

ELE884 - Photonics

- **Course Outline**

<http://www.ee.ryerson.ca/undergraduate/dcd/ele884.html>

- **Key Knowledge to Be Acquired**

The properties and behavior of light and its implementation in modern photonics: such as the transmission of light in ray optics and wave optics; the generation of light by lasers and light-emitting diodes; optical modulation, switching and scanning by electro-optical devices, and the detection of light, mainly by semiconductor photo-detectors.

- **Key Skills to Be Mastered**

Design and analyze basic optics systems such as collimator, condenser, telescope, etc. Analyze optic properties when light transmitted through waveguide, aperture, and gratings, etc. Apply optoelectronic devices to modulate and switching light and finally design and selecting proper photo-detection devices for optic measurements.

- **Potential Careers**

Optic device and system design and test engineer, Fiber optic communication design and test engineers, opto-electronics device and system design and test engineer, Opto-mechanical device and system design engineer, optical sensor designer...

- **Potential Employers**

JDS Uniphase Corp, Lucent, Roger Communications, OZ optics Ltd., Newport Corp., Avantes, Corning Corp., Lightmachinery Inc....

- **Graduate Studies**

Toronto, Waterloo, McGill, Ryerson, McMaster etc., have strong graduate programs in photonics and opto-electronics.