20838

#### Findings for Distributor Ignition Quiz

Summary of Findings:	75 percent of the students achieved a grade higher than 85 percent
Results :	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[Quiz- Week:2](#) (Word Document (OpenXML))



# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

### Outcome: MSPT 113.2

Demonstrate procedures necessary in servicing engine ignition systems.

#### Measure: Hourly Exam Direct - Exam

Details/Description:	The students will take an hourly exam on the service and diagnosis of ignition systems.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20838

#### Findings for Hourly Exam

Summary of Findings:	100 percent of the students achieved a grade higher than 75 percent
Results:	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[Hourly Test 1](#) (Word Document (OpenXML))



# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

### Outcome: MSPT 113.5

Apply electrical knowledge to engine performance sensors and the modules that control them.

#### Measure: Quiz Direct - Exam

Details/Description:	The student will complete a quiz on the operation various sensors and how they operate and are tested.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20838

#### Findings for Quiz

Summary of Findings:	75 percent of the students achieved a grade higher than 80 percent.
Results :	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[Quiz-Week: 10-2 \(Word Document \(OpenXML\)\)](#)



# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

### Outcome: MSPT 114.2

Demonstrate procedures necessary in servicing engine ignition systems

#### Measure: Ignition Testing Lab Activity *Direct - Other*

Details/Description:	The students will perform ignition tests and service procedures.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20839

#### Findings for Ignition Testing Lab Activity

Summary of Findings:	100 percent of the students achieved a grade higher than 95 percent
Results	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[Ignition System Testing and Spark Plug Service.pdf](#) (Adobe Acrobat Document)





# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

### Outcome: MSPT II4.6

Interpret data from diagnostic software to diagnose engine performance problems.

#### ➤ **Measure:** Diagnostic Trouble Code Lab Activity *Direct - Other*

Details/Description:	The students will perform diagnostic trouble code testing using diagnostic software.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20839

#### Findings for Diagnostic Trouble Code Lab Activity

Summary of Findings:	100 percent of the students achieved a grade higher than 95 percent.
Results :	Target Achievement Exceeded
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[Trouble Code Diagnostics.pdf](#) (Adobe Acrobat Document)



# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

### Outcome: MSPT 122.2

Interpret DVOM readings to diagnose electrical circuits.

▼ **Measure:** Snap-on multimeter certification  
*Direct - Other*

Details/Description:	The students will take the Snap-on 504 meter training and then complete the online certification exam.
Target:	70% of the students will achieve and grade of 70% or higher on the exam.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10838

### Findings for Snap-on multimeter certification

Summary of Findings:	100% of the students achieved a score of 70% or higher
Results:	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None



# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

### Outcome: MSPT 122.4

Diagnose and service the charging, starting, and accessory systems.

#### Measure: Charging system lab activity

Direct - Other

Details/Description:	The students will complete a lab activity where they test powersports charging system components.
Target:	70% of the students will achieve a grade of 70% or higher.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10838

#### Findings for Charging system lab activity

Summary of Findings:	100% of participants exceeded the target.
Results:	Target Achievement: Exceeded
Recommendations:	None.
Reflections/Notes:	One student did not complete the assignment.



# PSLO 1 – *Diagnose and Repair*

## Assessment Findings Data

▼ **Measure:** Starting system lab activity  
Direct - Other

Details/Description:	The students will complete a lab activity where they test powersports starting system components.
Target:	70% of the students will achieve a grade of 70% or higher.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10838

### Findings for Starting system lab activity

Summary of Findings:	100% of participants achieved the target
Results :	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	Only one student completed the assignment



# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

Course	Outcome	Target	Finding
MSPT 101	MSPT 101.1	70% of students will achieve 70% or better	Exceeded
	MSPT 101.3	70% of students will achieve 70% or better	Exceeded
MSPT 110	MSPT 110.1	70% of students will achieve 70% or better	Exceeded
	MSPT 110.2	70% of students will achieve 70% or better	Exceeded
	MSPT 110.3	70% of students will achieve 70% or better	Not Met
MSPT 112	MSPT 112.1	70% of students will achieve 70% or better	2 of 3 Not Met
	MSPT 112.2	70% of students will achieve 70% or better	Not Met
MSPT 113	MSPT 113.2	70% of students will achieve 70% or better	Met
	MSPT 113.3	70% of students will achieve 70% or better	Exceeded
	MSPT 113.4	70% of students will achieve 70% or better	Exceeded
	MSPT 113.5	70% of students will achieve 70% or better	Met



# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

Course	Outcome	Target	Finding
MSPT 114	MSPT 114.5	70% of students will achieve 70% or better	Met
MSPT 122	MSPT 122.1	70% of students will achieve 70% or better	No Met
	MSPT 122.2	70% of students will achieve 70% or better	Met



# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

### Outcome: MSPT 101.1

Perform routine maintenance procedures associated with powersports vehicles.

#### Measure: Lab Activity Direct - Other

Details/Description:	Students will perform periodic maintenance on powersports vehicles.
Target:	70% of students will achieve a grade of 70% or better on lab activities.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10141, 10142

#### Findings for Lab Activity

Summary of Findings:	100% of the students achieved a grade higher than 70%
Results :	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	The lowest lab activity grade average is 88%



# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

### Outcome: MSPT 101,3

Diagnose and repair powertrain assembly problems

#### Measure: Two stroke engine lab activity Direct - Other

Details/Description:	The students will disassemble, inspect, and reassemble a two stroke engine top end.
Target:	70% of students will receive a grade of 70% or better on their lab activities.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10141, 10142

#### Findings for Two stroke engine lab activity

Summary of Findings:	100% of the students achieved a score of 70% or higher
Results :	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	The lowest score on this activity was 80%





# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

### Outcome: MSPT110.1

Perform precision measurements key to engine overhaul

#### Measure: Lab Activity Direct - Other

Details/Description:	The students will write a report about the measurements they perform during their engine inspection and what parts needed replacement.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20102, 20104

#### Findings for Lab Activity

Summary of Findings:	100 percent of the students achieved a grade of 70 percent or higher.
Results :	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[Second Lab Report assignment instructions and rubric](#) (Word Document (Open XML))



# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

### Outcome: MSPT 110.2

Identify various engine design configurations

#### Measure: Midterm Direct - Exam

Details/Description:	The students will complete a midterm exam covering the construction and operation of an internal combustion engine.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20102, 20104

#### Findings for Midterm

Summary of Findings:	100 percent of the students achieved a grade higher than 80 percent
Results:	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[MSPT Final Exam](#) (Word Document (Open XML))



# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

### Outcome: MSPT 110.3

Perform dynamometer testing for torque, horsepower and emissions concerns

#### Measure: Dynamometer Testing Direct - Other

Details/Description:	The students will use the lab dynamometer to measure and calculate torque and horsepower on a motorcycle.
Target:	70% of the students will complete the activity
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20102, 20104

#### Findings for Dynamometer Testing

Summary of Findings:	This outcome cannot be met because our dynamometer is not working.
Results :	Target Achievement: Not Met
Recommendations:	We need to fix the dynamometer or change the outcome to a calculation rather than a physical testing procedure.
Reflections/Notes:	We have purchased the parts that were supposed to make the dynamometer operational. However, the computer took about 6 months to obtain. After receiving the computer we then had trouble getting it to communicate with the data logging box. We sent the box in for repair but when we got it back it still will not communicate. We are still in the diagnostic stage.



# SLO 2 – Mathematical and Analytical Thinking Skills

## Assessment Findings Data

### Outcome: MSPT 112.1

Construct series, parallel, and series-parallel circuits demonstrating fundamentals of electricity.

#### Measure: Parallel Circuit Homework Direct - Student Artifact

Details/Description:	The students will complete a worksheet that requires them to use the rules of parallel circuits and calculate missing circuit values.
Target:	70 % of the students will achieve a grade of 70% or higher
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10837

#### Findings for Parallel Circuit Homework

Summary of Findings:	100% of the students achieved a score of 70% or higher
Results::	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None



# SLO 2 – Mathematical and Analytical Thinking Skills

## Assessment Findings Data

▼ **Measure:** Series Circuit Homework  
*Direct - Student Artifact*

Details/Description:	The students will complete a worksheet that requires them to use the rules of series circuits and calculate missing circuit values.
Target:	70 % of the students will achieve a grade of 70% or higher
Implementation Plan (timeline):	Fall 2018
Instructor	Christopher Mayville
CRN:	10837

### Findings for Series Circuit Homework

Summary of Findings:	67% of the students achieved a score of 70% or higher
Results :	Target Achievement: Not Met
Recommendations:	None
Reflections/Notes:	2 out of 3 students met the target



# SLO 2 – Mathematical and Analytical Thinking Skills

## Assessment Findings Data

### Measure: Series Parallel Circuit Homework Direct - Student Artifact

Details/Description:	The students will complete a worksheet that requires them to use the rules of series and parallel circuits and calculate missing circuit values.
Target:	70% of the students will achieve a grade of 70% or higher
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10837

### Findings for Series Parallel Circuit Homework

Summary of Findings:	33% of the students achieved a score of 70% or higher
Results:	Target Achievement: Not Met.
Recommendations:	Created more homework assignments for Series Parallel
Reflections/Notes:	The 1 student who met the target achieved a score of 100%



# SLO 2 – Mathematical and Analytical Thinking Skills

## Assessment Findings Data

### Outcome: MSPT 112.2

Calculate circuit elements of voltage, resistance, and current using Ohm's Law

#### Measure: Series Parallel Circuit Homework

Direct - Student Artifact

Details/Description:	The students will complete a worksheet that requires them to use the rules of series and parallel circuits and calculate missing circuit values
Target:	70 % of the students will achieve a grade of 70% or higher
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10837

#### Findings for Series Parallel Circuit Homework

Summary of Findings:	33% of the students achieved a score of 70% or higher
Results:	Target Achievement: Not Met
Recommendations:	Develop more Series-Parallel assignments
Reflections/Notes:	The 1 student who achieved the target achieved a 100%



# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

### Outcome: MSPT 113.2

Demonstrate procedures necessary in servicing engine ignition systems.

#### Measure: Hourly Exam Direct - Exam

Details/Description:	The students will take an hourly exam on the service and diagnosis of ignition systems.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20838

#### Findings for Hourly Exam

Summary of Findings:	100 percent of the students achieved a grade higher than 75 percent
Results :	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[@ Hourly Test.1](#) (Word Document (OpenXML))





# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

### Outcome: MSPT 113.3

Demonstrate knowledge and understanding of engine fuel injection systems.

#### Measure: Hourly Exam Direct - Exam

Details/Description:	The students will complete an hourly exam covering the function and diagnosis of fuel injection systems.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20838

#### Findings for Hourly Exam

Summary of Findings:	100 percent of the students achieved a grade higher than 85 percent.
Results :	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[Hourly Test 2](#) (Word Document (Open XML))



# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

### Outcome: MSPT 113.4

Demonstrate procedures necessary in servicing fuel injection systems.


#### Measure: Hourly Exam Direct - Exam

Details/Description:	The students will complete an hourly exam covering the function and diagnosis of fuel injection systems.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20838

#### Findings for Hourly Exam

Summary of Findings:	100 percent of the students achieved a grade higher than 85 percent.
Results:	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

 [Hourly Test 2](#) (Word Document (Open XML))



# SLO 2 – Mathematical and Analytical Thinking Skills

## Assessment Findings Data

### Outcome: MSPT 113.5

Apply electrical knowledge to engine performance sensors and the modules that control them.

#### Measure: Quiz Direct - Exam

Details/Description:	The student will complete a quiz on the operation various sensors and how they operate and are tested.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20838

#### Findings for Quiz

Summary of Findings:	75 percent of the students achieved a grade higher than 80 percent.
Results :	Target Achievement: Met.
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[@ Quiz-Week 10-2 \(Word Document \(OpenXML\)\)](#)



# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

### Outcome: MSPT 114.5

Apply electrical knowledge to engine performance sensors and the modules that control them.

#### Measure: Lab Activity Direct - Other

Details/Description:	The students will perform fuel injection sensor tests.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20839

#### Findings for Lab Activity

Summary of Findings:	100 percent of the students achieved a grade higher than 85 percent
Results:	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[Sensor Testing.pdf](#) (Adobe Acrobat Document)



# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

### Outcome: MSPT 122.1

Demonstrate knowledge of basic electrical and electronic theories.

#### Measure: Series and Parallel Circuit Lab Sheets

Direct - Other

Details/Description:	The students will perform calculations of series and parallel circuits and build the circuits on a breadboard and compare their calculations to actual tests done on a working circuit.
Target:	70% of the students will achieve a grade of 70% or higher.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10838

#### Findings for Series and Parallel Circuit Lab Sheets

Summary of Findings:	67% of the students achieved a score of 70% or higher.
Results:	Target Achievement: Not Met
Recommendations:	None
Reflections/Notes:	2 out of 3 students achieved the target.



# SLO 2 – *Mathematical and Analytical Thinking Skills*

## Assessment Findings Data

### Outcome: MSPT 122.2

Interpret DVOM readings to diagnose electrical circuits.

- **Measure:** Snap-on multimeter certification  
*Direct - Other*

Details/Description:	The students will take the Snap-on 504 meter training and then complete the online certification exam.
Target:	70% of the students will achieve and grade of 70% or higher on the exam.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10638

### Findings for Snap-on multimeter certification

Summary of Findings:	100% of the students achieved a score of 70% or higher
Results:	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None



# SLO 3 - *Communication Skills*

## Assessment Findings Data

Course	Outcome	Target	Finding
MSPT 101	MSPT 101.3	70% of students will achieve 70% or better	Exceeded
MSPT 120	MSPT 120.3	70% of students will achieve 70% or better	Met



# SLO 3 - *Communication Skills*

## Assessment Findings Data

### Outcome: MSPT 101.3

Diagnose and repair powertrain assembly problems

#### Measure: Two stroke engine lab activity Direct - Other

Details/Description:	The students will disassemble, inspect, and reassemble a two stroke engine top end.
Target:	70% of students will receive a grade of 70% or better on their lab activities.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10141, 10142

#### Findings for Two stroke engine lab activity

Summary of Findings:	100% of the students achieved a score of 70% or higher
Results:	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	The lowest score on this activity was 80%





# SLO 3 - *Communication Skills*

## Assessment Findings Data

### Outcome: MSPT 120.3

Diagnose and repair frame and suspension system problems

#### Measure: Hourly Direct - Exam

Details/Description:	The students will complete an hourly covering the operation and diagnosis of powersports suspension systems.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20103, 20435

#### Findings for Hourly

Summary of Findings:	100 percent of the students achieved a grade higher than 75 percent
Results:	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[MSPT 120 Hourly Test 2](#) (Word Document (Open XML))



# SLO 4 - *Technical Skills*

## Assessment Findings Data

Course	Outcome	Target	Finding
MSPT 110	MSPT 110.1	70% of students will achieve 70% or better	Exceeded
	MSPT 110.4	70% of students will achieve 70% or better	Exceeded
	MSPT 110.6	70% of students will achieve 70% or better	Met
MSPT 112	MSPT 112.4	70% of students will achieve 70% or better	Not Met
MSPT 114	MSPT 114.3	70% of students will achieve 70% or better	Met
	MSPT 114.4	70% of students will achieve 70% or better	Met
	MSPT 114.5	70% of students will achieve 70% or better	Met
	MSPT 114.6	70% of students will achieve 70% or better	Exceeded



# SLO 4 - *Technical Skills*

## Assessment Findings Data

Course	Outcome	Target	Finding
MSPT 122	MSPT 122.1	70% of students will achieve 70% or better	Not Met
	MSPT 122.2	70% of students will achieve 70% or better	Met
	MSPT 122.3	70% of students will achieve 70% or better	Met
MSPT 130	MSPT 130.1	70% of students will achieve 70% or better	Met
	MSPT 130.2	70% of students will achieve 70% or better	Exceeded
	MSPT 130.3	70% of students will achieve 70% or better	Met



# SLO 4 - *Technical Skills*

## Assessment Findings Data

### Outcome: MSPT110.1

Perform precision measurements key to engine overhaul

#### Measure: Lab Activity Direct - Other

Details/Description:	The students will write a report about the measurements they perform during their engine inspection and what parts needed replacement.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20102, 20104

#### Findings for Lab Activity

Summary of Findings:	100 percent of the students achieved a grade of 70 percent or higher.
Results :	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[Second Lab Report assignment instructions and rubric](#) (Word Document (Open XML))



# SLO 4 - *Technical Skills*

## Assessment Findings Data

### Outcome: MSPT 110.4

Diagnose and repair modular constructed powertrain assembly problems

#### Measure: Lab Activity Direct - Other

Details/Description:	The students will write a report about the procedures involved in the rebuild of an engine and transmission in class.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20102, 20104

#### Findings for Lab Activity

Summary of Findings:	100 percent of students received a grade higher than 80 percent.
Results :	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[Final Lab Report Instructions and rubric](#) (Word Document (Open XML))



# SLO 4 - *Technical Skills*

## Assessment Findings Data

### Outcome: MSPT 110.6

Practice fundamentals associated with engine blueprinting

#### ▼ Measure: Lab Activity Direct - Other

Details/Description:	The students will write a report about the measurements they perform during their engine inspection and what parts needed replacement.
Target:	70% of students will obtain a 70% grade or higher.
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20102, 20104

#### Findings for Lab Activity

Summary of Findings:	100 percent of the students achieved a grade higher than 75
Results:	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None



# SLO 4 - Technical Skills

## Assessment Findings Data

### Outcome: MSPT II2.4

Evaluate wiring diagrams to produce a simplified version to show understanding of the above.

#### Measure: Charging System Wiring Diagram

Direct - Student Artifact

Details/Description:	The students will draw a simplified diagram of the charging system from a powersports machine.
Target:	70% of the students will achieve a grade of 70% or higher.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10837

#### Findings for Charging System Wiring Diagram

Summary of Findings:	33% of the students achieved a score of 70% or higher.
Results ::	Target Achievement: Not Met.
Recommendations:	None
Reflections/Notes:	Again, the students made no attempt to make corrections and improve their grade. One student came close to the target with a 60%.



# SLO 4 - *Technical Skills*

## Assessment Findings Data

### Outcome: MSPT 114.3

Demonstrate knowledge and understanding of engine fuel injection systems.

#### Measure: Fuel Pressure Test Lab Activity

Direct - Other

Details/Description:	The students will perform fuel pressure and injector tests on a fuel injection system.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20839

#### Findings for Fuel Pressure Test Lab Activity

Summary of Findings:	100 percent of the students achieved a grade higher than 85 percent
Results:	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

[Fuel and Injector Testing.pdf](#) (Adobe Acrobat Document)





# SLO 4 - *Technical Skills*

## Assessment Findings Data

### Outcome: MSPT 114.4

Demonstrate procedures necessary in servicing fuel injection systems.

#### ▼ Measure: Fuel Pressure Test Lab Activity Direct - Other

Details/Description:	The students will perform fuel pressure and injector tests on a fuel injection system.
Target:	70% of students will obtain a 70% grade or higher.
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20839

#### Findings for Fuel Pressure Test Lab Activity

Summary of Findings:	100 percent of the students achieved a grade higher than 85
Results:	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None

#### Substantiating Evidence:

Ⓜ [Fuel and Injector Testing.pdf](#) (Adobe Acrobat Document)



# SLO 4 - *Technical Skills*

## Assessment Findings Data

**Outcome:** MSPT 114.5

Apply electrical knowledge to engine performance sensors and the modules that control them.

Measure: Lab Activity  
Direct - Other

Details/Description:	The students will perform fuel injection sensor tests.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20839

### Findings for Lab Activity

Summary of Findings:	100 percent of the students achieved a grade higher than 85 percent
Results:	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None

Substantiating Evidence:

[Sensor Testing.pdf](#) (Adobe Acrobat Document)



# SLO 4 - *Technical Skills*

## Assessment Findings Data

### Outcome: MSPT 114.6

Interpret data from diagnostic software to diagnose engine performance problems.

#### Measure: Diagnostic Trouble Code Lab Activity

Direct - Other

Details/Description:	The students will perform diagnostic trouble code testing using diagnostic software.
Target:	70% of students will obtain a 70% grade or higher
Implementation Plan (timeline):	Spring 2018
Instructor:	Christopher Mayville
CRN:	20839

#### Findings for Diagnostic Trouble Code Lab Activity

Summary of Findings:	100 percent of the students achieved a grade higher than 95 percent
Results	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	None

Substantiating Evidence:

[Trouble Code Diagnostics.pdf](#) (Adobe Acrobat Document)



# SLO 4 - *Technical Skills*

## Assessment Findings Data

### Outcome: MSPT 122.1

Demonstrate knowledge of basic electrical and electronic theories.

#### Measure: Series and Parallel Circuit Lab Sheets *Direct - Other*

Details/Description:	The students will perform calculations of series and parallel circuits and build the circuits on a breadboard and compare their calculations to actual tests done on a working circuit.
Target:	70% of the students will achieve and grade of 70% or higher.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10838

#### Findings for Series and Parallel Circuit Lab Sheets

Summary of Findings:	67% of the students achieved a score of 70% or higher.
Results:	Target Achievement: Not Met
Recommendations:	None
Reflections/Notes:	2 out of 3 students achieved the target.



# SLO 4 - *Technical Skills*

## Assessment Findings Data

### Outcome: MSPT 122.2

Interpret DVOM readings to diagnose electrical circuits.

#### ➤ **Measure:** Snap-on multimeter certification Direct - Other

Details/Description:	The students will take the Snap-on 504 meter training and then complete the online certification exam.
Target:	70% of the students will achieve a grade of 70% or higher on the exam.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10838

#### Findings for Snap-on multimeter certification

Summary of Findings:	100% of the students achieved a score of 70% or higher
Results :	Target Achievement Met
Recommendations:	None
Reflections/Notes:	None



# SLO 4 - *Technical Skills*

## Assessment Findings Data

### Outcome: MSPT 122.3

Read and interpret electrical schematic charts.

#### Measure: Wiring Diagram Lab Activity Direct - Other

Details/Description:	The students will complete a lab activity where they read and identify parts in a wiring diagram.
Target:	70% of the students will achieve a grade of 70% or higher.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10838

#### Findings for Wiring Diagram Lab Activity

Summary of Findings:	100% of participants met the target.
Results:	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	Only one of the three students completed this assignment.



# SLO 4 - *Technical Skills*

## Assessment Findings Data

### Outcome: MSPT 130.1

Perform routine maintenance procedures associated with marine propulsion drives

#### Measure: Marine Lab Activities Direct - Other

Details/Description:	This will be the overall grade the students achieved from lab worksheets.
Target:	70% of students will achieve an average grade of 70% or better on their lab activities
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10139, 10140

#### Findings for Marine Lab Activities

Summary of Findings:	86% of the students achieved a score of 70% or higher.
Results	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	None



# SLO 4 - *Technical Skills*

## Assessment Findings Data

### Outcome: MSPT 130.2

Diagnose and repair marine propulsion performance problems

#### Measure: Test Direct - Exam

Details/Description:	The students will complete a test of their knowledge of marine propulsion systems.
Target:	70% of students will achieve a grade of 70% or better on the test.
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10139, 10140

#### Findings for Test

Summary of Findings:	100% of students achieved a score of 70% or higher
Results :	Target Achievement: Exceeded
Recommendations:	None
Reflections/Notes:	None





# SLO 4 - *Technical Skills*

## Assessment Findings Data

### Outcome: MSPT 130.3

Disassemble, inspect and reassemble marine propulsion systems

#### Measure: Marine Drive Unit Lab Activity

Direct - Other

Details/Description:	The students will disassemble, inspect and reassemble a marine drive lower gearcase and complete a worksheet on their activity.
Target:	70% of the students will achieve a grade of 70% or better on their activity
Implementation Plan (timeline):	Fall 2018
Instructor:	Christopher Mayville
CRN:	10139, 10140

#### Findings for Marine Drive Unit Lab Activity

Summary of Findings:	100% of participants achieved the target
Results:	Target Achievement: Met
Recommendations:	None
Reflections/Notes:	One student did not complete the assignment

