

ECT CA and AS Residential Lt Comm HVAC

PLO (program outcome to which this SLO maps)	PLO Reflection (What were the strong points and weak points students demonstrated in the courses? What areas need more attention? What do your results show about student learning?)	PLO Action Plan (include timeline for implementation, key/responsible personnel, priority high/medium/low, status report/reflection on results of action plan)
1. Demonstrate proper safety practices in the use of chemicals, combustible materials, electricity, high-pressure gasses, climbing ladders and lifting heavy equipment.	Students demonstrated critical thinking and problem solving skills by troubleshooting electrical and mechanical devices and controls. Communication amongst peers is essential for applying, analyzing and organizing their findings. Upon completion of these courses students are expected to demonstrate leadership skills, global awareness and civic responsibilities.	In the future, we will need more lab assistance, lab space, equipment and trainers to be able to accommodate the needs of our students. We plan to have the 10 new trainers installed in the existing lab and more trainers in the new BEST Center lab by the 2017 Fall semester and implemented by Spring 2018 semester.

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<p>2. Explain the theory of Refrigeration and Air Conditioning and the physical properties of components and devices.</p>	<p>Most students showed clear understanding on the basic concepts of electricity from they're test results, students also excelled when working with hands-on lab projects. Lab projects require students to apply their theoretical knowledge such as AC/DC, parallel and series circuits, different type of controls, motors, relays, electric heaters, etcetera. Hiring an instructional assistant would help better serve students who need more help. Students demonstrated skills in critically evaluating certain types of data in both lecture and lab. Also, students benefit from working in groups by helping each other to better understand and learn the material. We are planning to hire an instructional assistant to help students during lab practices. Results show that students who work as a group tend to have better results.</p>	<p>We plan to hire an instructional assistant and an additional tutor to help students during lab work. We are currently building more hands-on trainers for students to practice on electrical and mechanical devices such as motors and controls, defrost systems, refrigeration systems, etc. We plan to implement this by Spring 2018.</p>
<p>3. Demonstrate proficiency in brazing and soldering, evacuating, recovering and charging refrigeration and air conditioning equipment</p>	<p>Most students demonstrated the ability to follow safety practices and how to properly braze, recover, recycle, evacuate, charge refrigeration systems and collect data. By successfully completing this assignment, students had a functional refrigeration system. The lack of adequate lab space and equipment proved to be difficult for students to practice their hands on lab work. We also need more instructional assistance, lab space and equipment to give the necessary learning tools for students to be successful.</p>	<p>Purchase and install more refrigeration trainers in order for students to work in pairs. Due to the lack of trainers there have been occasions where we had to assign 3-4 students per trainer, making it difficult for students to properly participate in hands-on practices. We plan to implement the above said by Spring 2018.</p>