MCCC STUDENTS DESIGN, INSTALL SOLAR ARRAY ON CAMPUS

MONROE, Mich. – At the end of the Fall Semester, Monroe County Community College renewable energy students flipped the switch on a 2.1 kilowatt solar array they designed and installed next to the Career Technology Center.

The array consists of eight 260-watt Solarworld panels, said Alex Babycz, assistant professor of construction management technology. Each panel has an Enphase M-215 micro-inverter that converts the DC voltage generated by the panels into 240 volts that are then fed into the electrical system of the Career Technology Center.

Students Jacob Boes, Lisa Whiteside, Nikko Amaya, Bradly Greer and Nickolas Gaynier – with the assistance of Derek Whitaker, a retired DTE Energy engineer and local electrical inspector – performed all aspects involved in bringing the solar array to fruition, including planning the system, excavating the site, installing the ground mounting rack donated by Patriot Solar Group, mounting the panels and connecting all of the components to the Career Technology Center.

Although the amount of energy generated by the student-built system is a fraction of what is generated by the Career Technology Center’s primary power system, its development was a
valuable learning experience, and it will be an ongoing instructional tool for students in applied science and engineering programs at the college, Babycz said.

“The energy generated from the array is a very small part of the electrical power used by the building but it allows the students see how a grid-tied system is configured,” Babycz said. “The system will allow students to experiment with electrical output by adjusting the tilt angles of the array and [by using] different inverter and wiring configurations”

Babycz said that the solar array will be equipped with a data logging system to track the output of each panel on a daily basis, allowing students to calculate its efficiency in variety of configurations.

This project is just the first of several planned renewable energy installations by MCCC’s Applied Science and Engineering Technology Division.

The next activity is to complete the installation of the wind turbine located on the north side of the Career Technology Center, Babycz said. That installation will provide some power to the Gerald Welch Health Education Building, which is located directly to the west.