

PHYSICS 514 – – FALL 2018

Current Research Instruments

Lecture: T θ – 10:00 - 11:20
 Room: Physics basement - SL-265
 as of August 7, 2018, subject to change

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Week # Monday date	Tuesday	Thursday	Homework
I 8/27	Intro & Vacuum I (Metcalf)	Vacuum II (Metcalf)	
II 9/3	Vacuum III (Metcalf)	Accelerators (Metcalf)	
III 9/10	Our Tandem (Lefferts)	Feedback and Control (Metcalf)	
IV 9/17	Tour of Accelerator (Lefferts)	Signals and Noise (Metcalf)	
V 9/24	Future Electron-Ion Collider (Hemmick)	Accelerator Physics (Litvinenko)	Feedback & Control papers due Thursday
VI 10/1	Accelerators & Detectors (Navid Vafei-Najafabadi)	Temperatures High and Low (Metcalf)	
VII 10/8	NO CLASS HOLIDAY	Low Temperature Techniques (Xu Du)	Nuclear and accelerator papers due Tuesday
VIII 10/15	Liquefying Helium (Erle Graf - room A-133)	Atomic Force Microscopy (Matt Dawber)	
IX 10/22	Near Field Microscopy (Mengkun Liu)	Visit Electron Microscope (Quinn)	Low temp papers due Tuesday
X 10/29	Atomic Structure, Optical Instruments: What can we Measure? Intensity (Metcalf)	Polarization, Jones Matrices Intro to Tunable Lasers (Metcalf)	
XI 11/5	Ring and Diode Lasers Intro to Frequency Measurement (Metcalf)	Laser Locking Schemes Frequency Combs, Limits to Measurement (Metcalf)	Microscopy papers due Tuesday
XII 11/12	Visit to AMO Labs (Metcalf)	Ultracold (Schneble)	
XIII 11/19	Ultrafast (Weinacht)	NO CLASS Thanksgiving	
XIV 11/26	TBA	Deformable Mirrors Astronomical Instruments	Lasers and Optical papers due Tuesday
XV 12/3	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/>