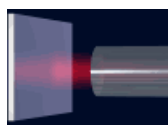


Short Course Optical Engineering

Objective and Scope

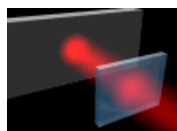
Optical engineering is now commonplace in a variety of industrial systems and processes. The advent of novel electro-optics (photonics) devices such as laser diodes and LEDs coupled with advances in sensors and detectors have resulted in numerous commercial systems ranging from consumer items to precise optical metrological tools for inspections and measurement to 3D Additive Manufacturing. This course aims to introduce important basic concepts in Optical Engineering that would enable better understanding of the underlying principles of various optical systems for them to be suitably designed, fabricated, improved and modified. The course comprises three modules that highlight basic optical principles with emphasis on physical concepts with suitable applications and demonstrations.

Course Content



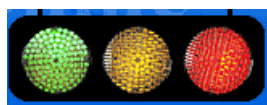
Module 1: Optical Design

Geometrical and paraxial optics, aberrations, Ray tracing software



Module 2: Optical Metrology

Wave Optics, interference, diffraction and polarization. Digital Holography, Transport of Intensity Equations and other system demos



Module 3: Photonics

Photons and Photoelectric effect; Lasers, LED and laser diodes; Quantum and thermal detectors, CCD and CMOS

Course cost: \$1000

10% discount for OPSS and ACOP members

Course duration: one day

Contact:

Anand Asundi,

Chair - Optics and Photonics Society of Singapore

Director – d'Optron Pte Ltd

Email: chair@opssg.org

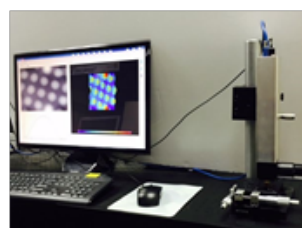
Join OPSS: <http://www.opssg.org/about-opss/join-opss>



3D Profilometer



Lensless 3D Camera



Nanoimager



Polariscope

Systems that will be demonstrated during this course.