

PHYSICS 514 – – FALL 2019

Current Research Instruments

Lecture: T θ – 1:00 - 2:20
 Room: Physics basement - S-265
 as of July 17, 2019, subject to change

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Week # Monday date	Tuesday	Thursday	Homework
I 8/26	Intro & Vacuum I (Metcalf)	Vacuum II (Metcalf)	
II 9/2	Vacuum III (Metcalf)	Feedback and Control (Metcalf)	
III 9/9	Signals and Noise (Metcalf)	Accelerators (Metcalf)	
IV 9/16	Our Tandem (Lefferts)	Tour of Accelerator (Lefferts)	Feedback & Control papers due Tuesday
V 9/23	Accelerators & Detectors (Navid Vafei-Najafabadi)	Polarized Electrons (Omer Rahman)	
VI 9/30	Future Electron-Ion Collider (Hemmick)	Temperatures High and Low (Metcalf)	
Everything below here is just a space holder. Subject to change.			
VII 10/7	Liquefying Helium (Erle Graf - room A-133)	Low Temperature Techniques (Xu Du)	Nuclear and accelerator papers due Tuesday
VIII 10/14	NO CLASS HOLIDAY	Visit Electron Microscope (Quinn)	
IX 10/21	Atomic Force Microscopy (Matt Dawber)	Atomic Structure, Optical Instruments: What can we Measure? Intensity (Metcalf)	Low temp papers due Tuesday
X 10/28	Polarization, Jones Matrices Intro to Lasers (Metcalf)	Different Frequency and Tunable Lasers	Microscopy papers due Thursday
XI 11/4	Ring and Diode Lasers Intro to Frequency Measurement (Metcalf)	Laser Locking Schemes Frequency Combs, Limits to Measurement (Metcalf)	
XII 11/11	Ultracold (Schneble)	Visit to AMO Labs (Metcalf)	
XIII 11/18	Ultrafast (Weinacht)	Deformable Mirrors Astronomical Instruments	
XIV 11/25	TeraHertz Radiation (Mengkun Liu)	NO CLASS Thanksgiving	Lasers and Optical papers due Tuesday
XV 12/2	Introduction to X-rays (Metcalf)	Synchrotron Radiation (Metcalf)	

(Required Statement)

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Any suspected instance of academic dishonesty will be reported to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at <http://www.stonybrook.edu/uaa/academicjudiciary>.