



**Automotive Technology
Associate of Applied Science (AAS)
Certificate of Applied Science (CAS)
Program Level Assessment Plan
June 8, 2017**

Automotive Technology AAS/CAS Mission Statement

The Automotive Technology (ATT) AAS and CAS programs are technical-based curricula that provide instruction and practical application of a variety of technical concepts and practices. Successful completion of the Automotive Technology program will allow graduates to enter the workforce at the technician level. The program supports the mission by addressing the expressed need for trained ATT professionals who can diagnose, troubleshoot, and repair today's complex vehicles.

The program provides:

- Graduates to meet current and projected regional employment needs for ATT related fields.
- Provide workers with credentials for new employment opportunities.

Automotive Technology AAS Program Outcomes

Upon completion of this program, graduates will be able to:

1. Apply accepted safety and health practices in the workplace.
2. Use proper tools and instrumentation to diagnose, troubleshoot, and repair braking systems.
3. Use proper tools and instrumentation to diagnose, troubleshoot, and repair automotive suspension and steering systems.
4. Use proper tools and instrumentation to diagnose, troubleshoot, and repair automotive engines.
5. Use proper tools and instrumentation to diagnose, troubleshoot, and repair automotive electrical and electronic systems and components.
6. Use proper tools and instrumentation to diagnose, troubleshoot, and repair automotive heating systems.
7. Use proper tools and instrumentation to diagnose, troubleshoot, and repair air conditioning systems.
8. Use proper tools and instrumentation to diagnose, troubleshoot, and repair manual drive trains and axles in automobiles.
9. Use proper tools and instrumentation to diagnose, troubleshoot, and repair automobiles with automatic transmissions and transaxles.

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10. Develop scientific knowledge and mathematical analytical skills and techniques.
11. Demonstrate an appreciation and awareness of human and cultural diversity in life as well as the workplace.
12. Apply effective written communication and computation skills.
13. Demonstrate computer literacy.

Automotive Technology CAS Program Outcomes

Upon completion of this program, graduates will be able to:

1. Apply accepted safety and health practices in the workplace.
2. Use proper tools and instrumentation to diagnose, troubleshoot, and repair braking systems.
3. Use proper tools and instrumentation to diagnose, troubleshoot, and repair automotive suspension and steering systems.
4. Use proper tools and instrumentation to diagnose, troubleshoot, and repair automotive engines.
5. Use proper tools and instrumentation to diagnose, troubleshoot, and repair automotive electrical and electronic systems and components.
6. Use proper tools and instrumentation to diagnose, troubleshoot, and repair automotive heating systems.
7. Use proper tools and instrumentation to diagnose, troubleshoot, and repair air conditioning systems.
8. Apply effective written communication and computation skills.
9. Demonstrate computer literacy.

Assessment of Automotive Technology AAS/CAS Goals and Outcomes

The assessment of automotive technical core courses is imperative and the key to curriculum improvement. Targeted courses include:

1. ATT 100: Introduction to Automotive Technology
2. ATT 103: Engine Repair
3. ATT 105: Braking Systems
4. ATT 107: Suspension and Steering
5. ATT 124: Automotive Electricity/Electronics I
6. ATT 128: Automotive Heating and Air Conditioning
7. ATT 205: Automotive Electricity/Electronics II
8. ATT 126: Engine Performance I
9. ATT 207: Engine Performance II
10. ATT 224: Manual Drive Train and Axles
11. ATT 226: Automatic Transmissions and Transaxles
12. ATT 276: Automotive Technology Capstone
13. ATT 278: Automotive Technology Internship

A focus on curriculum improvements and revisions based on assessment data will help overcome traditional barriers to conducting meaningful assessment and improve student learning. Therefore, the following assessment instruments and standards will be used to determine student

academic achievement and course effectiveness in meeting program-level and course-level learning outcomes.

Completion Rate/Course Level – At least 75% of students enrolling in ATT technical core courses will successfully complete their courses. This metric will be determined at the end of each semester based on final grades beginning in Fall 2017. Courses to be assessed in subsequent semesters will be based on the program implementation schedule.

Drop Rate – Beginning in Fall 2017, drop rates in ATT technical core courses will not exceed 25%.

Course-Level Effectiveness – Course outcomes for targeted ATT courses will be assessed on a cyclical basis based on the program implementation schedule and the Assessment Committee's Course Report Tracker. At least four learning outcomes will be assessed in each Course Assessment report and unmet learning outcomes (below 75%) will be monitored and reassessed in subsequent reports.

Graduation Rate – At minimum, 75% of students enrolling in the ATT program will successfully complete their certificate within three years of initial enrollment. This metric will be measured by the number of graduates. For the AAS program, at least 75% of students will successfully complete their degree within four years.

Syllabus Analysis – Syllabus analyses for all ATT courses will be conducted each semester to ensure current learning outcomes are included on all syllabi and that all syllabi are consistent across the program.

Transcript Analysis - Transcript analysis will be conducted as triggered by deficiencies in course level assessment activities.

Advisory Committee Review – On a per semester basis, the ATT Advisory Committee will review and provide a qualitative evaluation of the program's effectiveness in meeting regional employment needs.

Enrollment Patterns – Enrollment trends will be monitored on a yearly basis. Shifts in targeted courses and enrollment numbers will trigger a detailed assessment review as defined above. IDEA course surveys will be used as an indirect assessment measure of student success and satisfaction. IDEA survey questions will provide student feedback on the quality of learning acquired throughout the program including an understanding of intended course outcomes and overall student satisfaction with instruction and course effectiveness.

Embedded Course Certifications and Exit Testing – Currently, there are no embedded industry certification in the ATT program, and Eastern utilizes National Occupational Competency Testing Institute's (NOCTI) Auto Technology certification test as a graduate exam. Future ATT technical core courses in ATT should be restructured and aligned with all eight

Automotive Service Excellence (ASE) areas and cover all the task sheets set forth by ASE/NATEF.

Data Collection

Multiple methods will be used to collect appropriate data to assess student learning and success. Primary data will be analyzed to determine course level effectiveness. A secondary analysis of student records will be conducted to track student success, engagement, and goal attainment. Student records selected for the secondary analysis include enrollment patterns in ATT programs, course grades, drop rates, and job attainment rates. Future ATT program reviews will extrapolate and assess data to help improve program deficiencies. Additionally, course evaluations will be conducted to address students' perceptions of success and satisfaction. These self-reports will provide a qualitative perspective of the students' "lived experience" in targeted program courses.

Data Analysis and Recommendations

The Division Chair for General Studies and full-time Automotive Technology faculty member will prepare assessment reports and recommendations. These reports will be provided to the Dean for Teaching and Learning, Assessment Committee, and the Learner Outcomes Team (LOT). Reports will address student outcomes, methods of assessment, results of assessment activities and recommendations. Course Assessment reports are distributed to all ATT faculty members. Any suggestions or comments from faculty members will also be considered for any possible changes to the course.

Effectiveness of Assessment Plan

Additional methods of assessment will be added to determine student success and the effectiveness of the curriculum. The Higher Learning Commission (HLC) identifies six questions, which serve as prompts for dialog in utilization of assessment data for improvement of student learning. As trends in student academic achievement are monitored, the need for additional assessment activities or change in focus will become evident by applicability of results in curriculum revision.

Below are HLC's six fundamental questions to guide discussions for the review of assessment in support of student learning:

1. How are your stated learning outcomes appropriate to your mission, programs, degrees, and students?
2. What evidence do you that students achieve your stated learning outcomes?

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3. In what ways do you analyze and use evidence of student learning?
4. How do you ensure shared responsibility for student learning and for assessment of student learning?
5. How do you evaluate and improve the effectiveness of your efforts to assess and improve student learning?
6. In what ways do you inform the public and other stakeholders about what students are learning – and how well?

See Attachments for Program Matrix