

Springfield Technical Community College

ACADEMIC AFFAIRS

Course Number: PHYS 180 Department: Physics
 Course Title: Intro to Light and Lasers Semester: Fall Year: 2009

Course Objectives	Competencies
<ol style="list-style-type: none"> 1. To provide students with a theoretical and practical understanding of light and lasers. 2. To familiarize students with the optical and laser equipment typically found in industry. 3. To provide students with an appreciation for the pervasive nature of light and lasers in a broad range of applications in modern society 	<p>Upon completion of this course, students will be able to:</p> <ol style="list-style-type: none"> 1. Explain the nature of light and the electromagnetic spectrum 2. Describe and demonstrate how a simple lens is used to form an image 3. Describe and demonstrate how a mirror is used to form an image 4. Explain how diffraction gratings are used in spectroscopy 5. Describe the operation of various light sources 6. Explain how a laser works and describe the different types of lasers 7. Explain the principle of total internal reflection and how it is used in fiber optics to guide light 8. Explain how a polarizer works and describe its various applications 9. Construct an Michelson interferometer and explain how it works 10. Explain how microscopes and telescopes work 11. Make a simple reflection hologram