

PHYSICS 514 – – FALL 2016

Current Research Instruments

Lecture: T θ – 10:00 - 11:20
 Room: Physics - PP- 122
 as of August 12, 2016, subject to change

Harold Metcalf - S225
 632-8185 or 8100
 harold.metcalf@stonybrook.edu

Week # Monday date	Tuesday	Thursday	Homework
I 8/29	Intro & Vacuum I (Metcalf)	Vacuum II (Metcalf)	
II 9/5	NO CLASS HOLIDAY	Vacuum III (Metcalf)	
III 9/12	Feedback and Control (Metcalf)	Signals and Noise (Metcalf)	
IV 9/19	Accelerators (Metcalf)	Our Tandem (Lefferts)	Feedback & Control papers due Thursday
V 9/26	Future Electron-Ion Collider (Hemmick)	Tour of Accelerator (Lefferts)	
VI 10/3	Accelerator Physics (Litvinenko)	Temperatures High and Low (Metcalf)	
Everything below here is just a space holder. Subject to change.			
VII 10/10	Low Temperature Techniques (Du)	Liquefying Helium (Graf - room A-133)	Nuclear and accelerator papers due Tuesday
VIII 10/17	Visit Electron (maybe) Microscope (Quinn)	Atomic Force Microscopy (Matt Dawber)	
IX 10/24	Ultra-high Resolution Microscopy (Shu Jia)	Near Field Microscopy (Mengkun Liu)	Low temp papers due Tuesday
X 10/31	Atomic Structure, Optical Instruments: What can we Measure? Intensity (Metcalf)	Tunable & Narrow band Lasers - Frequency Polarization (Metcalf)	
XI 11/7	Jones Matrices (Cont'd.) Ring lasers, Diode Lasers (Metcalf)	Frequency Combs Laser Locking Schemes (Metcalf)	Microscopy papers due Tuesday
XII 11/14	Ultracold (Schneble)	Ultrafast (Weinacht)	
XIII 11/21	Visit to Laser Teaching Center & AMO Labs	NO CLASS Thanksgiving	
XIV 11/28	Introduction to X-rays (Metcalf)	Synchrotron Radiation (Metcalf)	Lasers and Optical papers due Tuesday
XV 12/5	Detectors at RHIC, EIC, and PHENIX (Deshpande)	Deformable Mirrors Astronomical Instruments (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/>