The Integrated Technology Center is a LEED-Platinum-Rated Facility

Currently, the LEED scorecard has certified the building platinum in range. The rating is weighted heavily on energy saving design elements, such as building envelope, LED lighting, and low water consuming plumbing fixtures. As part of the LEED building code, many materials were repurposed during construction to reduce the amount of materials being placed in landfills. Additionally, the building materials chosen have minimal environmental impact. To aid in the building-as-laboratory concept, all building technology, including cable trays, piping, power distribution, and air, are exposed as teaching aids. In addition, a photovoltaic system provides power directly to the ITC.

First Floor and Exterior

Photovoltaic System | The solar array is designed at 50 kW. Output modeling (averaging the amount of sunlight and power production on a yearly basis) estimates that the array will provide 5% of total ITC electrical power.

Solar Wall | Solar thermal technology is utilized to pre-heat the incoming air. We can see a ten-plus-degree difference in beginning air temperature through this technology.

Water Reclamation | A 15,000 gallon below-ground reservoir provides water for flushing toilets and urinals, as well as turf irrigation. The water source for the reservoir is well water from the Business Education Center after it has gone through cooling system condensers, diverting it from city storm drains.

Spray Booth | A built-in spray booth allows our students the ability to finish custom-made cabinetry, which is installed into the two homes Western’s Wood Tech students build each year in La Crosse. To date, more than 33 houses have been built by our students.

Dedicated Industry Training Space | A fully-outfitted welding lab is located beside the traditional labs to allow for on-site training through our Business and Industry Services Department.

Sustainability Department | Western’s award-winning sustainability efforts are housed in the divisional office. In 2015 Western was awarded the 2015 Climate Leadership Award and the U.S. Department of Education Green Ribbon Award. Western is also a Tree Campus USA member.

Geothermal Wells | The parking lot contains 128 wells, 400’ each in depth. These serve as a ground loop to transfer either heat or cold from the building into the earth, depending on the heating or cooling needs. There are over 19 miles of pipe tubing with 12,000 gallons of propylene glycol in the system. There is capacity for 325 tons of cooling. The geothermal loop works along with Multistack modular heat recovery chiller/heaters and Multistack patented VME-II (Virtual Moveable Endcap) valve modules. The modules can provide simultaneous variable heating and cooling.
**Western Technical College**

**Second Floor**

| Programs: Landscape Horticulture, Agri-business and Science Technology, HVACR |

**Green Roof** | The living roof absorbs rainwater, provides insulation, creates a habitat for wildlife, increases benevolence, decreases stress for the people around the roof by providing a more aesthetically pleasing landscape, and helps lower urban air temperatures, mitigating the heat island effect. This area is maintained by faculty and students in the Landscape Horticulture area.

**Agriculture and Chemistry Lab** | A fully-equipped wet lab allows students to explore basic laboratory techniques and understand biotechnology and science in agriculture. Students will identify the DNA sequences associated with Genetically Modified Organisms, examine the effect of different antibiotics on the growth of bacteria, and identify how antibodies find and destroy antigens (viruses and bacteria).

**Trane Center of Excellence and Air Handler 8** | This air handler is a Trane heating/cooling system controlled by HVAC students for learning and certification opportunities related to building automation. Students have full access to the operating software to track performance and troubleshoot problems.

**Refrigeration Lab** | Students maintain and repair refrigeration and freezer equipment just as it exists in local industry.

**Cross-Department Collaboration** | All program faculty are co-located to promote cross-program collaboration and learning projects.

**Exposed Wall Structure** | Architectural Technology students can physically see inside a wall interior to understand design, construction, and materials associated with it.

**Two-Story Greenwall** | Landscape Horticulture students grow and maintain plants as part of their program and work to understand lighting requirements for productive plant growth.

**Independent Student Network** | Students are able to perform network set-up and troubleshooting without disturbing the official Western network.

**Mechanical Room** | Building systems controls are color coded and accessible for student learning. The heating, cooling, and geothermal piping is color coded, as well as ductwork labeled for supply, return, outdoor air, and relief air. The Center of Excellence will have a building automation system in place for students to observe and train on.

**Medical Grade** | Medical device repair and maintenance is conducted in the dedicated lab equipped with medical grade air and equipment, such as low tech nerve stimulators and infusion pumps, as well as complex CT and MRI imaging systems, cardiac catheterization suites, ICU and CCU monitoring and telemetry systems, surgical lasers, heart/lung bypass machines, dialysis machines, and many others.

**Physics** | Our physics department has moved to where their students are. Housed here, students in engineering and electronics-focused programs participate in this STEM course.

**Rapid Prototyping** | Mechanical Design and Architectural Technology students have access to software and equipment to easily design and test products. We currently have a production-grade 3D printer, a smaller rapid prototype machine, as well as a 3D digitizer.

**High School Academies** | A flexible space is planned to allow for exploration of various career clusters through a career academy model. The physical space contains technology found in most fab labs around the country and will host students from local districts as they explore various STEM programs and earn credit toward a degree.

**Third and Fourth Floors**


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