Physics 4328: Optics
Spring 2006

Instructor Information:

Mrs. B. Rasmussen
Office: FO 2.903
Phone: (972) 883-2842
Email: bearas@utdallas.edu
Office Hours: TR 12:30 – 1:30 PM or by appointment
If no one shows up after 15 minutes I will feel free to do errands.

Class Times:

Tuesday and Thursday, 11 – 12:15
FN2.104, January 10 – Apr 25
Final Exam will be 11 am April 25
(please contact instructor as soon as possible about any conflicts)

Text:

Optics, 4th edition, by Eugene Hecht

Prerequisite:

Electricity & Magnetism (Phys 3416)

Grading:

Final grades are determined from a combination of homework, exams, and a project. **There will be no curving.**

Homework/Quizzes/Attendance	25%	90-100	A (A+, A, A-)
Midterm Exam	25%	80-89.9	B
Project	25%	70-79.9	C
Final Exam	25%	60-69.9	D
TOTAL	100%	Below 60	F

Exams and Final Exam:

Valid picture ID must be on your desk during exams. These will be checked. Also calculators will be necessary for all exams. **Graphing calculators and programmable calculators will not be allowed in the exams**.

All exams will be **closed book**. **A piece of paper with formulas are allowed**, but they must be hand written (no Xerox) and **turned in with the exam**. **Exams must be done in ink.**

Any question about an exam grade must be addressed by the next class day after handing out of the exam to the class. After that all grades are final.

Any student involved in cheating will be reported to the Dean of Students.

Homework Problems and Quizzes:

Homework will be assigned and due one week after.

Projects:

Projects will consist of a paper of approximately 5 pages in length (double spaced) and a 15 minute presentation of your topic in class. You can choose your own topic, but it must be approved by the instructor, or the instructor can assign a topic.

Important Dates:

Last day to add 1/13
Census day, last day to drop w/o W 1/25
Last day to drop w/ WP or WF 3/16
Holiday 1/16
Spring Break 3/6 – 3/11

Class Schedule

Date	Lecture	Reading Assignment
1/10 T	L1 Introduction, wave properties	1,2
1/12	L2 wave properties cont.	2
1/17 T	L3 3D waves	2
1/19	L4 electromagnetic theory	3
1/24 T	L5 energy & momentum, radiation, spectrum	3
1/26	L6 light in bulk matter, quantum field theory	3
1/31 T	L7 Rayleigh scattering, reflection	4
2/2	L8 refraction, Fermat's Principle	4
2/7 T	L9 em approach, total internal reflection	4
2/9	L10 interaction of light and matter	4
2/14 T	L11 Stokes	4
2/16	L12 addition of waves (same and different freq.)	7
2/21 T	L13 anharmonic periodic, and nonperiodic waves	7
2/23	L14 polarization	8
2/28 T	Midterm Exam	
3/2	L15 polarizer	8
3/6-11	Spring Break	
3/14 T	L16 retarders	8
3/16	L17 math description	8
3/21 T	L18 interference, conditions	9
3/23	L19 interferometers	9
3/28 T	L20 diffraction	10
3/30	L21 Fraunhofer	10
4/4 T	L22 Fresnel	10
4/6	L23 Devices	13
4/11 T	Projects Presentations	
4/13	Projects Presentations	
4/18 T	Projects Presentations	
4/20	Projects Presentations	
4/25 T	Final @ 11am	