



Short-term certificates have been developed to focus on automotive management. Management curriculum clusters have been developed for service consultant, service management and parts management. The need for this option came from input from the AUT advisory committee and area auto dealers seeking training for “front office” employees.

A Honda certificate program has been in place since fall of 1999. This program is sponsored by American Honda and allows students to become certified Honda technicians.

Some modularization of the curriculum is occurring from partnership with General Motors. Most of the modules receive 0.5 credit and can be articulated with courses from the Sinclair curriculum. Sixty modules have been completed with plans for additional ones to be developed.

The master syllabi have been reviewed and are up-to-date.

- II. Program Learning Outcomes:** A description of what you intend for students to know (cognitive), think/feel (affective), or do (psychomotor), when they have completed your degree program. A suggested manageable number of outcomes should be in the range of five to ten. Describe Program Learning Outcomes review activities.\*

The program learning outcomes have been reviewed and are up-to-date.

An entry-level graduate with an Associate of Applied Science Degree in Automotive Technology from Sinclair Community College will be able to:

Learning Outcomes	Related Courses
1. Test engines for integrity; perform entry-level engine overhaul; perform complete car service.	AUT 108, 245; INT 111
2. Diagnose fuel system problems; service emission controls; diagnose computerized fuel handling devices and diagnose I/M 240 related engine problems.	AUT 115, 245
3. Diagnose electrical system problems; use test meters; overhaul electrical components.	AUT 125, 245
4. Diagnose driveline problems; overhaul automatic transmissions/transaxles, standard transmissions/transaxles and differential.	AUT 142, 241

Learning Outcomes	Related Courses
5. Diagnose and repair heating and air conditioning systems including automated systems.	AUT 146
6. Diagnose chassis system problems; align chassis; repair brakes and suspension systems.	AUT 165, 210
7. Function as a shop service manager, shop foreman, or supervisor; learn safety management.	AUT 215; ENG 111; SRM 211
8. Operate a Computer Customer Records System; perform service manager functions.	AUT 215; ECO 105; ENG 121, 122; MET 198
9. Use sound business practices in relations with customers.	AUT 215; PSY 105; ECO 105; MAN 105
10. MIG, TIG, ARC, gas weld; pass test on advanced electronic systems on current vehicles.	AUT 215, 245
11. Develop mathematical skills to use in analytical problem-solving methods.	INT 111, 141; AUT 125

**III. Assessment Method(s):** A measurable indicator of success in attaining the stated learning outcome(s). The methodology should be both reliable and valid. Please describe in detail.

- a. **Formative Assessment Method(s) and Description:** a measurable indicator of student in-progress success in attaining the stated learning outcome(s).

There are hands-on and practical examinations, as well as written examinations in each class. The curriculum is built from task lists provided by ASE. Students are assessed on each task and must meet industry standards set by NATEF. The practical examinations consist of workstations where students must demonstrate proper use of the equipment.

In addition, ASE certification exams are given twice a year. These examinations are optional for Sinclair students but are required for ASEP and CAP students. These eight examinations match the SCC curriculum and provide for national certification in those automotive systems areas. ASE certification is very desirable for employment. SCC is an ASE-certified testing site, so Sinclair faculty represent ASE in the testing and certification of students. Pass rates for this test are confidential and are not disclosed to Sinclair. Students report that they have good success in terms of pass rates.

- b. **Summative Assessment Method(s) and Description:** a measurable indicator of end-of-program success in attaining the stated program learning outcomes(s).

Summative evaluation is determined via AUT 215, Service Operations, which is offered every spring term. Students set up an automotive business and offer services to faculty and staff. There are typically 10-15 students registered for this course. ASEP and CAP students also use AUT 270 (Internship) for hands-on experience. Each student completes 14 hours of internship credit. This internship is integrated into the curriculum as the students complete courses. These students do not enroll in AUT 215, but use the internship for both formative and summative assessment.

- IV. **Results:** A description of the actual results of overall student performance gathered from the summative assessment(s). (see III.b.)

Skills vary in AUT 215, although most students do very well. Some can do the written work but then have difficulty applying the content in a practice situation. Grades for this course are based upon repair skill and timing, diagnostic skills, business aspects of the course, oral and written communication skills, and computer literacy skills. AUT 215 is taught by one instructor, who screens the car for early detection of the problem so that he can determine that the repairs can adequately be completed by the students in the practice situation.

ASEP and CAP students are observed on site by a faculty member to assess performance and progress. Assessment forms are used by the employer so that the department can gather feedback on student performance. Students must submit daily worksheets and assignments to the faculty supervisor. Employer feedback is very good. If a student is having difficulty, it is usually in the early quarters of their time in the program.

- V. **Analysis/Actions:** From analysis of your summative assessment results, do you plan to or have you made any adjustments to your program learning outcomes, methodologies, curriculum, etc.? If yes, describe. If no, explain.

The Automotive Department has a good working relationship with its advisory board and with GM and Chrysler. There is continual updating of the curriculum in terms of content, teaching methodology, and expectations for the AUT 215 course.

The new automotive building has resulted in availability of new technology which has increased the use of instructional technology. There now exists live-feed GM training courses, and interactive learning opportunities. The satellite provides for two-way audio and one-way video instruction. Sinclair was the first ASEP school in the country with this capability. Some classes are live-feed from Warren, Michigan to the Sinclair seminar room. Each classroom has computerized service manuals. Distance learning opportunities will start summer of 2000. In addition, Reynolds and Reynolds provides automotive management training materials via computer.

**VI. General Education:** Are you using any tool(s) to assess any of the three primary general education outcomes\* (communication, thinking, values/citizenship)? If so, describe.

All faculty have access to the written and oral communication checklists.

- a. Where within the major do you assess written communication? Describe the assessment method(s) used. Describe assessment results if available.

Every AUT course has a project for students to complete which consists of a paper, a presentation or a three-dimensional structure they must create. Students do repair order writing in AUT 102. Writing is also required in the capstone (AUT 215).

- b. Where within the major do you assess oral communication? Describe the assessment method(s) used. Describe assessment results if available.

Several faculty use the oral communication checklist to assess oral presentations that students make in AUT classes. The courses that focus on brake systems and engine systems require oral presentations and the checklist is used for evaluation. The courses which require presentations are: AUT 125, 146, 165 and 210.

- c. Where within the major do you assess thinking? Thinking might include inventing new problems, seeing relationships and/or implications, respecting other approaches, demonstrating clarity and/or integrity, or recognizing assumptions. Describe the assessment method(s) used. Describe assessment results if available.

Critical thinking skills are essential to the automotive student who wants to increase troubleshooting and diagnostic skills. Thinking skills are a key item to becoming a successful automotive technician. The written and practical examinations used in every AUT course assess student thinking skills.

- d. Where within the major do you assess values/citizenship/community? These activities might include behaviors, perspective, awareness, responsibility, teamwork, ethical/professional standards, service learning or community participation. Describe the assessment method(s) used. Describe assessment results if available.

Values and ethics are stressed in the capstone course and in AUT 102 (Dealership Principles). Work ethics and issues surrounding personal hygiene are discussed. The AUT department has an ethics worksheet that each student signs which spells out appropriate work ethics and behavior.

\* Note: The oral communication checklist and the written communication checklist developed by the General Education Committee were adopted for college-wide use during the 1997-98 academic year by Academic Council. Thinking Guidelines developed by the General Education Committee are being piloted by faculty during the 1998-99 academic year.