

A short-term certificate in high performance coursework (race-car technology) is in place. Five courses currently exist. The curriculum focuses on modifying engines to become high-performance vehicles. Most students enroll through personal interest but the opportunity exists for students to be certification through ASE as an auto machinist.

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. Fourteen modules are developed and will be continually revised based upon General Motors training needs.

To better meet student needs, automotive courses are now being offered on Saturdays and Sundays.

The master syllabi were reviewed and revised in 2003 to meet certification requirements. Some minor changes were made to the program, especially in the area of automotive electronics.

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 were reviewed in 2003 and have been revised (see below).

*NATEF-certificate review occurred 2003

*2008 mid-way compliance review

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

1.	Diagnose brake system, ABS systems, power booster systems, and suspension components; perform alignment; steering component diagnosis and repairs	AUT 165, 210
2.	Utilize scan tools, scopes DVOM's and other test equipment in troubleshooting engine and transmission driveability problems	AUT 115, 245, 215
3.	Diagnose fuel system problems; service emission controls; diagnose fuel injection and Powertrain Control Module problems	AUT 115, 245

4.	Diagnose electrical system problems; use test meters; overhaul electrical components.	AUT 124, 125
5.	Diagnose and repair manual transmission systems, drivelines, differentials and 4 wheel drive/all wheel drive systems	AUT 142
6.	Diagnosis and repair automatic transmission/transaxle systems, torque converters.	AUT 241
7.	Diagnose and repair heating and air conditioning systems including automated systems.	AUT 146
8.	Learn the structure and functions of an internal combustion engine, perform engine overhaul processes and diagnosis of mechanical engine components	AUT 108
9.	Develop mathematical skills to use in analytical problem-solving.	INT 141
10.	Function as a shop service manager, shop foreman, or supervisor; learn safety management.	AUT 215
11.	Operate a Computer Customer Records System; perform service manager functions.	AUT 215, 111
12.	Develop effective communication skills in dealing with customers in a simulated automotive business structure.	AUT 215, 111

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.

A dealer evaluation tool is completed for each cooperative student by his/her employer. The dealer offers feedback on the student's attitude, ability to learn, dependability, initiative, quality of work, relations with other, maturity and poise, quantity of work, judgment, attendance, and punctuality.

CAP students participate in roundtable discussions each quarter. Students are offered the opportunity to express concerns as well as give feedback on courses, faculty, facilities, and other courses. Data from these focus groups is used to improve the quality of the program.

The CAP program was awarded the DaimlerChrysler CAP College of the Year in 2003, 2004 and 2005. The program also won the 2004 IPC Award (a national award for best automotive program in the country).

Implemented in fall 2006 was the use of a new software program and palm-pilot to maintain task competencies, which is an activity required by NATEF. The palm-pilot sends information to software, which keeps data accumulative. In addition, it grades how the students performed the task and total the information for the student for two years (all requirements of NATEF).

- 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. Instructors use a weekly evaluation form to evaluate students in each role they assume throughout the quarter. 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. 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. The employer uses assessment forms 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, Ford, Honda, 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. Each classroom has computerized service manuals. Distance learning opportunities are available. 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.