****

**Automotive Technology**

**AAS Degree**

**&**

**Undergraduate Certificate**

**&**

**Occupational Endorsement Certificates**

**Academic Assessment Plan**

**Adopted by**

**The Automotive Technology faculty: October 12, 2017**

**For Implementation in the 2018/2019 Academic Year**

**Submitted to the Academic Assessment Committee via:**

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# Mission Statement

The Automotive Technology program at the University of Alaska Anchorage prepares students for high demand careers in the transportation repair and maintenance field, to assists working Automotive technicians in remaining current through facilitation of continuing and professional education, through excellence in teaching technical and employability skills, and through seeking to align curriculum with related programs across Alaska. The program offers a two-year associate of applied science degree, and an embedded undergraduate degree with a one-year fast-track option.

# Assessment Process

## Introduction

This document defines the expected student learning outcomes for the Automotive Technology program and outlines a plan for assessing the achievement of the stated outcomes. This assessment plan reflects student learning outcomes incorporated in curriculum revisions submitted during the 2016 academic year. The faculty will continue to assess the specific NATEF technical areas as embedded items within the assessment tools.

The development of the student learning outcomes is focused on accreditation requirements. These requirements are reviewed by and industry partners to determine prioritization for inclusion in the curriculum. Per accreditation requirements, the Automotive Technology advisory committee reviews the curriculum at least twice during the 5-year accreditation cycle, and program effectiveness at least one time per year.

The NATEF accreditation of the Automotive Technology program applies to both the AAS and certificate programs. Because the Automotive Technology AAS and Certificate programs are based on the same core curriculum and the same national standards, this assessment plan contains measures and means for assessing both programs.

## Program Student Learning Outcomes

Students graduating with an Associate of Applied Science Degree in Automotive Technology will be able to:

* Demonstrate academic proficiency necessary to pass national examinations within the domain.
* Demonstrate proficiency in performing occupationally related tasks in a professional setting.
* Integrate knowledge from diverse areas to develop effective diagnostic and repair strategies involving complex systems.
* Request, collect, summarize, evaluate, and apply oral and written information gathered from technical (e.g. schematics, technical bulletins, and service information) and nontechnical (e.g. customer oral and written reports) sources regarding symptoms and potential diagnostic and repair strategies for complex systems used in automobiles.
* Apply knowledge gained from previous education and experience to problem solving to aid in diagnosis and repair for the immediate situation.
* Demonstrate effective employability skills, including oral and written communication skills, as required by accreditation standards for the ASE Education Foundation.
* Demonstrate technical knowledge and critical thinking necessary for success in the automotive maintenance and repair industry.

Students graduating with an Undergraduate Certificate in Automotive Technology will be able to:

* Demonstrate technical knowledge and critical thinking necessary for success in the automotive maintenance and repair industry.
* Demonstrate academic proficiency necessary to pass national examinations within the domain.
* Demonstrate proficiency in performing occupationally related tasks in a professional setting.
* Integrate knowledge from diverse areas to develop effective diagnostic and repair strategies involving complex systems.
* Demonstrate effective employability skills, including oral and written communication skills, as required by accreditation standards for the ASE Education Foundation.

Students graduating with the OEC in Automotive Engine Performance will be able to:

* Demonstrate technical knowledge and critical thinking necessary for success in the automotive maintenance and repair industry.
* Demonstrate proficiency in performing electrical and engine performance diagnostic related tasks in a professional setting.
* Demonstrate effective employability skills, including oral and written communication skills, as required by accreditation standards for the ASE Education Foundation.
* Demonstrate academic proficiency necessary to pass national examinations in the electrical and engine performance areas.

Students graduating with an Occupational Endorsement Certificate in Automotive Specialist will be able to:

* Demonstrate technical knowledge and critical thinking necessary for success in the automotive maintenance and repair industry.
* Demonstrate proficiency in performing electrical and brake system diagnostic related tasks in a professional setting.
* Demonstrate effective employability skills, including oral and written communication skills, as required by accreditation standards for the ASE Education Foundation.
* Demonstrate academic proficiency necessary to pass national examinations in the electrical and brakes areas.

Related instruction.

Students in Automotive Technology AAS, Undergraduate Certificate, and OEC programs build knowledge and skills needed to carry out specific tasks while they develop abilities in the essential elements of communication, computation, and human relations.

The essential elements of communication, computation, and human relations are developed in Automotive & Diesel Technology (ADT) specific courses. Those elements are addressed through related instruction and assessment in the following courses: ADT A102 Introduction to Automotive Technology and ADT A122 Engine Theory and Diagnosis build on the element of communication, ADT A121 Basic Electrical Systems and ADT A140 Automotive Engines build the element of computation and A195 Automotive Practicum builds on the element of Human Relations.

## Measures

The program uses the following three measures to assess program effectiveness:

* 1. National Automotive Student Skills Standards Assessment (NA3SA)
	2. Employer Survey/Practicum Report
	3. National Institute for Automotive Service Excellence (ASE) certification tests
	4. Program developed assignments with approved rubrics

A description of the measures used in the assessment of the program outcomes and their implementation are summarized in Table 1. The measures and their relationships to the program outcomes are listed in Table 2.

## Table 1: Program Outcomes Assessment Measures and Administration

| **Measure** | **Description** | **Frequency/ Start Date** | **Collection Method** | **Administered by** |
| --- | --- | --- | --- | --- |
| NA3SA Exams | The NA3SA Exams are a series of national exams, corresponding to the areas recognized by the National Institute for Automotive Service Excellence (ASE). The program utilizes all tests from series that directly relate to program outcomes. Faculty reviews the available tests as they are added or modified to determine applicability to the program. | Tests are administered annually during the testing window provided by ASE. | Tests are taken on line in a proctored environment.. | Faculty or program assistant |
| Employer Interview/ Practicum Report | This measure provides input from employers and students related to the program effectiveness related to the workplace. The faculty receives input directly from employers and students regarding student and graduate preparation for the work environment through a department approved interview. | Each Semester | Data is collected from employers and students. Data collection may be accomplished through oral, written, or electronic means.  | Faculty collects data where possible in person. Electronic surveys may be administered by program administration for the convenience of the responder. |
| ASE Exams | ASE exams are the recognized national certification for the industry | Annual | Faculty collect information directly from students. Data is scanned and stored on department share drive | The National Institute of Automotive Service Excellence administers the test. Faculty collect the data from students. |
| Department Developed Presentations and Papers With Standardized Rubric | Assignments are given in each section of ADT A102, A121, A122, A140, and A195 to assess related instruction in written and oral communications, computation, and human relations relevant to the automotive repair industry | Annual | Faculty make the assignments and collect assess progress through application of approved rubrics. | Faculty |

## Table 2: Association of Assessment Measures to Program Outcomes

| **Outcomes** | Department Developed Assignments | NA3SA Exams | Employer Survey/ Practicum Report | ASE Exams | Measure for: |
| --- | --- | --- | --- | --- | --- |
| Demonstrate technical knowledge and critical thinking necessary for success in the automotive maintenance and repair industry. | 1 | 1 | 1 | 1 | AASCert |
| Demonstrate academic proficiency necessary to pass national examinations within the domain.  | 0 | 1 | 0 | 1 | AASCert |
| Demonstrate proficiency in performing occupationally related tasks in a professional setting. | 0 | 0 | 1 | 0 | AASCert |
| Integrate knowledge from diverse areas to develop effective diagnostic and repair strategies involving complex systems.  | 0 | 0 | 1 | 0 | AASCert |
| Request, collect, summarize, evaluate, and apply oral and written information gathered from technical (e.g. schematics, technical bulletins, and service information) and nontechnical (e.g. customer oral and written reports) sources regarding symptoms and potential diagnostic and repair strategies used in automobiles.  | 0 | 0 | 1 | 0 | AAS |
| Apply knowledge gained from previous education and experience to problem solving to aid in diagnosis and repair for the immediate situation.  | 0 | 0 | 1 | 0 | AAS |
| Demonstrate effective employability skills, including oral and written communication skills, as required by the current accreditation standards for the National Automotive Technicians Education Foundation.  | 1 | 0 | 1 | 0 | AASCert |

0 = Measure is not used to measure the associated outcome.

1 = Measure is used to measure the associated outcome.