COURSE SCHEDULE FOR 2022FA

Week	Class date	Sections of Pedrotti ³ for pre-class reading	Contents of the class readings from Pedrotti ³ or equivalent
0	Thurs Sep 8	Course syllabus	Introduction to the course
1	Tues Sep 13	1.1 – 1.4	1. Light: An Introduction Some history; Particles and photons; The electromagnetic spectrum; Radiometry
	Weds Sep 14	2.1 - 2.4	2. A Ray Perspective Huygens' principle; Fermat's principle; Principle of reversibility; Reflection from plane mirrors
	Tues Sep 20	2.5; 4.1 – 4.5	Refraction through plane surfaces; 4. Wave Equations One-dimensional wave equation; Harmonic waves; Harmonic waves as complex functions; Plane waves
2	Weds Sep 21	4.6 – 4.7; 5.1 – 5.3	Spherical waves; Other harmonic waveforms 5. Superposition of Waves
	Thurs Sep 22	Drop-in for asgmt 1	Drop-in class to discuss asgmt 1
3	Tues Sep 27	5.4 – 5.6; 7.1	Standing waves; The beat phenomenon; Phase and group velocities; Two- beam interference
	Weds Sep 28	7.2 – 7.3; 7.8	7. Interference of light Young's double-slit experiment; Double-slit interference with virtual sources; Stokes relations
4	Tues Oct 4	7.4; 8.1 – 8.3	Interference from dielectric films; 8. Optical Interferometry The Michelson interferometer; Applications of the Michelson interferometer
	Weds Oct 5	8.10	Gravitational wave detectors
	Thurs Oct 6	Drop-in for asgmt 2	Drop-in class to discuss asgmt 2
5	Tues Oct 11	7.9; 8.4	Multiple-beam interference in a parallel plate; The Fabry-Perot interferometer
	Weds Oct 12	8.5 - 8.8	Fabry-Perot transmission; Scanning Fabry-Perot interferometer; Variable- input-frequency F-P interferometers; Lasers and the F-P cavity
6	Tues Oct 18	9.1 - 9.4	9. Coherence Fourier analysis; Fourier analysis of a finite harmonic wave train; Temporal coherence and line width; Partial coherence
	Weds Oct 19	9.5 - 9.6	Spatial coherence; Spatial coherence width
	Thurs Oct 20	Drop-in for asgmt 3	Drop-in class to discuss asgmt 3
-	Oct 24–28	Reading Week	Reading Week
7	Tues Nov 1	Midterm	Midterm
	Weds Nov 2	Review of midterm	Review of midterm
8	Tues Nov 8	6 & 26 <u>or</u> 10	Group work on topic of choice: Lasers and laser systems or optical fibers
	Weds Nov 9		
	Tues Nov 15		
9	Weds Nov 16		
	Thurs Nov 17	Drop-in for asgmt 4	Drop-in class to discuss asgmt 4: questions based on topic of choice
	Tues Nov 22	Continue 6 & 26 <u>or</u> 10	Continue with lasers and laser systems or optical fibers
10	Weds Nov 23		
11	Tues Nov 29	(Asgmt 5): group	(Asgmt 5): group presentations on topic of choice
	& Weds Nov 30	presentations on topic of choice	
10	Tues Dec 6	-	Review for final exam
14	Weds Dec 7	-	Review for final exam