PHSX 327 — Optics  
Spring 2014

Instructor: Paul Janzen  
Office: CHCB 010  
Office hours: M 11:00 - 12:00, W 2:00 - 4:00, and by appointment  
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Website: http://cas.umt.edu/physics/327/  
Lecture: Tuesdays and Thursdays 11:10-12:30 AM in CHCB 230  
Prerequisite: PHSX 311 Oscillations and Waves

**Objectives:**  
To study a wide range of optical phenomena using three distinct but complementary theoretical models: geometric optics, wave optics, and quantum optics.  
To understand the underlying physical principles as well as the relevant mathematical tools.

**Outcomes:**  
- Will be familiar with geometric optics, wave optics, and quantum optics at the upper undergraduate level.  
- Will be able to analyze and utilize a wide range of optical instruments.  
- Will be able to apply physical principles and mathematical methods used in optics to other branches of physics, including electromagnetism.

**Homework:**  
Problem sets (approximately weekly); some reading assignments.

**Exams:**  
Two midterm exams (Tue Mar 4 and Tue Apr 22)  
Closed book but each student is permitted to bring one 4”x6” card.  
One final exam (8 AM, Monday May 12)  
Closed book but each student is permitted to bring three 4”x6” cards.

**Grading:**  
Problem Sets: 25%  
Midterm Exams: 40% (20% each)  
Final Exam: 35%

Course **Add** can be performed online until February 4. **Add/Drop** can be performed via override slip until February 14. **Add/Drop** can be performed with the instructor’s and advisor’s signatures until April 7. Last day to drop with petition is May 9. Students interested in auditing the course must choose so on or before February 14.

All students must practise academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at http://life.umt.edu/vpsa/student_conduct.php

Students with disabilities may request reasonable modifications by contacting me. The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. “Reasonable” means the University permits no fundamental alterations of academic standards or retroactive modifications.