



 **SUNY CANTON**

Program/Department
Canino School of Engineering Technology
Fall 2016 Assessment Report



Curriculum Coordinator: Brandon Baldwin

Date of Presentation: 1/18/2017

What was assessed? Student learning outcomes list:

- Complete list of departmental SLOs with asterisks to indicate those assessed and reported on today. *Add extra slides as needed.*



What was assessed?

Student learning outcomes list for Automotive:

ALO1: **Diagnose and repair** all automotive systems

- Diagnose and repair all types of automotive systems to include but not exclusive to drive train and axles, automotive transmissions and transaxle, engine repair, suspension and steering, brakes, electrical/ electronic systems, heating and air conditioning, engine performance.



Student learning outcomes list for Automotive:

ALO2: Demonstrate the ability to find all related system diagnostic/repair information within auto service publications

- Demonstrate the ability to find all related system diagnostic/repair information within auto service publications; electronic database, web based search engines, etc.



Student learning outcomes list for Automotive:

ALO3: Utilize the 8 point **service procedures to diagnose and solve problems**

- Utilize the 8 point service procedures to diagnose and solve problems.



Student learning outcomes list for Automotive:

ALO4: Demonstrate **safety procedures while conducting automotive service activities.**

- Demonstrate safety procedures while conducting automotive service activities.



Where were outcomes assessed?

ALO1: Diagnose and repair all automotive systems

Auto 101 – SLO A101.3

Auto 102 – SLO A102.1, .2, .3, .4, .5

Auto 111 – SLO A111.2, .4

Auto 112 – SLO A112.1, .2, .3, .4

Auto 213 – SLO A213.1, .2, .3, .4, .5

Auto 141 – SLO A141.1, .2, .3, .4, .5

Auto 144 – SLO A144.1, .2, .3, .4, .5,
.6, .7

Auto 213 – SLO A213.1, .2, .3, .4, .5

Auto 214 – SLO A 214.1, .2, .3, .4, .5,
.6, .7, .8, .9

Auto 220 – SLO A220.1, .2, .3, .4, .5

Auto 221 – SLO A221.3

Auto 241 – SLO A241.1, .2, .3, .4, .5,
.6

Auto 282 – SLO A282.2, .3, .4, .5



Where were outcomes assessed?

ALO2: Demonstrate the ability to find all related system diagnostic/repair information within auto service publications

Auto 101 – SLO A101.2, .3, .4

Auto 102 – SLO A102.1, .2, .3, .4, .5

Auto 111 – SLO A111.2, .3, .4

Auto 112 – SLO A112.3, .4

Auto 122 – SLO A122.2, .3

Auto 141 – SLO A141.1, .2, .3, .4, .5

Auto 144 – SLO A144.1, .2, .3, .4, .5,
.6, .7

Auto 220 – SLO A220.1, .4, .5

Auto 225 – SLO A225.3, .4, .5

Auto 230 – SLO A230.1, .4

Auto 221 – SLO A221.3

Auto 241 – SLO A241.1, .2, .3, .4, .5,
.6

Auto 282 – SLO A282.2, .3, .4, .5



Where were outcomes assessed?

ALO3: Utilize the 8 point **service procedures to diagnose and solve problems**

Auto 101 – SLO A101.2

Auto 102 – SLO A102.1, .2, .3, .4,
.5

Auto 122 – SLO A122.3

Auto 141 – SLO A141.2, .3, .4, .5

Auto 144 – SLO A144.1, .2, .3, .4, .5,
.6, .7

Auto 220 – SLO A220.4, .5

Auto 230 – SLO A230.2, .3

Auto 241 – SLO A241.2, .4, .6

Auto 282 – SLO A282.2, .3,



Where were outcomes assessed?

ALO4: Demonstrate **safety procedures while conducting automotive service activities.**

Auto 101 – SLO A101.1, .3

Auto 111 – SLO A111.1, .3

Auto 102 – SLO A102.1, .2, .3, .4,
.5

Auto 141 – SLO A141.1, .2, .3, .4,
.5

Auto 104 – SLO A104.1, .2, .3, .4,
.5

Auto 144 – SLO A144.2, .3, .4

Auto 282 – SLO A282.1



How was the assessment accomplished?

- Student work assessed: What assignments in what courses-- tests, products of student work, etc.?
- Measurement strategy: scores, rubric, etc.
- Sample size: n students (Is this a sample or all eligible students?)



How was the assessment accomplished?

Student assessment methods

- **11 Direct Student Artifact** (copy of training certificate)
- **30 Direct Exam** (quiz, hour test, midterm, final)
- **2 Indirect – other** (observe students for safe work practices)
- **6 Direct – other** (NATEF task job sheets)



How was the assessment accomplished?

Student Assessment Examples:

- 68% of students (n34) completed the on-line training requirement Safety Pollution Prevention (SP/2).
(Auto 112, A112.1)
- 93% of students (n31), were able to meet requirement (SLO demonstrate the proper set-up and shut-down procedures required for using an Oxy-fuel torch) with a score of 90% (Auto 104, A104.1).



Actual assessment data

ALO1: Diagnose and repair all automotive systems						
Course	Course SLO	Section	Target			Met Target?
			Green "Not Met" = "Met" or "Exceeded" 2015			
			Yellow "Exceeded" or "Met" = "Not Met" 2015			
Auto 101	A101.3		70% of students will receive 70% or better on final exam questions			EXCEEDED
Auto111	A111.2		70% of students will correctly identify 70% of fasteners and answer			NOT MET
	A111.4		70% of students will successfully perform the dismount procedure			EXCEEDED
Auto112	A112.1		70% of students will earn 70% or higher on each of these tasks.			EXCEEDED
	A112.2		70% of the students will achieve 70% or higher on these tasks			EXCEEDED
	A112.3		70% of the students will earn 70% or higher on these tasks.			EXCEEDED
	A112.4		70% of the students will earn 70% or higher on these tasks.			NOT MET
Auto213	A213.1		70% of students will earn 70% or higher on given tasks			EXCEEDED
	A213.2		70% of students will earn 70% or higher on given tasks			EXCEEDED
	A213.3		70% of students will earn 70% or higher on given tasks			EXCEEDED
	A213.4		70% of students will earn 70% or higher on given tasks			EXCEEDED
	A213.5		70% of students will earn 70% or higher on given tasks			EXCEEDED
Auto220	A220.1		70% of the students will earn 70% or higher on each of the tasks.			EXCEEDED
	A220.2		70% of the students will earn 70% or higher on each of the tasks.			MET
	A220.3		70% of the students will earn 70% or higher on each of the tasks.			NOT MET
	A220.4		70% of the students will earn 70% or higher on each of the tasks.			MET
	A220.5		70% of the students will earn 70% or higher on each of the tasks.			EXCEEDED
Auto241	A241.1		70% of students will give the correct explanation of automobile al			MET
	A241.2		70% of students will be able to correctly identify 70% of the compo			MET
	A241.3		70% of students will be able to correctly answer 70% of the exam q			MET
	A241.4		70% of students will correctly identify 70% of special tools and use			MET
	A241.5		70% of students will correctly identify 70% steering components in			MET
Auto282	A282.2		70% of student job sheets will provide 70% correct information and			NOT MET
	A282.3		70% of student job sheets will diagnose 70% of the problem correc			NOT MET
	A282.4		70% of students will correctly identify 70% of the steering compon			MET



Actual assessment data

Course	Course SLO	Target	Met Target?
Auto101	A101.2	70% of the students will complete the work order to a score of	NOT MET
	A101.3	70% of students will receive 70% or better on final exam quest	EXCEEDED
	A101.4	70% of students will answer 70% of the engine operation ques	EXCEEDED
Auto111	A111.2	70% of students will correctly identify 70% of fasteners and an	NOT MET
	A111.3	70% of students will properly demonstrate the use of a hydrau	EXCEEDED
	A111.4	70% of students will successfully perform the dismount proce	EXCEEDED
Auto112	A112.3	70% of the students will earn 70% or higher on these tasks.	EXCEEDED
	A112.4	70% of the students will earn 70% or higher on these tasks.	NOT MET
Auto 122	A122.2	70% of the students will score 70% or better	NOT MET
	A122.3	70% of the students will score 70% or better	NOT MET
Auto220	A220.1	70% of the students will earn 70% or higher on each of the task	EXCEEDED
	A220.4	70% of the students will earn 70% or higher on these tasks.	EXCEEDED
	A220.5	70% of the students will earn 70% or higher on these tasks	EXCEEDED
Auto225	A225.3	75% of the students taking this course will score 70% or better	MET
	A225.4	75% of the students taking this course will score 70% or better	EXCEEDED
	A225.5	75% of the students taking this course will score 70% or better	EXCEEDED
Auto241	A241.1	70% of students will give the correct explanation of 70% of the	MET
	A241.2	70% of students will be able to correctly identify 70% of the co	MET
	A241.3	70% of students will be able to correctly answer 70% of the ex:	MET
	A241.4	70% of students will correctly identify 70% of special tools and	MET
	A241.5	70% of students will correctly identify 70% of steering compon	MET
Auto282	A282.2	70% of student job sheets will provide 70% correct information	NOT MET
	A282.3	70% of student job sheets will diagnose 70% of the problem cc	NOT MET
	A282.4	70% of students will correctly identify 70% of the steering com	MET
	A282.5	70% of students will correctly identify 70% of the suspension c	NOT MET



Actual assessment data

ALO4: Demonstrate safety procedures while conducting automotive service activities.				
Course	Course SLO	Section	Target	Met Target?
Auto101	A101.1		70% of students will provide instructor with a certificate of completion	EXCEEDED
	A101.3		70% of students will receive 70% or better on final exam questions	EXCEEDED
Auto104	A104.1		75% of the students in this course will score 70% or higher when given a written test	EXCEEDED
	A104.2		75% of the students in this course will score 70% or higher when given a written test	EXCEEDED
	A104.3		75% of the students in this course will score 70% or higher when given a written test	EXCEEDED
	A104.4		75% of the students in this course will score 70% or higher when given a written test	EXCEEDED
	A104.5		75% of the students in this course will score 70% or higher when given a written test	EXCEEDED
Auto111	A111.1		70% of students will not need to be reminded to wear safety glasses	EXCEEDED
	A111.3		70% of students will properly demonstrate the use of a hydraulic jack	EXCEEDED
Auto282	A282.1		70% students will not need remediation and will work safely in the shop	MET



Assessment results: What have the data told us?

- **ALO1- Diagnose and repair**
 - Students struggled the most on:
 - Attendance and persistence
 - Asking for extra help when they don't understand a concept (Auto 101, Auto 112)
- **ALO2 - Find Information**
 - Students struggled the most on:
 - Knowing when they have mastered a task (Auto111, Auto122)
 - Attendance and persistence



Assessment results: What have the data told us?

- **ALO3 - Service Procedures**
 - Students struggled the most on:
 - Following procedures, locating, reading, and comprehending (all courses). Simply doing homework
- **ALO4 - Safety Procedures**
 - Students *are* following safe work procedures:
 - Safety glasses, leather shoes, work clothing
 - Use tools and equipment safely (all lab courses)



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

- Given these findings, what will the department do differently?
 - Change teaching methods
 - **Tutoring and Review:** Started to create task videos to review specific methods, techniques, and diagnostic processes that are frequently difficult to grasp.
 - **Skill Building Practice Sessions:** Provide students an opportunity to practice and gain confidence when using tools, equipment and service information.



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

- Increase instructional support

- **Practice Time:** Continue to give students time to practice on their personal car when the task relates to the automotive program i.e. Auto Club.
- **Student Recruiting:** Request more help identifying motivated students for the program when recruiting students.

- Change assessment methods and/or measures

- **Outcome Targets:** Automotive faculty will review, revise and evaluate learning outcome targets each semester.



What resources are currently used to close the loop?

- Faculty and Instructional Support **time**:
 - Different auto courses are taught each semester. Resetting visual aids/props, moving equipment in and out of storage, and maintaining program NATEF standards all require substantial time and effort.
 - Student advising, tutoring, administrative duties and advising Auto Club all preformed by two faculty and one instructional support associate.
 - Maintaining accreditation for NATEF, Snap-On, and Subaru, mostly by one faculty member.
 - Expecting scholarly activity as well.



What resources are being requested to close the loop?

- Potential resources that you might identify:
 - Increase Program faculty.
 - Adjust curriculum to align with NATEF standards in TaskStream.
 - Add course materials to BlackBoard and create online course.
 - Produce video instruction for students.
 - Increase program budget to maintain instructional equipment.
 - **Practice vehicles within 10 years old to be relevant.**



Hurdle

- How do you install persistence in a student without it?
- Equipment becoming outdated, particularly our vehicles.
- Time



Funds needed

- \$304.30 for the thread pitch/fastener size gauges.
- Approximately \$25,000 for a used vehicle with CAN communications and other features the students learn in multiple courses, unless we can find a totaled vehicle that meets our needs. OR, multiple totaled vehicles would work well too.

