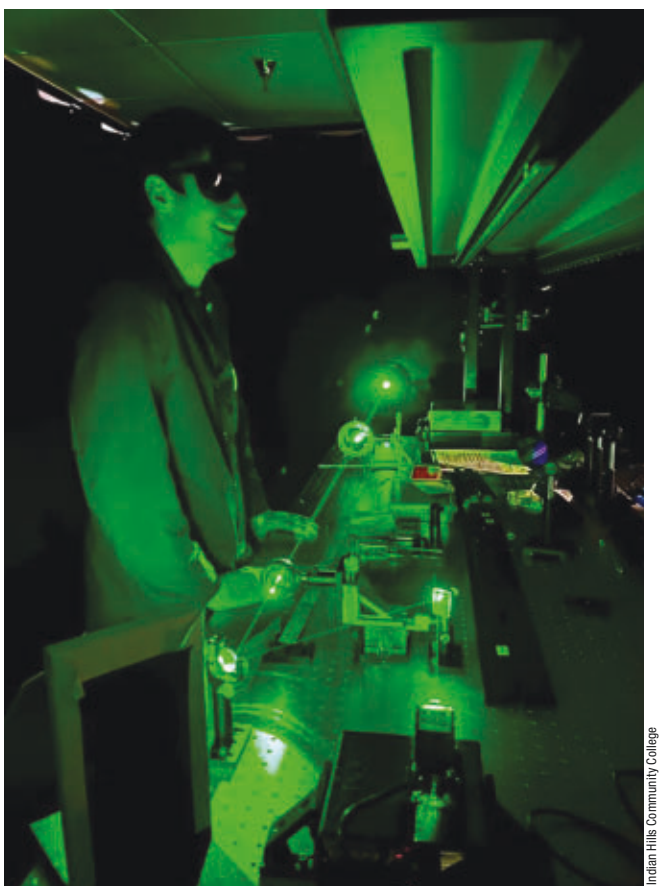
Indian Hills Community College
Ottumwa, Iowa

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 LASER-TEC colleges each month.*

In 1985, Indian Hills Community College (IHCC) started classes for an associates-level degree in applied science in laser electro-optics technology. Since then, over 750 technicians have graduated from IHCC and are working in the laser/photonics industry throughout the U.S. and internationally. Companies that have hired graduates include Lawrence Livermore and Los Alamos National Labs, IDEX Health & Science, Northrop Grumman, Mazak Optonics, Sightpath Medical, Texas Instruments, BAE Systems, Cymer, Medtronic, and many others.

Program

IHCC's associate of applied science (AAS) degree in laser and optics technology is based on a 21-month program, with an electronics core covered in the first nine months. During the core, students learn electronic circuit analysis and troubleshooting, and take their general education courses. During the next 12 months, they learn about the basic properties of light, geometrical optics, optical devices, physical optics, photonics troubleshooting, and more. Graduates work as technicians in industrial, medical, and military production companies. In addition, graduates go to work in research and development, national labs, field service, and system installation and repair. New employment opportunities emerge daily.



Indian Hills Community College

An IHCC student installs a beam expander on one of IHCC's tabletop lasers.

Graduates of IHCC's AAS program in laser and optics technology have the skills to:

- Troubleshoot integrated photonic/electronic systems using microscopes, oscilloscopes, pulse generators, power meters, beam analyzers, spectrometers, or energy measurement devices.
- Tune Nd:YAG, HeNe, and CO_2 lasers for maximum power and optimal beam quality.
- Align optical systems.
- Recognize and implement the components, equipment, and hardware used in lasers and optics.
- Recognize, evaluate, and execute laser safety protocol per ANSI and OSHA standards.
- Properly clean, handle, maintain, and package precision optics.
- Recognize and employ equipment used for laser beam measurement, manipulation, and analysis.
- Write and implement standard operating procedures for photonics experiments.
- Perform preventive or corrective maintenance on lasers and optical systems.