

Weber State University
Biennial Report on Assessment of Student Learning

Cover Page

Department/Program: Department of Automotive Technology
Academic Year of Report: 2018/19 (covering Summer 2017 through Spring 2019)
Date Submitted: 11/15/2019
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A. Brief Introductory Statement:

Please review the Introductory Statement and contact information for your department or academic program displayed on the assessment site:
<http://www.weber.edu/portfolio/departments.html> - if this information is current, please place an 'X' below. No further information is needed.

Information is current; no changes required.

Update if not current:

B. Mission Statement

Please review the Mission Statement for your department or academic program displayed on the assessment site:
<http://www.weber.edu/portfolio/departments.html> - if the mission statement is current, please place an 'X' below.; If the information is not current, please provide an update:

Information is current; no changes required.

Update if not current:

C. Student Learning Outcomes

Please review the [Student Learning Outcomes](#) for your academic program displayed on the assessment site:
<http://www.weber.edu/portfolio/departments.html>. In particular, review in light of recent strategic reporting and indicate any needed updates. If the outcomes are current, mark below.

Information is current; no changes required.

Update if not current:

D-1. Curriculum

“A collection of courses is not a program. A curriculum has coherence, depth, and synthesis.”

(Linda Suskie; presentation at NWCCU Assessment Fellowship, June 19, 2019)

Please review the [Curriculum Grid](#) for your department or academic program displayed on the assessment site:

<http://www.weber.edu/portfolio/departments.html>.

Indicate in the curriculum grid where graduating student performance is assessed for each program outcome. In the ‘additional information’ section, please provide information about these assessments (e.g., portfolios, presentations, projects, etc.) This information will be summarized at the college and institutional level for inclusion in our NWCCU reporting on student achievement.

Curriculum Map Format Curriculum Map

Curriculum Map – NOTE: Courses highlighted in yellow will be evaluated for the 19/20 academic year

Core Courses in Department/Program	Department/Program Learning Outcomes							
	Pro per Safe ty	Ser vice Info rma tion	The ory of Ope rati on	Too l Han dlin g	Diagn osis	Repai r Proce dure	Repai r Verifi cation	Prese ntatio n
AUSV 1000 Introduction to Automotive Service	I	I	I	I	I	I	I	
AUSV 1010 Automotive Orientation	I	I						I
AUSV 1021 Automotive Braking Systems 1	I,E	I,E	I,E	I,E	I,E	I,E	I,E	
AUSV 1022 Steering and Suspension Systems 1	I,E	I,E	I,E	I,E	I,E	I,E	I,E	
AUSV 1023 Automotive Braking Systems 2	U,A	U,A	U,A	U,A	U,A	U,A	U,A	
AUSV 1025 Steering and Suspension Systems 2	U,A	U,A	U,A	U,A	U,A	U,A	U,A	
AUSV 1120 Automotive Engines 1	I,E	I,E	I,E	I,E	I,E	I,E	I,E	
AUSV 1124 Automotive Engines 2	U,A	U,A	U,A	U,A	U,A	U,A	U,A	
AUSV 1220 Manual Drivetrain Systems	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	
AUSV 1300 Technical Mathematics	I		I,A		I,E			
AUSV 1320 Automotive Electrical 1	I	I	I	I	I	I	I	
AUSV 1323 Automotive Electrical 2	E	E	E	E	E	E	E	

AUSV 1325 Automotive Electrical 3	U	U	U	U	U	U	U	
AUSV 2120 Automotive Electrical/Body Control Systems	A	A	A	A	A	A	A	
AUSV 2020 Automotive Engine Control	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	
AUSV 2320 Automotive Climate Control Systems	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	
AUSV 2520 Automatic Transmissions	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	I,E,U,A	
AUSV 2860 Shop Practice	U,A	U,A	U,A	U,A	U,A	U,A	U,A	
ATTC 3000 Introduction to Automotive Technology	I,E							I
ATTC 3020 Introduction to Safety Management and Hazardous Materials	I,E							E
ATTC 3260 Advanced Electrical System	U,A	U,A	U,A	U,A	U,A	U,A	U,A	E
ATTC 3520 Fleet Management	A	A						E
ATTC 3760 Advanced Automotive Technologies	U,A	U,A	U,A	U,A			U,A	E,U
ATTC 3880 Cooperative Practicum	U,A	U,A	U,A	U,A	U,A	U,A	U,A	E,U
ATTC 4530 Hybrid and Electric Vehicle Systems	U,A	U,A	U,A	U,A	U,A	U,A	U,A	E,U
ATTC 4540 Automated Safety Systems	U,A	U,A	U,A	U,A	U,A	U,A	U,A	E,U
ATTC 4560 Advanced Propulsion Systems	U,A	U,A	U,A	U,A	U,A	U,A	U,A	U,A
ATTC 4720 Capstone Project	A	A	A	A	U,A	U,A	U,A	U,A
ATTC 4760 Alternate Fuel Systems	U,A	U,A	U,A	U,A	U,A	U,A	U,A	U,A
ATTC 4860 Automotive Standards, Laws, and Regulations	U,A	U,A	U,A	U,A			U,A	U,A

Note^a: Define words, letters or symbols used and their interpretation; i.e. 1= introduced, 2 = emphasized, 3 = mastered or I = Introduced, E = Emphasized, U = Utilized, A = Assessed comprehensively; these are examples, departmental choice of letters/numbers may differ

Note^b: Rows and columns should be transposed as required to meet the needs of each individual department

Additional Information (details about graduating student assessment):

The courses that have all four symbols refer to the specific topic and its relationship with the learning outcome. For example AUSV 1220 Manual Drivetrain Systems has all four symbols. Students are introduced to the proper safety precautions associated with a manual transmission. They are then shown the safety procedures while the instructor demonstrates service of a manual transmission. Students will then tear-down a manual transmission and must utilize the safety training for manual transmissions. Finally, students will be assessed in

their use of safety procedures while assembly a manual transmission for their final project in the course. Each of the learning outcomes for these courses are similar. The students will go through each of the learning outcomes for the specific topic covered by the course.

Automotive AAS graduates complete the ASE student assessment tests at the end of each ASE subject area.

Automotive BS graduates are assessed using a one year capstone course

D-2. High Impact Educational Experiences in the Curriculum

In response to the recent USHE requirement that all students have at least 1 HIEE in the first 30 credit hours and 1 HIEE in the major or minor we are asking programs to map HIEEs to curriculum using a traditional curriculum grid. This helps demonstrate how and where these goals are accomplished.

Courses	Department/Program use of High Impact Educational Experiences							
	HIEE First 30 credit hours	HIEE AAS Automotive Technology	HIEE BS Automotive Technology					
AUSV 1010 Automotive Orientation	cde	cde	cde					
AUSV 2860 Automotive Shop Practices	int	int	int					
ATTC 3880 Cooperative Practicum			int					
ATTC 4710 Capstone Research Methods			cap, ur					
ATTC 4720 Capstone Research and Development			cap, ur					

HIEEs include capstone courses or experiences (cap), community-engaged learning, evidence-based teaching practices, internships(int), project-based learning, study abroad/away, supplemental instruction, team-based learning, undergraduate research (ur), pre-professional/career development experiences (cde).

Additional information (HIEE planning, assessment, or other information):

E. Assessment Plan

Please update the Assessment Plan for your department displayed on the assessment site: <http://www.weber.edu/portfolio/departments.html>. Keep in mind that reporting will be done biennially instead of annually; that should be reflected in your assessment plan. Please ensure that Gen Ed courses are assessed/reported at least twice during a standard program review cycle.

A complete plan will include a list of courses from which data will be gathered and the schedule, as well as an overview of the assessment strategy the department is using (for example, portfolios, or a combination of Chi assessment data and student survey information, or industry certification exams, etc.), and plans for continuous improvement.

Assessment plan:

The following courses will be assessed during the 2019/2020 academic year

- ATTC 3260 Advanced Electrical Systems
- AUSV 1320 Automotive Electrical 1

The following courses will be assessed during the 2020/2021 academic year

- ATTC 3520 Fleet Management
- AUSV 1323 - Automotive Electrical 2

Industry student certifications exams will be used in the assessment of the AUSV courses. The student certifications exams are used as a pre and post test for all AAS Automotive Technology graduates. The pre-test scores from the previous 3 years will be compared to the post-test results

The ATTC courses will be assessed by a review of capstone course final projects.

F. Report of assessment results for the most previous academic year:

Report due 11/15/2019

There are varieties of ways in which departments can choose to show evidence of learning. This is one example. The critical pieces to include are 1) learning outcome being assessed, 2) method(s) of measurement used, 3) threshold for 'acceptable – that is, the target performance, 4) actual results of the assessment, 5) interpretation/reflection on findings 6) the course of action to be taken based upon the interpretation, and 7) how that action will be evaluated.

A. Evidence of Learning: Courses within the Major

(this is a sample page for purpose of illustration only; a blank template can be found on the next page)

*Can be a mix of [direct](#) and [indirect](#) measures, but at least one measure must be direct

Evidence of Learning Worksheet: Courses within the Major – Copy as needed (see appendix for alternative format)

Course: AUSV 1120 and 1124 Semester taught: Fall17 through Spring 19 Sections included: All Sections

Evidence of Learning: Courses within the Major						
Measurable Learning Outcome	Method of Measurement*	Target Performance	Actual Performance	Interpretation of Findings	Action Plan/Use of Results	“Closing the Loop”
Learning Outcome 1: Proper Safety	Measure 1: A third party safety module and test SP2	Measure 1: 95% pass rate	Measure 1: Students must pass the SP2 certification in order to work in the shop. Remedial training was provided for those students who did not pass the first time	Measure 1:	No Change needed	Review the need for additional safety training with the industry advisory board
Learning Outcome 2: Service Information	Measure 1: Industry Student Certification test	Measure 1: 85% pass rate of Engine Repair Student ASE test	Measure 1: Cohort 17 - 100% Cohort 18 - 90%	Measure 1: Modifications to the content of this course were made in 2016. There has been a 15% increase in pass rates since the modifications	Review results with advisory board. Analyze result data to specifically identify the questions in the certification that involve service information	Review results with advisory board and modify curriculum to meet any new standards
Learning Outcome 3:	Measure 1:	Measure 1:	Measure 1:	Measure 1:		

Theory of Operation	Industry Student Certification test	85% pass rate of Engine Repair Student ASE test	Cohort 17 - 100% Cohort 18 - 90%	Modifications to the content of this course were made in 2016. There has been a 15% increase in pass rates since the modifications	Review results with advisory board. Analyze result data to specifically identify the questions in the certification that involve theory of operation	Review results with advisory board and modify curriculum to meet any new standards
Learning Outcome 4: Tool Handling	Measure 1: Industry Student Certification test	Measure 1: 85% pass rate of Engine Repair Student ASE test	Measure 1: Cohort 17 - 100% Cohort 18 - 90%	Measure 1: Modifications to the content of this course were made in 2016. There has been a 15% increase in pass rates since the modifications	Measure 1: Review results with advisory board. Analyze result data to specifically identify the questions in the certification that involve Tool Handling	Review results with advisory board and modify curriculum to meet any new standards
Learning Outcome 4: Diagnosis	Measure 1: Industry Student Certification test	Measure 1: 85% pass rate of Engine Repair Student ASE test	Measure 1: Cohort 17 - 100% Cohort 18 - 90%	Measure 1: Modifications to the content of this course were made in 2016. There has been a 15% increase in pass rates since the modifications	Measure 1: Review results with advisory board. Analyze result data to specifically identify the questions in the certification that involve Diagnosis	Review results with advisory board and modify curriculum to meet any new standards
Learning Outcome 5: Repair Procedure	Measure 1: Industry Student Certification test	Measure 1: 85% pass rate of Engine Repair Student ASE test	Measure 1: Cohort 17 - 100% Cohort 18 - 90%	Measure 1: Modifications to the content of this course were made in 2016. There has been a 15% increase in pass rates since the modifications	Measure 1: Review results with advisory board. Analyze result data to specifically identify the questions in the certification that involve repair procedure	Review results with advisory board and modify curriculum to meet any new standards
Learning Outcome 6: Repair Verification	Measure 1: Industry Student Certification test	Measure 1: 85% pass rate of Engine Repair Student ASE test	Measure 1: Cohort 17 - 100% Cohort 18 - 90%	Measure 1: Modifications to the content of this course were made in 2016. There has been a 15% increase in pass rates since the modifications	Measure 1: Review results with advisory board. Analyze result data to specifically identify the questions in the certification that involve repair verification	Review results with advisory board and modify curriculum to meet any new standards

Learning Outcome 7: BS Degree Outcome Presentation	Measure 1: Capstone Project Presentation	Measure 1: Using a rubric to assess the presentation, 90% of students will achieve a score of 75% or above.	Measure 1: The majority of students scored 75% or above on their capstone presentation	Measure 1: Students are currently only scored by one faculty. In order to provide more accurate feedback additional faculty should be involved in the assessment process	Increase the number of faculty who score student presentations	Additional faculty will be added to the capstone course as a pilot in 2020. Compare the assessment results from 2020 to previous years. Add additional faculty the following year
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*Direct and indirect: at least one measure per objective must be a direct measure.

Appendix A

Most departments or programs receive a number of recommendations from their Five/Seven-Year Program Review processes. This page provides a means of updating progress towards the recommendations the department/program is acting upon.

Date of Program Review: 16/17	Recommendation	Progress Description
Establish a more relative learning outcome for our BS degree	Set up a learning outcome assessment for our BS students	AY - 17/18 Curriculum Changes to increase the credit hours associated with the Capstone Course
		AY - 18/19 Establish criteria and expectations for projects that appropriately measure learning outcome
		AY - 19/20 Establish standards for evaluation of projects including committee members and assign roles. Include additional faculty in the ATTC 4720 course
		AY 20/21 Evaluate the assessment tool and modify as needed

Additional narrative:

Report due 11/15/2019

Appendix B

Please provide the following information about the full-time and adjunct faculty contracted by your department during the last academic year (summer through spring). Gathering this information each year will help with the headcount reporting that must be done for the final Five Year Program Review document that is shared with the State Board of Regents.

Faculty Headcount	2017-28	2018-19
With Doctoral Degrees (Including MFA and other terminal degrees, as specified by the institution)		
Full-time Tenured	0	0
Full-time Non-Tenured (includes tenure-track)	0	0
Part-time and adjunct	0	0
With Master's Degrees		
Full-time Tenured	2	2
Full-time Non-Tenured		
Part-time and adjunct	2	3
With Bachelor's Degrees		
Full-time Tenured	0	0
Full-time Non-tenured	2	2
Part-time and adjunct	1	1
Other		
Full-time Tenured		
Full-time Non-tenured	1	1
Part-time	1	0
Total Headcount Faculty		
Full-time Tenured	2	2
Full-time Non-tenured	3	3
Part-time	4	4

Appendix C – alternative format for Evidence of Learning Reporting

Course:

Program Outcome 1	
Aligned Course Outcome(s):	
Method(s) of measurement:	
Target Performance:	
Actual Performance:	
Interpretation/Reflection on findings:	
Action Plan/Use of Results:	
Intended evaluation of plan (closing the loop):	

Please respond to the following questions.

- 1) First year student success is critical to WSU's retention and graduation efforts. We are interested in finding out how departments support their first-year students. Do you have mechanisms and processes in place to identify, meet with, and support first-year students? Please provide a brief narrative focusing on your program's support of new students:

- a. Any first-year students taking courses in your program(s).

All students meet with the department academic adviser upon entry into the program. Students are given degree maps and schedules to ensure that they are appropriately prepared to begin the program. All incoming students attend an orientation course their first semester. The course is taught by the academic adviser. Students are provided with additional advisement material, internship opportunities, resume guidance, and a detailed explanation of the university resources available to them.

- b. Students declared in your program(s), whether or not they are taking courses in your program(s)

All students meet with the department academic adviser upon entry into the program. Students are given degree maps and schedules to ensure that they are appropriately prepared to begin the program. A student can't be admitted into the program until they have met with the adviser

- 2) A key component of sound assessment practice is the process of 'closing the loop' – that is, following up on changes implemented as a response to your assessment findings, to determine the impact of those changes/innovations. It is also an aspect of assessment on which we need to improve, as suggested in our NWCCU mid-cycle report. Please describe the processes your program has in place to 'close the loop'.

We do not currently have a formal process for reviewing the success of implemented changes. When a course is being formally assessed we review the course with the input of our industry advisory board. We implement the recommended changes to the course and present the results at the next advisory committee meeting. In the future we will incorporate a report of the assessment results from the pre and post test student examinations as evidence of improvements

Glossary

Student Learning Outcomes/Measurable Learning Outcomes

The terms ‘learning outcome’, ‘learning objective’, ‘learning competency’, and ‘learning goal’ are often used interchangeably. Broadly, these terms reference what we want students to be able to do AFTER they pass a course or graduate from a program. For this document, we will use the word ‘outcomes’. Good learning outcomes are specific (but not too specific), are observable, and are clear. Good learning outcomes focus on skills: knowledge and understanding; transferrable skills; habits of mind; career skills; attitudes and values.

- Should be developed using action words (if you can see it, you can assess it).
- Use compound statements judiciously.
- Use complex statements judiciously.

Curriculum Grid

A chart identifying the key learning outcomes addressed in each of the curriculum’s key elements or learning experiences (Suskie, 2019). A good curriculum:

- Gives students ample, diverse opportunities to achieve core learning outcomes.
- Has appropriate, progressive rigor.
- Concludes with an integrative, synthesizing capstone experience.
- Is focused and simple.
- Uses research-informed strategies to help students learn and succeed.
- Is consistent across venues and modalities.
- Is greater than the sum of its parts.

Target Performance (previously referred to as ‘Threshold’)

The level of performance at which students are doing well enough to succeed in later studies (e.g., next course in sequence or next level of course) or career.

Actual Performance

How students performed on the specific assessment. An average score is less meaningful than a distribution of scores (for example, 72% of students met or exceeded the target performance, 5% of students failed the assessment).

Closing the Loop

The process of following up on changes made to curriculum, pedagogy, materials, etc., to determine if the changes had the desired impact.

Continuous Improvement

An idea with roots in manufacturing, that promotes the ongoing effort to improve. Continuous improvement uses data and evidence to improve student learning and drive student success.

Direct evidence

Evidence based upon actual student work; performance on a test, a presentation, or a research paper, for example. Direct evidence is tangible, visible, and measurable.

Indirect evidence

Evidence that serves as a proxy for student learning. May include student opinion/perception of learning, course grades, measures of satisfaction, participation. Works well as a complement to direct evidence.

HIEE – High Impact Educational Experiences

Promote student learning through curricular and co-curricular activities that are intentionally designed to foster active and integrative student engagement by utilizing multiple impact strategies.