



## Indian River State College Fort Pierce, Florida

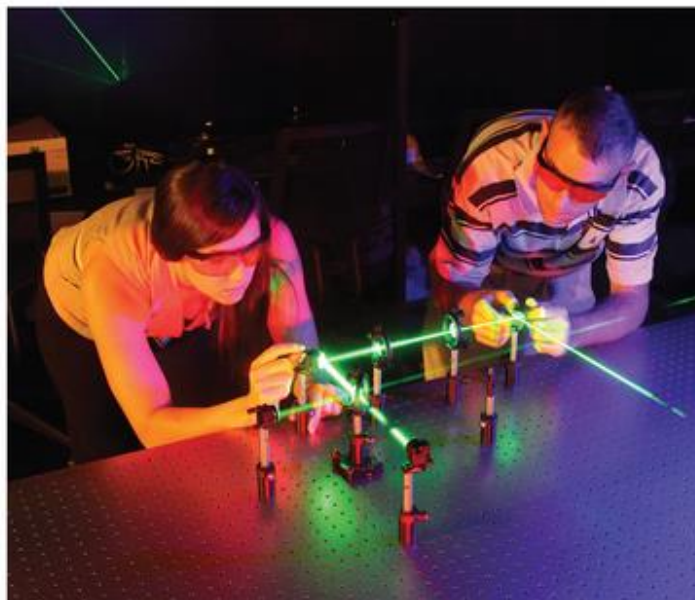
LASER-TEC is the Center for Laser and Fiber Optics Education, founded in 2013 by the National Science Foundation (NSF) and headquartered at Indian River State College in Florida. It was established to help meet the goals of educating and sourcing domestic talent in the areas of optics and photonics. 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.

**For more than 15 years**, Indian River State College (IRSC) has offered associate-level degree and certificate programs in lasers, photonics, fiber optics, and solar energy. More than 350 technicians have graduated and are working in the laser and photonics industries throughout the U.S. and internationally. Companies that have hired graduates include Northrop Grumman, Lockheed Martin, AT&T, Gooch & Housego, Jenoptik, Laser Components, Rockwell Collins, and L3Harris.

### Program description

IRSC's AS degree in Photonics and Robotics is a two-year program with strong technical core teaching and hands-on training in state-of-the-art labs stocked with the latest industrial-grade equipment.

Technicians receive a solid foundation in electronics, automation, and robotics during the first year. In their second year, they learn photonics, fiber optics, geometrical optics, laser technologies, and photovoltaic systems. Graduates of this program work as technicians for industrial production companies in research and development, and in national labs, field service, and system repair, among others.



Students in the IRSC photonics program set up an interferometer.

### Graduates of IRSC's AS degree in Photonics and Robotics have the skills to:

- Troubleshoot integrated photonic systems using microscopes, oscilloscopes, pulse generators, power meters, beam analyzers, spectrometers, or energy measurement devices.
- Tune Nd:YAG, HeNe, and CO<sub>2</sub> lasers for maximum power and high-quality beam.
- Align optical systems.
- Perform high-quality fusion splicing for single- and multimode fibers.
- Use an OTDR (optical time-domain reflectometer) to identify problems in fiber optic links.
- Properly clean and maintain precision optics.
- Use optical source and meter to measure the attenuation of optical links.
- Document procedures such as calibration of optical or fiber optic equipment.
- Apply laser safety rules according to ANSI and OSHA standards.
- Compute or record photonic test data.
- Troubleshoot robotic systems, using knowledge of programmable controllers, electronics, circuit analysis, mechanics, sensor or feedback systems, hydraulics, or pneumatics.
- Disassemble and reassemble robots or peripheral equipment to make

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## LASER-TEC college profile

repairs such as replacement of defective circuit boards, sensors, controllers, encoders, and servo-motors.

- Perform preventive or corrective maintenance on robotic systems or components.
- Maintain service records of robotic equipment or automated production systems.
- Install, program, or repair programmable logic controllers (PLCs), robot controllers, end-of-arm tools, or conveyors.
- Program PLCs using ladder logic.
- Program SCADA systems and HMI interfaces.

### Certificates/Short-Term

4-, 6-, or 8-month duration  
Lasers & Photonics  
Solar Energy  
Robotics and Simulation  
Basic Electronics  
Electronic Technology

### How to recruit from this college

Come to IRSC to present your company and employment opportunities to students. IRSC will make available, free of charge, a private room in which to interview interested students. Please contact the person below to make arrangements for a recruiting visit. Graduates are available each December and May.

### Contact information

Mo Hasanovic  
772-462-7743  
[mhasanov@irsc.edu](mailto:mhasanov@irsc.edu)  
3209 Virginia Ave.  
Fort Pierce, FL 34981

### Program website

[www.laser-tec.org](http://www.laser-tec.org)  
[www.irsc.edu/programs/electronics-engineering-technology.html#electronics-engineering-technology-as](http://www.irsc.edu/programs/electronics-engineering-technology.html#electronics-engineering-technology-as)

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