

Assessment: Course Four Column

FALL 2015



El Camino: Course SLOs (IND) - Auto Collision Repair and Painting

ECC: ACRP 1D:Automotive Component Systems Analysis and Repair

Course SLOs	Assessment Method Description	Results	Actions
<p>SLO #1 Plastic Repair - Students will be able to locate a plastic part's type code and choose the appropriate repair method, tools, and materials. Students will then be able to apply the method and perform the repair</p> <p>Course SLO Status: Active</p> <p>Course SLO Assessment Cycle: 2015-16 (Fall 2015), 2018-19 (Fall 2018)</p> <p>Input Date: 11/29/2013</p>	<p>Performance - Students will be given a section of damaged plastic bumper, in this case a piece of bumper that has incurred a rip. Students will have to identify the plastic type (PP, polypropylene), analyze the damage to determine the correct repair procedure (damage penetrates the plastic requiring a two-sided repair), then use the correct tools and materials to perform the repair (plastic welder with PP (R2) filler rod and reinforcement backing material).</p> <p>Standard and Target for Success: It is expected that 90% of students will be able to perform the repair thoroughly and properly to return the plastic to its original strength. Plastic welds will be tested for adhesion and penetration by bending and twisting the welded sections. A 'passing' weld will not break or split apart.</p>	<p>Semester and Year Assessment Conducted: 2015-16 (Fall 2015)</p> <p>Standard Met? : Standard Not Met</p> <p>27 students were tasked with completing the assignment for the SLO assessment. 23 students created passing welds, 2 students created visually acceptable welds that did not pass the strength test, 2 students did not complete the assignment.</p> <p>When calculating the percentage of success for this SLO assessment, only 85% of students passed successfully when all 27 student results are included. However, when the two non-participating students are excluded from the results, 92% of students created passing welds. We are very close to reaching our goal of 90% of all students successfully creating passing welds but cannot report meeting the standard this semester.</p> <p>Students had no trouble identifying the bumper plastic content or selecting the correct tool to perform the repair. Students used the instruction label on the tool and their handouts and lecture notes to choose the correct filler rod and tool heat setting to perform their repairs. The problem some students encountered was not pressing the tool deeply enough into the repair to completely eliminate the rip in the plastic. They melted the plastic only superficially from both sides leaving an air gap embedded in the plastic,</p>	<p>Action: Reiterate and reinforce in teaching demonstration and with reminders the need for tool to be pressed deeply enough into the repair to completely eliminated the rip in the plastic. (02/08/2017)</p> <p>Action Category: Teaching Strategies</p>

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		<p>which caused a weak area that re-cracks easily under duress. Students were specifically warned this would happen during the teaching demonstration. The students who performed their repair a few days after the demonstration were the ones most likely to forget this warning. The students who performed their repair sample the same or following day did not experience this problem. (02/03/2016)</p> <p>Faculty Assessment Leader: patricia fairchild Faculty Contributing to Assessment: patricia fairchild</p>	
<p>SLO #2 Suspension Components - Students will be able to identify damage to suspension components by measuring and visual inspection of a damaged vehicle. Students will be able to use proper nomenclature to write an informal estimate of what vehicle parts will need to be repaired and what parts need to be replaced. Course SLO Status: Active Course SLO Assessment Cycle: 2015-16 (Fall 2015), 2018-19 (Fall 2018) Input Date: 11/29/2013</p>	<p>Exam/Test/Quiz - Embedded test questions Standard and Target for Success: In the final exam, a scenario will be given that describes a vehicle with suspension damage as a result of a collision. Two ASE-style questions (Technician A says X, Technician B says Y, who is correct? A, B, Both or Neither?) will be asked regarding the scenario and diagnosis of the damage. A third question will ask the students to identify which components will need to be repaired or replaced to correct the damage.</p> <p>It is expected that 80% of students will be able to answer all three questions correctly OR that 95% of students will be able to answer two or more questions correctly.</p>	<p>Semester and Year Assessment Conducted: 2015-16 (Fall 2015) Standard Met? : Standard Not Met 27 students participated in the assessment of this SLO.</p> <p>QUESTIONS - Adapted from the Motor Age ASE study guide 1. A vehicle with a MacPherson strut suspension is damaged in a collision impact to the right front. An analysis with a frame/body measuring system shows the top of the strut tower was moved toward the vehicle centerline by 14mm. This damage would result in a change to which of the following alignment angles? A. Front wheel toe B. Caster C. Camber (CORRECT) D. SAI</p> <p>2. A repaired vehicle is found to have an SAI difference, where one side is within specs and the other side is out. Technician A says to bend the strut on the out-of-spec side to get it to align. Technician B says the cradle may have shifted. Who is right? A. Technician A only B. Technician B only C. Both A and B D. Neither A nor B (CORRECT)</p> <p>3. It is suspected that a vehicle's strut rod is bent. Technician A says to verify the damage by turning the rod</p>	<p>Action: Suspension and alignment are the most difficult topics for the ACRP department to teach because we are not equipped with the necessary vehicle lifts, measurement equipment or demonstration vehicles to be able to show students how to locate and identify the different suspension system parts and the damage they may have incurred. Handouts, lectures, photographs and videos are insufficient to properly train students to perform these important repairs because the systems are so three-dimensional and difficult to differentiate from nearby parts and systems under the vehicle.</p> <p>Rather than request funds and allocate space to obtaining this equipment, ACRP has recommended that the Associate of Science degree and Certificate of Achievement requirements be amended to include the ATEC Suspension and Steering class(es) as required for ACRP graduation. ATEC faculty and Advisory Committee members have</p>

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		<p>within the strut and watching for the wheel camber to change. Technician B says a bent strut rod must never be repaired. Who is correct?</p> <p>A. Technician A only B. Technician B only C. Both A and B (CORRECT) D. Neither A nor B</p> <p>ANSWERS/DATA</p> <p>Question #1 - A=0, B=4, C=19, D=4 While most students chose the correct answer C, the percentage of students who answered the question correctly is 70%</p> <p>Question #2 - A=2, B=6, C=5, D=14 Only 52% of students gave the correct answer D, but again more students chose the correct answer than any other.</p> <p>Question #3 - A=0, B=2, C=21, D=4 This question got the best results: 78% of students gave the correct answer C.</p> <p>ANALYSIS</p> <p>Suspension and alignment are the most difficult topics for the ACRP department to teach because we are not equipped with the necessary vehicle lifts, measurement equipment or demonstration vehicles to be able to show students how to locate and identify the different suspension system parts and the damage they may have incurred. Handouts, lectures, photographs and videos are insufficient to properly train students to perform these important repairs because the systems are so three-dimensional and difficult to differentiate from nearby parts and systems under the vehicle.</p> <p>Rather than request funds and allocate space to obtaining this equipment, ACRP has recommended that the Associate of Science degree and Certificate of Achievement requirements be amended to include the ATEC Suspension and Steering class(es) as required for ACRP graduation. ATEC faculty and Advisory Committee members have unanimously given their support of this change (Spring 2016</p>	<p>unanimously given their support of this change (Spring 2016 Advisory meeting, January 14, 2016), and already many ACRP students have begun taking ATEC classes and claiming double majors on their own. ACRP has welcomed ATEC students looking to broaden their knowledge of automotive repair as well. When this change to graduation requirements and curriculum has been approved, this SLO statement will be replaced with, "Structural Glass - Students will be able to prepare a structural window surround for glass installation and perform the glue-in installation. Students will then compare vehicle estimates written for in-house and sublet glass replacement, and analyze each for maximum body shop efficiency." (02/08/2017)</p> <p>Action Category: Curriculum Changes</p>

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<p>SLO #3 Hybrid & Airbag Safety - The student will be able to research, locate, safely disable and enable a hybrid vehicle's high voltage system. The student will also be able to research, safely disable and enable a vehicle's driver airbag.</p> <p>Course SLO Status: Active Course SLO Assessment Cycle: 2015-16 (Fall 2015), 2018-19 (Fall 2018) Input Date: 11/29/2013</p>	<p>Exam/Test/Quiz - Embedded test questions in final exam.</p> <p>Standard and Target for Success: Three ASE-style (Technician A says X, Technician B says Y, who is correct? A, B, both or neither) will be included on the final exam. This style of question is used in the Automotive Society of Engineers' automotive industry collision repair certification exams for professional technicians. The target SLO outcome is that 80% of participating students will answer all three questions correctly OR that 95% of participating students will answer at least two questions correctly.</p>	<p>Semester and Year Assessment Conducted: 2015-16 (Fall 2015) Standard Met? : Standard Not Met 27 students participated in the SLO assessment. The student responses to each question are detailed below:</p> <p>QUESTIONS - The embedded questions, adapted from Motor Age ASE study guides, were:</p> <ol style="list-style-type: none"> 1. If the SRS (airbag) warning light on the dash is illuminated after a collision in which the system is deployed, which service procedure is needed? <ol style="list-style-type: none"> A. Take the vehicle to a new car dealer's service department B. Call and airbag specialist for a sublet repair C. R&R the airbag and clear the code with a scan tool (CORRECT) D. Have the customer take it to an authorized dealer 	<p>Action: While I am pleased that the correct answer was chosen more than any other for each question, we did not meet our goal of 80% correct for each question or 95% of students answering two or more questions correctly. These topics were difficult to teach because ACRP does not have access to a hybrid vehicle or an operable vehicle with an airbag system. All lectures and demonstrations had to be spoken word, handouts with photographs, video clips, or component-only show-and-tell scenarios. Student understanding, involvement and retention improve dramatically when students can observe an actual</p>

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		<p>2. A driver's side airbag cover was cut during a collision but did not deploy. What is the proper action?</p> <p>A. Use plastic repair adhesive to repair the cut and refinish the cover</p> <p>B. Return the airbag to the manufacturer for recycling</p> <p>C. Replace the airbag with an OEM part and deploy the old bag before disposal (CORRECT)</p> <p>D. Replace the airbag with a salvage part</p> <p>3. Hybrid vehicles have two separate voltage systems (high and regular). What is the main reason manufacturers don't just make everything run on high voltage?</p> <hr/> <p>Examples of acceptable answers include:</p> <p>Because it would be dangerous for a vehicle owner to do basic maintenance like changing a headlight bulb</p> <p>Because then only hybrids would be able to jumpstart hybrids with dead batteries</p> <p>Because it's too expensive to redesign and make radios and other electronics run on 650 volts</p> <p>Because a person could be thrown into the dash in a collision and be electrocuted by the radio, gauges, etc.</p> <p>ANSWERS/DATA</p> <p>Question #1 - A=0, B=4, C=12, D=11 More students gave the correct answer (C) than any other answer, but only 44% of students answered this question correctly.</p> <p>Question #2 - A=0, B=6, C=21, D=0 More students gave the correct answer (C) than any other answer; 78% of students answered this question correctly.</p> <p>Question #3 - 18 students gave acceptable answers, 6 students answered incorrectly, 3 students did not answer the question. Therefore, 67% of students answered this question correctly.</p> <p>ANALYSIS</p> <p>While I am pleased that the correct answer was chosen</p>	<p>diagnostic and repair procedure and then must perform the same procedures themselves. Vehicle donations are being sought through Advisory Committee members.</p> <p>Also of great help in teaching these topics would have been access to the Automotive Repair department's All-Data computer system. This software allows students to look up manufacturer-recommended disassembly and repair procedures for all mechanical and electronic automotive systems. In the old building, ACRP students were allowed to use these designated computers that were set up in the ATEC lab as long as they kept their printing to a minimum. I have not seen these computers since the move and do not have keys to the ATEC rooms. ACRP has volunteered during joint department meetings to share the cost of All-Data software updates in exchange for ACRP access, but no changes to the current budgeting or access have yet occurred. (02/08/2017)</p> <p>Action Category: Program/College Support</p>

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		<p>more than any other for each question, we did not meet our goal of 80% correct for each question or 95% of students answering two or more questions correctly. These topics were difficult to teach because ACRP does not have access to a hybrid vehicle or an operable vehicle with an airbag system. All lectures and demonstrations had to be spoken word, handouts with photographs, video clips, or component-only show-and-tell scenarios. Student understanding, involvement and retention improve dramatically when students can observe an actual diagnostic and repair procedure and then must perform the same procedures themselves. Vehicle donations are being sought through Advisory Committee members.</p> <p>Also of great help in teaching these topics would have been access to the Automotive Repair department's All-Data computer system. This software allows students to look up manufacturer-recommended disassembly and repair procedures for all mechanical and electronic automotive systems. In the old building, ACRP students were allowed to use these designated computers that were set up in the ATEC lab as long as they kept their printing to a minimum. I have not seen these computers since the move and do not have keys to the ATEC rooms. ACRP has volunteered during joint department meetings to share the cost of All-Data software updates in exchange for ACRP access, but no changes to the current budgeting or access have yet occurred.</p> <p>(02/03/2016)</p> <p>Faculty Assessment Leader: patricia fairchild Faculty Contributing to Assessment: patricia fairchild</p>	

ECC: ACRP 22:Automotive Repair Fraud

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<p>SLO #1 Examining Accident Scenes - Students will be able to examine an accident scene (in person or via video/digital media) and formulate conclusions as to the details of the accident based on proper detection and investigation procedures and collection of evidence such as accident photography, witness marks and material transfer.</p> <p>Course SLO Status: Active</p> <p>Course SLO Assessment Cycle: 2015-16 (Fall 2015), 2018-19 (Fall 2018)</p> <p>Input Date: 11/29/2013</p>	<p>Exam/Test/Quiz - Test/quiz questions designed to allow the student to express their comprehension of the topic.</p> <p>Standard and Target for Success: It is expected that 75% of students will score 70% or above on this SLO.</p> <p>Reviewer's Comments: Content needs to continually be updated to remain relevant and current to industry practices.</p>	<p>Semester and Year Assessment Conducted: 2015-16 (Fall 2015)</p> <p>Standard Met? : Standard Met</p> <p>Through exam results 46% of the students scored above 90%. 19% of the students scored above 80% and 28% of the students scored above 70%. 1% of the students did not achieve the desired result and that was due to poor performance in attendance and grades. (02/05/2016)</p> <p>Faculty Assessment Leader: Charles Owens</p> <p>Faculty Contributing to Assessment: Charles Owens</p> <p>Reviewer's Comments: CO 2/5/16 - Having access to the available technology we now have in the I&T classrooms is a strong complement to the presentation materials and provides a more conducive and modern learning environment for today's student.</p>	<p>Action: Continue to stay current and up to date on industry trends to provide relevant applicable material. (01/06/2017)</p> <p>Action Category: SLO/PLO Assessment Process</p> <p>Follow-Up: Assess relevance of SLO against curriculum and what industry desires. (09/30/2016)</p>
<p>SLO #2 Staged Accidents - Students will be able to analyze both an accident- or fire-damaged vehicle and the accident scene to determine if the accident was staged (fraudulent).</p> <p>Course SLO Status: Active</p> <p>Course SLO Assessment Cycle: 2015-16 (Fall 2015), 2018-19 (Fall 2018)</p> <p>Input Date: 11/29/2013</p>	<p>Exam/Test/Quiz - Test/quiz questions designed to allow the student to express their comprehension of the topic.</p> <p>Standard and Target for Success: It is expected that 75% of students will score 70% or above on this SLO.</p> <p>Reviewer's Comments: Content needs to continually be updated to remain relevant and current to industry practices.</p>	<p>Semester and Year Assessment Conducted: 2015-16 (Fall 2015)</p> <p>Standard Met? : Standard Met</p> <p>Through exam results 46% of the students scored above 90%. 19% of the students scored above 80% and 28% of the students scored above 70%. 1% of the students did not achieve the desired result and that was due to poor performance in attendance and grades. (02/05/2016)</p> <p>Faculty Assessment Leader: Charles Owens</p> <p>Faculty Contributing to Assessment: Charles Owens</p> <p>Reviewer's Comments: Having access to the available technology we now have in the I&T classrooms is a strong complement to the presentation materials and provides a more conducive and modern learning environment for today's student.</p>	<p>Action: Continue to stay current and up to date on industry trends to provide relevant applicable material. (01/06/2017)</p> <p>Action Category: SLO/PLO Assessment Process</p> <p>Follow-Up: Assess relevance of SLO against curriculum and what industry desires. (09/30/2016)</p>
<p>SLO #3 VIN Swapping and Title Issues - Students will be able to recognize and locate Vehicle Identification Numbers (VIN) and determine if the VIN plate and/or labels have been altered, cloned, replaced or</p>	<p>Exam/Test/Quiz - Test/quiz questions designed to allow the student to express their comprehension of the topic.</p> <p>Standard and Target for Success: It is expected that 75% of students will</p>	<p>Semester and Year Assessment Conducted: 2015-16 (Fall 2015)</p> <p>Standard Met? : Standard Met</p> <p>Through exam results 46% of the students scored above 90%. 19% of the students scored above 80% and 28% of the students scored above 70%. 1% of the students did not</p>	<p>Action: Continue to stay current and up to date on industry trends to provide relevant applicable material. (01/06/2017)</p> <p>Action Category: SLO/PLO</p>

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<p>otherwise tampered with. Students will be able to explain how a vehicle title could be 'washed' and how to identify a washed title.</p> <p>Course SLO Status: Active</p> <p>Course SLO Assessment Cycle: 2015-16 (Fall 2015), 2018-19 (Fall 2018)</p> <p>Input Date: 11/29/2013</p>	<p>score 70% or above on this SLO.</p> <p>Reviewer's Comments: Content needs to continually be updated to remain relevant and current to industry practices.</p>	<p>achieve the desired result and that was due to poor performance in attendance and grades. (02/05/2016)</p> <p>Faculty Assessment Leader: Charles Owens</p> <p>Faculty Contributing to Assessment: Charles Owens</p> <p>Reviewer's Comments: CO 2/5/16 - Having access to the available technology we now have in the I&T classrooms is a strong complement to the presentation materials and provides a more conducive and modern learning environment for today's student.</p>	<p>Assessment Process</p> <p>Follow-Up: Assess relevance of SLO against curriculum and what industry desires. (09/30/2016)</p>