

CORE COURSE PERFORMANCE OBJECTIVES

The student will be able to:

1. Solve problems involving light sources and their characteristics. (CCC 2, 7, 9)
2. Solve problems involving radiometry and photometry. (CCC 2, 7, 9)
3. Solve problems involving the wave nature of light. (CCC 2, 7, 9)
4. Solve problems involving reflection and refraction. (CCC 2, 7, 9)
5. Solve problems involving propagation. (CCC 2, 7, 9)
6. Solve problems involving interference. (CCC 2, 7, 9)
7. Solve problems involving diffraction. (CCC 2, 7, 9)
8. Solve problems involving polarization. (CCC 2, 7, 9)
9. Solve problems involving holography. (CCC 2, 7, 9)
10. Investigate and solve problems using experimental techniques. (CCC 1, 2, 3, 7, 9)

MEASURABLE PERFORMANCE OBJECTIVES

- 1. Solve problems involving light sources and their characteristics. (CCC 2, 7, 9)**
 - 1.1 Solve problems involving point and extended sources.
 - 1.2 Solve problems involving radiant power and emissivity.
- 2. Solve problems involving radiometry and photometry. (CCC 2, 7, 9)**
 - 2.1 Solve problems involving radiant quantities.
 - 2.2 Solve problems involving photometric quantities.
- 3. Solve problems involving the wave nature of light.**
 - 3.1 Solve problems involving wavelength.
 - 3.2 Solve problems involving frequency.
- 4. Solve problems involving reflection and refraction. (CCC 2, 7, 9)**
 - 4.1 Solve problems involving reflected laser power.
 - 4.2 Solve problems involving refracted laser power.
- 5. Solve problems involving propagation. (CCC 2, 7, 9)**
 - 5.1 Solve problems involving laser beam irradiance.
 - 5.2 Solve problems involving laser beam attenuation.
- 6. Solve problems involving interference. (CCC 2, 7, 9)**
 - 6.1 Solve problems involving superposition.
 - 6.2 Solve problems involving Young's double-slit experiment.
 - 6.3 Solve problems involving thin films.

- 7. Solve problems involving diffraction. (CCC 2, 7, 9)**
 - 7.1 Solve problems involving Fraunhofer diffraction.
 - 7.2 Solve problems involving diffraction-limited optics.
 - 7.3 Solve problems involving the Fresnel number.

- 8. Solve problems involving polarization. (CCC 2, 7, 9)**
 - 8.1 Solve problems involving linear polarization using Jones calculus.
 - 8.2 Solve problems involving circular polarization using Jones calculus.
 - 8.3 Solve problems involving elliptical polarization using Jones calculus.

- 9. Solve problems involving holography. (CCC 2, 7, 9)**
 - 9.1 Solve problems involving holographic configurations.
 - 9.2 Solve problems involving holographic procedure.

- 10. Investigate and solve problems using experimental techniques. (CCC 1, 2, 3, 7, 9)**
 - 10.1 Investigate and solve problems involving light sources and their characteristics.
 - 10.2 Investigate and solve problems involving radiometry and photometry.
 - 10.3 Investigate and solve problems involving the wave nature of light.
 - 10.4 Investigate and solve problems involving reflection and refraction.
 - 10.5 Investigate and solve problems involving propagation.
 - 10.6 Investigate and solve problems involving interference.
 - 10.7 Investigate and solve problems involving diffraction.
 - 10.8 Investigate and solve problems involving polarization.
 - 10.9 Investigate and solve problems involving holography.

EVALUATION CRITERIA

Students will demonstrate proficiency on all Measurable Performance Objectives at least to the 75% level. The grade will be determined using the College Grading System:

92 - 100	A
83 - 91	B
75 - 82	C
0 - 74	R

Students should refer to the Student Handbook for information on Academic Standing Policy, Academic Honesty Policy, Students Rights and Responsibilities and other policies relevant to their academic progress.