

**PETROLEUM TECHNOLOGY**  
**January 2014 Newsletter**

Western Texas College reserves the second week of January for faculty and staff in-service training. During this period of in-service, changes to programs are reviewed, campus changes are discussed, and time is spent preparing for the upcoming semester.

Equipment such as the Vermeer S800TX, soldering irons, parts and supplies were prepared for use by the students. In addition, staff made revisions to courses as well as lab and field activities.

The faculty designed several new labs to teach elements of soldering, electronics, and fabrication techniques needed for the beginning of a multi-year project.

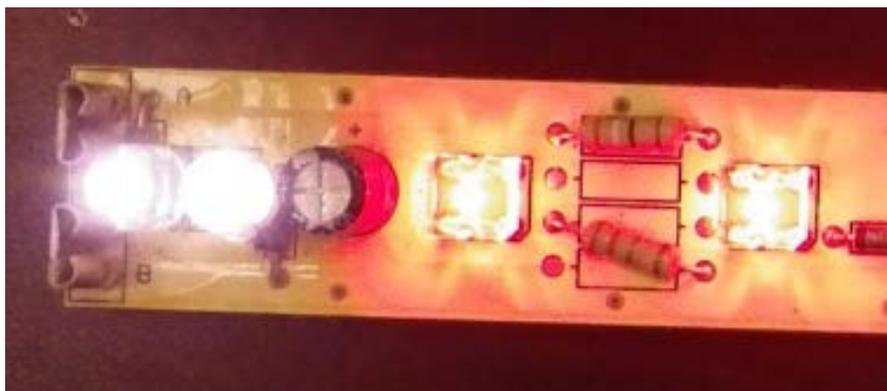
For the Soldering exercise, red LED (Light Emitting Diodes) were replaced at the end of a 12" long strip of lights.

To accomplish this task, a four post red LED light was removed (see right side of photo on page) and in its place 2 large white LED lights were installed (see left side of photo below). Installation required that the proper electrical side of



*(Above and below)* The single square LED light right side of photo was replaced by two LED lights. The Square LED lights are red. The round LED lights are white *(see below)*.

both the 12” board circuit on which the LEDs are mounted (Anode (+) and Cathode (-)) and the white LED be identified.



The multiyear project is an “Impressed Cathodic Protection” (ICP) class, lab, and field lab exercise. For this project, students: use the soldering skills learned while modifying the LED light strips; follow directions; drill and tap metal; assemble, test, use motorized equipment to prepare a field location; and place the completed ICP in the field lab. The ICP units will remain in the field lab for several years to test the amount of corrosion OR protection of the Cathode, thus the name: Cathodic Protection. “Impressed Cathodic Protection” (ICP) protects an installation using an electrical circuit.

Look for the results of this lab and field exercise in the next several years.

Several times this month, a planned training activity for the Topcon HiPer II GPS instrument from Geoshack, Ft. Worth, Texas, had to be rescheduled due to inclement weather. While it could be said that the skies out here are “sunny all day”, Snyder still has periods of cold, rain and on occasion, snow out here in west Texas. The training activity has been shifted to later this spring when more agreeable weather occurs.

*For more information visit [wtc.edu/petroleum](http://wtc.edu/petroleum).*