

LASER-TEC

college profile



Niagara College Ontario, Canada



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 founded 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 will run profiles of the 36 LASER-TEC colleges throughout 2020.

Since 2001, Niagara College has maintained a cluster of photonics programs with training in precision optics, thin-film deposition, fiber optics, and electro-optic technologies. Graduates of the program are employed in a wide range of industries, including defense, aerospace, biomedical, communications, heavy industrial, and entertainment. After 18 years of training students in photonics, the college has undertaken a renewal of facilities and program curriculum.

The renewal initiative includes establishing a dedicated precision optics lab facility for optical manufacturing and lens testing, expanding the current thin-film deposition curriculum, and improving capabilities to train students in optical system testing and alignment.

Programs

Photonics Engineering Technician
(2-year diploma)

Photonics Engineering Technology
(3-year advanced diploma)

The Photonics Department currently provides a ladder program offering students an exit point after two years with a Photonics Engineering Technician Diploma, or, after three years, students receive a Photonics Engineering Technology Advanced Diploma. Students train in a dedicated teaching cleanroom, a



Niagara College students working in the photonics cleanroom.

Class 4 laser lab, a spectroscopy lab, a manufacturing space, and a photonics flex-lab facility to emulate the advanced manufacturing industry environments that graduates will transition into.

Skills include:

- Thin-film deposition.
- Testing and aligning lasers.
- Aligning optical systems.
- Optical testing.
- Cleaning and maintaining precision optics.
- Fiber optics preparation, including fusion and mechanical splicing, and testing OTDRs (optical time-domain reflectometers), OSAs (optical spectrum analyzers), and OPMs (optical power meters).
- Electronics test instrumentation.
- SMT (surface mount technology) and through-hole soldering.
- 2D and 3D modeling and additive manufacturing.
- Introductory laser welding and cutting.
- Introductory optical manufacturing.

- Introductory optical design (technologists).
- Applied research (technologists complete an 8-month capstone project).

How to recruit from this college

Contact Alexander McGlashan to make arrangements for a recruiting visit. Graduates are available at the start of each May, although it is recommended to recruit early because graduates are in short supply.

Contact Information

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Program website

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