FALL 2014 Course SLO Assessment Report - 4-Column

El Camino College

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

Course SLOs 1 and ctu.unitid = 746	Assessment Methods & Standard and Target for Success / Tasks	Results	Action & Follow-Up
ECC: ACRP 1B - Collision Repair Equipment and Welding Techniques - SLO #1 I-CAR MIG Welds - Students will be able to set up and use a MIG welder properly and safely to perform three welds (lap, plug, reinforced butt) on automotive gauge steel according to I-CAR standards. **Course SLO Assessment Cycle:** 2014-15 (Fall 2014) **Input Date:** 11/29/2013 **Course SLO Status:** Active	**Assessment Method Description:** Students will perform each of the three welds in Flat and Vertical position to I-CAR measurement specifications. Students will be able to practice beforehand and will be able to adjust the welder and make one practice weld before they test. The students will get only one chance to make their test welds during the test. **Assessment Method:** Performance **Standard and Target for Success:** Each weld will be given a grade of Pass (all specs met), Almost Pass (one dimension out-of-spec) and No-Pass (more than one dimension out-of-spec). Students will be tested at the beginning and end of the semester. It is expected that 85% of students will show improvement or repeat an all-pass score over the course of the semester.	12/07/2014 - See attached document for data tables. 29 students completed the first test, 24 completed the second, 5 students dropped or were withdrawn from the class. Over 95% of students showed improvement. In the first test, the majority of students performed No-Pass welds in all categories except flat plug welds (majority rated Almost Pass). Only a few (2-4) Passing welds were completed in the other five categories. The best weld results came from a student that turned in 4 passing and two almost-passing welds. In the second test, the results had improved so much that the data table seemed to be flipped upside down - the average number of no-pass welds had dropped to 3.3. The number of Pass and Almost Pass scores were about even, but every student but one had shown improvement. The only student that didn't improve was the high-scoring student from the first test who slipped to 4 passing, one almost passing and one non-passing weld. I contribute 3 factors to the success and improvement of the second test results. First, the students were more familiar with the rules and dimensions specifications the second time around. Second, all welders worked properly for the second test while during the first test one welder should have been taken out of service- it was low on shielding gas which was distracting to student confidence. Third, the most obvious, students had a whole semester to practice their welds on multiple class projects. **Standard Met? :** Yes **Semester and Year Assessment Conducted:** 2014-15 (Fall 2014) **Faculty Assessment Leader:** Patricia Fairchild **Faculty Contributing to Assessment:** Patricia Fairchild **Related Documents:** ACRP 1B.1 assessment data - 14 fall.docx	12/01/2017 - To prevent cheating and distractions, each student should be given just enough coupons, stamped with his initials, to complete the test. I thought that waiting in line would be less boring if the students punched and stamped their own coupons, but too many coupons were nearly illegible during grading, and some students took too many and used the extras for 'practice' during the test which was forbidden. **Action Category:** Teaching Strategies 12/01/2017 - For the next assessment, be sure all welders have enough gas and wire to get through the test, and explain the rules of the test and go over I-CAR specs more thoroughly before the students are allowed to leave their chairs. Once they are 'set free' they are so preoccupied with getting their metal coupons and being first in line that they don't listen to directions. **Action Category:** Teaching Strategies
ECC: ACRP 1B - Collision Repair Equipment and Welding Techniques - SLO #2 Panel Misalignment - Students will be able to identify panel misalignment due to improper installation, prior damage, and/or improper repair and choose	**Assessment Method Description:** Students will be given a quiz or group of embedded questions to assess two different bolt-on panel misalignment situations. Students must	12/11/2014 - Students were given two embedded ASE-style test questions in typical Technician A/Technician B format (the student must choose if one, both or neither technician's statement is correct). The questions	12/01/2017 - I will have to add 'shims' to my lectures, even though the temptation to use them on modern cars when they shouldn't is a temptation

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the proper repair steps to correct the misalignment. **Course SLO Assessment Cycle:** 2014-15 (Fall 2014) **Input Date:** 11/29/2013 **Course SLO Status:** Active	identify the cause of the misalignment and the correct repair/alignment procedure for each situation. **Assessment Method:** Exam/Test/Quiz **Standard and Target for Success:** It is expected that 90% of students will be able to identify the cause of the misalignment and that 75% of students will be able to recommend the correct repair/alignment procedure.	were given with diagrams showing misalignment to a hood and a door. The students had to visualize the scenarios, problem-solve what happened during the repair to create the misalignment, and what should have been done (or what must be done now) to correct the misalignment. 65% of students got the first question correct (15/23). This question read: "A car has had the front sheet metal replaced. The fender-to-door gap is wider on the passenger side than the on the driver side and the hood appears as shown (rear edge of hood aligns with cowl). Technician A says that only the hood latch is misaligned. Technician B says the front structure of the vehicle is not dimensionally correct. Who is right?" The answer is B because a hood latch problem would suggest the fenders and core support are correct and the hood is wrong. Most students could figure out that if this were so, the rear edge of the definitely-not-rhomboid hood couldn't possibly align. The diagram shows the hood correctly aligning at the back and indicating a condition called 'side sway' in the fenders and core support. This topic and the supporting troubleshooting techniques were presented during lecture with emphasis on the fact that the hood will never 'stretch' diagonally without obvious visual signs of damage. Students were instructed to not be fooled by blaming a panel when the whole vehicle could be off. Most of them remembered, but not enough. I will have to make an effort to cover this phenomenon more thoroughly. Students had more difficulty with the 2nd question: only 43% (10/23) got the question correct. The question was "The car shown (side view of front door with some surrounding indication of windshield, roof, fender and rear door. Arrows point to 'excessive gap' at front edge) has adjustable hinges. Technician A says the gap can be adjusted by repositioning the hinges. Technician B says the gap can be adjusted by shimming the hinges. Who is right?" This was confusing to most students because modern cars do not use shims. Cars today are engineered more precisely than older vehicles, so many students have never seen shims before. Students were also confused because they had to visualize a hinge through the closed door when they are used to seeing hinges open when the door is open. Only by imagining the door as transparent, it is easy to understand that putting shims between the door hinge and car body will move it outward toward the viewer, not forward to correct the misalignment. Loosening the hinge bolts and repositioning the hinges sideways will correct the misalignment; technician A is correct. I will have to add 'shims' to my lectures, even though the temptation to	students don't need. I will therefore have to include reminders about safe and proper repairs as well as liability for incorrect repairs. **Action Category:** Teaching Strategies

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		use them on modern cars when they shouldn't is a temptation students don't need. I will therefore have to include reminders about safe and proper repairs as well as liability for incorrect repairs. **Standard Met? :** No **Semester and Year Assessment Conducted:** 2014-15 (Fall 2014) **Faculty Assessment Leader:** patricia fairchild **Faculty Contributing to Assessment:** patricia fairchild	
ECC: ACRP 1B - Collision Repair Equipment and Welding Techniques - SLO #3 Large Dent Removal - Students will be able to use dent removal equipment such as the Maxi welder or stud welder to remove a large dent from an automotive panel with no rear access. **Course SLO Assessment Cycle:** 2014-15 (Fall 2014) **Input Date:** 11/29/2013 **Course SLO Status:** Active	**Assessment Method Description:** Students will work in groups of 2-3 or individually to remove a large dent on a body panel with no rear access. Students will (1) diagnose the area of direct impact and (2) orally present to the instructor their analysis of the damage and a proposal for how they intend to reverse the damage including their choice of tools/equipment with justification for their choice. After (3) making the repair, the group will (4) orally reflect on their choices detailing their successes and recommendations for changes if presented with the same task again. **Assessment Method:** Performance **Standard and Target for Success:** It is expected that 100% of students/groups will be able to correctly identify the area of impact and trace the progression of damage outward. It is also expected that 80% of the students/groups will be able to adequately perform the repair to the metal panel so that if filler was applied and sanded, it would not exceed the 3/16" maximum set by ASE.	12/11/2014 - 24 students participated in this assessment, one dropped the class before the assessment was finished. 17 students used their own damaged vehicles, and those without significant damage partnered with those who did. A 'large dent' was defined for this assessment as 4" diameter or larger and 1/2" deep or more. Target #1 - Diagnosis/Impact Identification. All 24 students correctly identified the location of direct damage and angle of impact (100%). All students were able to describe how the force of the impact traveled though the metal panel, although the larger the damaged area, the more thought they had to give to the justification for what they saw. Target #2 - Repair Plan. Vehicle owners acted as team leaders who reported group decisions to the instructor. Standard repair tools included Maxi welder and stud welder, but since ACRP only has one of each, groups were challenged to think creatively to repair their damage. After some negotiation and suggestions, all plans were accepted by the instructor. Target #3 - Making the Repair. 91% of students (21/23) completed a successful repair. One group chose a glue-on dent puller better suited for small dents. Their dent was simple in that it had no creases. The glue-on puller worked fairly well to remove the dent but the group agreed the other tools would have been a better and faster choice. Another group decided the panel should be replaced instead of repaired. This is a valid conclusion in industry, so they were allowed to replace the fender which created its own set of problem-solving tasks. A third group, after trying pry-bars and indirect hammer techniques decided to remove the obstacle of access by cutting out the severely crumpled part of their panel, straightening it with hammer and dolly, then welding the panel back in. Although unconventional in	12/31/2015 - Purchase 2-3 more stud welder/slide hammer kits and locate/repair 2nd Maxi welder (or purchase one more). **Action Category:** Program/College Support

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		modern collision repair, the students got excellent results and were quite proud of themselves. Two students working individually did not complete their repair: one dropped the class before finishing, the other abandoned his repair plan and instead used the cut out/repair/re-weld technique and did not finish the plastic fillerwork (bondo) to check for ASE specs. Target #4: Reflection. 20 of the remaining 23 students were able to orally reflect on the successes and failures of their plan and resulting repair. 3 students were absent that day. Two made up the assignment in written form, one student did not make up the assignment. Popular reflection comments included 'we should've replaced the panel' and 'we took too long'. These are great comments because industry values replacement over large dent repairs. In lecture we discussed the balance of time vs. money when considering a repair plan. We agreed professional shops had lots of money, thanks to insurance companies paying for repairs, but very little time (impatient customers). Conversely, here in ACRP we have plenty of time, but almost no money since the vehicles and responsibility for buying parts were the students' own. The students who said they would choose the same repair plan if asked to repair a similar dent also said they felt very confident they could do it faster next time. **Standard Met? :** Yes **Semester and Year Assessment Conducted:** 2014-15 (Fall 2014) **Faculty Assessment Leader:** patricia fairchild **Faculty Contributing to Assessment:** patricia fairchild	
ECC: ACRP 20 - Automotive Collision Investigation - SLO #1 Restraint Systems - Students will be able to recognize, name, and diagnose damage to multiple types of occupant restraint systems including active restraints (seat belts) and passive restraints (automated seat belts, airbags). **Course SLO Assessment Cycle:** 2014-15 (Fall 2014) 2016-17 (Fall 2016) **Input Date:** 11/29/2013	**Assessment Method Description:** Quiz/test questions are used to assess students knowledge and comprehension of the topic. **Assessment Method:** Exam/Test/Quiz **Standard and Target for Success:** The target is for 100% of the students to gain a base knowledge and understanding of the topic. However, student desire and application of the materials provided is key to success. Thus, the standard is 70%.	04/09/2015 - Results show an 87% success rate. **Standard Met? :** Yes **Semester and Year Assessment Conducted:** 2014-15 (Fall 2014) **Faculty Assessment Leader:** Charles Owens **Faculty Contributing to Assessment:** Charles Owens **Reviewer's Comments:** CO: 04/09/15 - The assessment method proves to be an acceptable way to measure. The	04/09/2016 - The assessment method proves to be an acceptable way to measure. Consider the addition of more multimedia and physical props, which may enhance student retention. Continue to monitor test scores for student success and outcomes. **Action Category:** Teaching Strategies

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Course SLO Status: Active		addition of more multimedia and physical props may enhance student retention.	
ECC: ACRP 20 - Automotive Collision Investigation - SLO #2 Damage to Unitized and Full Frame Vehicles - Students will be able to recognize, name, and diagnose damage to unitized and full-frame vehicles and some of their major systems (drivetrain, brakes, suspension/steering). **Course SLO Assessment Cycle:** 2014-15 (Fall 2014) 2016-17 (Fall 2016) **Input Date:** 11/29/2013 **Course SLO Status:** Active	**Assessment Method Description:** Quizzes and Tests **Assessment Method:** Exam/Test/Quiz **Standard and Target for Success:** The target is for 100% of the students to gain a base knowledge and understanding of the topic. However, student desire and application of the materials provided is key to success. Thus, the standard is 70%.	04/09/2015 - Results show an 87% success rate. **Standard Met? :** Yes **Semester and Year Assessment Conducted:** 2014-15 (Fall 2014) **Faculty Assessment Leader:** Charles Owens **Faculty Contributing to Assessment:** Charles Owens **Reviewer's Comments:** CO: 04/09/15 - The assessment method proves to be an acceptable way to measure. The addition of more multimedia and physical props may enhance student retention.	04/10/2016 - The assessment method proves to be an acceptable way to measure. Consider the addition of more multimedia and physical props, which may enhance student retention. Continue to monitor test scores for student success and outcomes. **Action Category:** Teaching Strategies
ECC: ACRP 20 - Automotive Collision Investigation - SLO #3 Tire Identification & Construction - Students will be able to decode tire information such as wheel size, diameter, width, offset, production date, speed rating, traction rating, and temperature rating. Students will also be able to identify different types of tire construction (radial, bias ply) and identify tires by skid marks observed after an accident. **Course SLO Assessment Cycle:** 2014-15 (Fall 2014) 2016-17 (Fall 2016) **Input Date:** 11/29/2013 **Course SLO Status:** Active	**Assessment Method Description:** Quizzes and Tests **Assessment Method:** Exam/Test/Quiz **Standard and Target for Success:** The target is for 100% of the students to gain a base knowledge and understanding of the topic. However, student desire and application of the materials provided is key to success. Thus, the standard is 70%.	04/09/2015 - Results show an 87% success rate. **Standard Met? :** Yes **Semester and Year Assessment Conducted:** 2014-15 (Fall 2014) **Faculty Assessment Leader:** Charles Owens **Faculty Contributing to Assessment:** Charles Owens **Reviewer's Comments:** CO: 04/09/15 - The assessment method proves to be an acceptable way to measure. The addition of more multimedia and physical props may enhance student retention.	04/10/2016 - The assessment method proves to be an acceptable way to measure. Consider the addition of more multimedia and physical props, which may enhance student retention. Continue to monitor test scores for student success and outcomes. **Action Category:** Teaching Strategies