**Student Learning Objective (SLO) Template**

*This template should be completed while referring to the SLO Template Checklist.*

**Teacher Name:**

**Content Area and Course(s):** Automotive Technology I  
**Grade Level(s):** 11  
**Academic Year:** 2014–15

**Baseline and Trend Data**  
*What information is being used to inform the creation of the SLO and establish the amount of growth that should take place?*

<table>
<thead>
<tr>
<th>Baseline Data:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A teacher-created and district-approved written preassessment containing 50 multiple-choice questions was given during the first week of school. The pretest addressed outcomes in five of the six strands in the Transportation Standards of the Career Field Technical Content Standards covered in Automotive Technology I:</td>
</tr>
<tr>
<td>• Strand 1: Business Operations/21st Century Skills</td>
</tr>
<tr>
<td>• Strand 2: Safety, Tools and Maintenance</td>
</tr>
<tr>
<td>• Strand 3: Engine Adjustments and Repair</td>
</tr>
<tr>
<td>• Strand 4: Systems Performance</td>
</tr>
<tr>
<td>• Strand 5: Drive Train</td>
</tr>
</tbody>
</table>

**Student Preassessment Scores:**  
- 0–15%: 4 students  
- 16–30%: 6 students  
- 31–45%: 3 students  
- 46–50%: 2 students  
- 51–64%: 0 students  
- 65–100% (passing): 0 students  

Because Automotive Technology I is the first year of a two-year automotive program that includes blocked courses, students are not expected to demonstrate significant content knowledge on the preassessment. A student survey administered during the first day of school revealed...
that most students have some experience with auto repair outside of school. This experience varies from general maintenance skills such as changing oil to more complex experience such as changing the brakes. This was apparent on the preassessment results as well. Students demonstrated strong knowledge of the terms/vocabulary associated with automotive tech. And most were able to identify parts correctly. However, they were not as strong in understanding the connection between systems used in automotive technology or in the business operations. An additional weakness for all students was noted in the ability to trouble shoot and diagnose, particularly in the Computerized Engine Controls Outcome of Engine Adjustments and Repair Strand and the Electrical and Electronic Systems Outcome of the Systems Performance Strand.
**Trend Data:**

There are no previous data on prior students’ growth for this course, but there are some trend data available for six students who participated in a sophomore introductory automotive class.

<table>
<thead>
<tr>
<th>Student</th>
<th>Final Grade for Introductory Automotive Class</th>
<th>Preassessment Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>83</td>
<td>28%</td>
</tr>
<tr>
<td>Student 2</td>
<td>87</td>
<td>43%</td>
</tr>
<tr>
<td>Student 3</td>
<td>93</td>
<td>47%</td>
</tr>
<tr>
<td>Student 4</td>
<td>95</td>
<td>48%</td>
</tr>
<tr>
<td>Student 5</td>
<td>79</td>
<td>36%</td>
</tr>
</tbody>
</table>

Two of these students (those with the two highest scores) have informally expressed that they have had some previous experience with automotive technology outside of school.

There also are trend data on previous students’ achievement in this course. Based on prior teaching experience, most students enter the course with a strong understanding of shop safety due to previous experience in lab courses and/or outside experiences. They also commonly possess average to strong measurement skills. However, most exhibit limited or rudimentary content knowledge.

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of Students Passing the Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013–14</td>
<td>88%</td>
</tr>
<tr>
<td>2012–13</td>
<td>94%</td>
</tr>
<tr>
<td>2011–12</td>
<td>88%</td>
</tr>
</tbody>
</table>

Five students (those scoring in the bottom baseline bracket and one student scoring in the second bracket) were not performing at grade level in either reading and/or math based on their state test scores from tenth grade.

**Student Population**

*Which students will be included in this SLO? Include course, grade level, and number of students.*

Automotive Technology I has 15 students in Grade 11, with two having an individualized education program (IEP) and one having a 504 plan. One student’s 504 plan focuses on overcoming frustrations with academic challenges. All accommodations can be met for this course for this student. Two students’ IEPs focus on challenges with reading, math, and reasoning. Although these students’ accommodations also can be met for this course, they may face greater challenges in meeting growth goals compared with other students based on their previous performance and moderate challenges. Both of these students scored in the bottom bracket for preassessment scores. No students have been excluded from this
SLO.

Interval of Instruction
What is the duration of the course that the SLO will cover? Include beginning and end dates.

This course operates on block schedule and meets for one semester. Therefore the SLO will cover the first semester of the 2014–15 school year, from August 25, 2014–January 9, 2015. This class meets for 90 minutes 5 days per week.

Standards and Content
To what related standards is the SLO aligned?

Auto Tech 1 lays the foundation for future coursework and careers in the industry. The expectation for students enrolled in Auto Tech 1 is that by the end of the course they demonstrate introductory knowledge and skills of general maintenance and repair reflected in the Competencies of the course Outcomes. They also must demonstrate an understanding of business operations. Additionally they must be able to apply the principles of safety and the use of tools to maintain equipment and the environment to prevent accidents and mitigate hazards. These are reflected in the following standards for Ground Transportation in the Ohio Transportation Systems Standards document:

  - **Outcome 1.1. Employability Skills**- Develop career awareness and employability skills needed for gaining and maintaining employment in diverse business settings.
  
  **Outcome 1.3. Business Ethics and Law**: Analyze how professional, ethical and legal behavior contributes to continuous improvement in organizational performance and regulatory compliance.
  
  **Outcome 1.6. Business Literacy**: Develop foundational skills and knowledge in entrepreneurship, financial literacy and business operations.
  
  **Outcome 1.7. Entrepreneurship/Entrepreneurs**: Analyze the environment in which a business operates and the economic factors and opportunities associated with self-employment.
  
  **Outcome 1.11. Principles of Business Economics**: Examine and employ economic principles, concepts and policies to
accomplish organizational goals and objectives

Strand 2. Safety, Tools and Maintenance

   Outcome 2.1. Facility Safety: Handle materials, prevent accidents and mitigate hazards.

   Outcome 2.2. Personal Safety: Practice personal safety.

   Outcome 2.3. Tool and Equipment Preventive Maintenance: Identify, use, clean, maintain and perform planned preventive maintenance on tools and equipment.

   Outcome 2.4. General Maintenance: Provide general maintenance to mechanical systems.

Strand 3. Engine Adjustments and Repair

   Outcome 3.1. Engine Cylinder Head and Block Assemblies: Remove, disassemble and repair components in engine cylinder head and block assemblies.

   Outcome 3.2. Computerized Engine Controls: Perform diagnosis and repair of computerized engine controls.

   Outcome 3.3. Ignition System: Perform ignition system diagnosis and repair.


   Outcome 3.5. Lubrication and Cooling Systems: Inspect lubrication and cooling systems operation.

Strand 4. Systems Performance


   Outcome 4.2. Drum and Disc: Identify, inspect and replace mechanical components of drum and disc brake systems.
Outcome 4.3. Air Brake Systems: Identify, inspect and replace air brake systems.

Outcome 4.4. Antilock Brakes: Identify, inspect and replace antilock brake systems.

Outcome 4.6. Batteries: Diagnose and service batteries.

Outcome 4.7. Starting and Charging Systems: Identify, inspect and replace starting and charging system components.


Strand 5. Drivetrain

Outcome 5.7. Wheel Alignment: Inspect and adjust wheel alignment.

Outcome 5.8. Wheels and Tires: Identify, inspect and replace wheel and tire components and assemblies.

Assessment(s)

What assessment(s) will be used to measure student growth for this SLO?

A teacher-created and district-approved postassessment will be given. The postassessment was developed by the Auto Tech teachers to align
to the course standards, then reviewed for stretch, validity and reliability and approved by the district career and technical education directors and other district staff including Intervention Specialists. It includes 50 written, multiple-choice questions. The postassessment has been aligned with the preassessment in terms of test content and item-type frequency. In addition to knowledge of course content, students must demonstrate the skills of the course as well. To measure these skills and determine growth, the auto tech teachers developed performance based assessments. Like the written assessment, these assessments were reviewed and approved by the district career and technical education directors as well as Intervention Specialists. These will be administered during the final 2 weeks of the course and will also be used to measure students’ growth in the course.

Per student IEPs and 504 plans, appropriate testing accommodations will be provided.
Growth Target(s)

*Considering all available data and content requirements, what growth target(s) can students be expected to reach?*

<table>
<thead>
<tr>
<th>Preassessment Score</th>
<th>Postassessment Target</th>
<th>Target Performance on Performance-Based Assessments: Percentage of Assessments With Passing Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–15% with IEP and 504 plan</td>
<td>Score of 50% or increase of 40 points, whichever is greater</td>
<td>80%</td>
</tr>
<tr>
<td>0–15%</td>
<td>Score of 60% or increase of 50 points, whichever is greater</td>
<td>80%</td>
</tr>
<tr>
<td>16–30%</td>
<td>Score of 70% or increase of 45 points, whichever is greater</td>
<td>90%</td>
</tr>
<tr>
<td>31–45%</td>
<td>80% or higher</td>
<td>90%</td>
</tr>
<tr>
<td>46–50%</td>
<td>85% or higher</td>
<td>95%</td>
</tr>
</tbody>
</table>

Rationale for Growth Target(s)

*What is your rationale for setting the above target(s) for student growth within the interval of instruction?*

Most students enter the Auto Tech pathway with very basic knowledge of the technical content and skills required. Often they have performed routine maintenance on their personal vehicles or their families’ vehicles. They do not, however, have a deeper understanding that allows them to diagnose, repair and restore auto systems. And most have little to no understanding of the Business Operations and 21st Century Skills required in the course. Course content and pacing is designed to provide them ample opportunity to obtain the knowledge and skills necessary to be successful in this course as well as future ground transportation courses.

One of our school goals is that all students be career-ready upon graduation. Therefore, students are expected to pass the Automotive Service Excellence (ASE) certification exam at the end of the second year of the automotive program. ASE is the standard by which the automotive repair industry is measured. The preassessment and postassessment include more than half (about 65 percent) of the content covered on the ASE certification. Based on students’ previous performance in the course (see trend data on passing rates from previous years) and student baseline data from the preassessment, these growth targets are attainable for all students. Meeting or exceeding these growth targets will enable all students to pass the course and be well prepared to pass the ASE certification exam given similar performance in the second automotive course in the program.