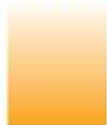


LASER-TEC college profile



Iowa Western Community College Council Bluffs, Iowa



LASER-TEC is the Center for Laser and Fiber Optics Education, founded in 2013 by the National Science Foundation (NSF) and headquartered at Indian River State College in Florida. It was established to help meet the goals of educating and sourcing domestic talent in the areas of optics and photonics. As a service to students, recent graduates, and prospective employers, Photonics Spectra runs a profile of one of the 35 LASER-TEC colleges each month.

The Laser Systems Technician AAS program at Iowa Western Community College (IWCC) prepares students to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using lasers and other optical instrumentation and equipment for commercial or research purposes. The program offers instruction in laser and optical principles, testing and maintenance procedures, safety precautions, specific applications to various tasks, and report preparation.

Program description

The Laser Systems Technician program provides students with working knowledge and skills in electronic and electromechanical devices and systems, as well as specialty knowledge and skills in photonics. Through lab experiences, students will be able to efficiently and effectively repair, operate, maintain, and calibrate photonic subsystems, and then integrate these subsystems into full systems. This program prepares students for a technical-level career in lasers in four electronics fields: computers, telecommunications, biomedical electronics, and industrial electronics. Graduates are awarded an Associate of Applied Science (AAS) degree.



Iowa Western Community College students apply a connector to a fiber optic cable.

Graduates of IWCC's Laser Systems Technician program have the skills to:

- Maintain and integrate photonics systems into manufacturing, biomedical, and research laboratories and processes.
- Understand laser physics, optical cavities, and the properties of laser light, as well as the operation of a helium-neon gas laser.
- Follow safety procedures concerning lasers and related equipment.
- Understand the operational characteristics of lasers, specific laser types, optical detectors, and human vision.
- Understand the principles of optical fiber communications; photonic devices for imaging, storage, and display; and laser welding and surface treatment.
- Communicate effectively, conduct tests and measurements, and function effectively as a member of a technical team.
- Apply the fundamentals of electricity and electronics.
- Follow safe electrical work practices.
- Construct circuits from schematics and diagrams using proper wiring and soldering techniques.
- Perform electrical measurements using multimeters, oscilloscopes, and other test equipment.
- Perform bench testing on devices and integrate devices to meet system requirements.
- Perform design modifications, circuit improvements, and component protection as designs are developed into working prototypes.
- Program and troubleshoot programmable logic controllers (PLCs).

How to recruit from this college

If you are interested in recruiting students from IWCC, please coordinate with the dean of Industrial Technology and Transportation. Each spring semester we hold a career fair and are always looking for new companies to participate by advertising their programs and interacting with students as the students highlight accomplishments from their studies.

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Program website

www.iwcc.edu/academic_programs/industrial-technology/laser-systems-technician-a-a-s



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