

Physics 402: Optics (Fall 2009)

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Course Website: <http://ctools.umich.edu/>

Lecture: MW 1:00 – 2:30, 4404 Randall
Office Hours: Tu or F 1:00 – 2:30, 4424 Randall

Required Text: B.E.A. Saleh & M.C. Teich, *Fundamentals of Photonics*, 2nd ed. (2007).
Recommended Text: G.R. Fowles, *Introduction to Modern Optics*, 2nd ed. (1989).

Grade Weighting:

Homework: 25% (Due *in class*. Late homework will **not** be accepted!)
Midterm 1: 25% (In class. Wed. Oct. 14, 2009)
Midterm 2: 25% (In class. Wed. Nov. 18, 2009)
Final Exam: 25% (Per Registrar, 4:00 – 6:00 pm, Fri. Dec. 18, 2009)

Overall Grading Scale:

80 – 100%: A-/A/A+
65 – 80%: B-/B/B+
50 – 65%: C-/C/C+
0 – 50%: D/E (case-by-case determination)

Course Syllabus:

B.E.A. Saleh & M.C. Teich, *Fundamentals of Photonics*, 2nd ed. (2007).
Ch. 1: Ray Optics
Ch. 2: Wave Optics
Ch. 3: Beam Optics
Ch. 10: Resonator Optics
Midterm 1: In class. Wed. Oct. 14, 2009
Ch. 4: Fourier Optics
Ch. 5: Electromagnetic Optics
Ch. 6: Polarization Optics
Midterm 2: In class. Wed. Nov. 18, 2009
Ch. 21: Nonlinear Optics
Ch. 11: Statistical Optics
Ch. 12: Photon Optics
Final Exam: Per Registrar, 4:00 – 6:00 pm, Fri. Dec. 18, 2009

September 2009

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	2	3	4	5
6	7 LABOR DAY	8 FALL 2009 SEMESTER: FIRST DAY	9 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 1 & 10	10	11	12
13	14 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 1 & 10	15 PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL	16 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 2 & 10 <u>DUE: Homework #1</u>	17	18	19
20	21 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 2 & 10	22	23 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 2 & 10	24	25 PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL	26
27	28 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 3 & 10 <u>DUE: Homework #2</u>	29	30 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 3 & 10			

October 2009

October 2009						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
4	5 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 4	6 PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL	7 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 4 <u>DUE: Homework #3</u>	8	9	10
11	12 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 4	13 PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL	14 PHYS402 <u>MIDTERM EXAM #1</u> 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 1-3, 10	15	16	17
18	19 FALL STUDY BREAK	20 FALL STUDY BREAK PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL	21 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 5 <u>DUE: Homework #4</u>	22	23	24
25	26 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 5	27	28 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 5	29	30 PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL	31

November 2009

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL. Saleh & Teich, Ch. 6 <u>DUE: Homework #5</u>	3	4 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL. Saleh & Teich, Ch. 6	5	6	7
8	9 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL. Saleh & Teich, Ch. 6	10 PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL	11 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL. Saleh & Teich, Ch. 21 <u>DUE: Homework #6</u>	12	13	14
15	16 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL. Saleh & Teich, Ch. 21	17 PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL	18 PHYS402 <u>MIDTERM EXAM #2</u> 1:00 – 2:30 PM 4404 RANDALL. Saleh & Teich, Ch. 4-6	19	20	21
22	23 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL. Saleh & Teich, Ch. 21	24	25 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL. Saleh & Teich, Ch. 11	26 THANKSGIVING BREAK	27 THANKSGIVING BREAK	28
29	30 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL. Saleh & Teich, Ch. 11					

December 2009

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL	2 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 12 <u>DUE: Homework #7</u>	3	4	5
6	7 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL Saleh & Teich, Ch. 12	8	9 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL LAB TOUR & DEMOS SB237 RANDALL	10	11 PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL	12
13	14 PHYS402 – CLASS 1:00 – 2:30 PM 4404 RANDALL "YEAR IN REVIEW" <u>DUE: Homework #8</u> FALL 2009 SEMESTER: LAST DAY	15 PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL FALL 2009 SEMESTER: STUDY DAY	16 PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL	17 PHYS402 OFFICE HOURS 1:00 – 2:30 PM 4424 RANDALL	18 PHYS402 <u>FINAL EXAM</u> 4:00 – 6:00 pm Saleh & Teich, Ch. 1-6, 10-12, 21	19
20	21	22	23	24	25	26
27	28	29	30	31		