

## PHYSLAB 300/500

### Lab schedule for the first four weeks of experimental work (Oct 2018)

Student Name/Date	9-10-2016	11-10-2016	16-10-2018	18-10-2018	23-10-2018	25-11-2018	30-10-2018	1-11-2018
Akbar Abbas	Ring on a rotating shaft (2.22)		Tracking Brownian Motion Through Video Microscopy (2.11)		<u>EXPLORATION: Extending 2.11 to investigate Differential Dynamic Microscopy (Phys. Rev. Lett. <b>100</b>, 188102 (2008))</u>			
Muhammad Muzzamil	Magnetic Pendulum (2.12)			The lock-in amplifier 2.2	Faraday effect (2.6)		<u>EXPLORATION: How fast do signals travel and how are they reflected on electrical cables?</u>	
Minahil Adil Butt								
Fatimah Zahid	<u>Temperature oscillations in a metal (2.3)</u>		Band structure and electrical conductivity in semiconductors (2.10)		Reflection, transmission and Fresnel coefficients (3.1)		Michelson interferometry (2.9)	
Anusha Fayyaz	<u>Temperature oscillations in a metal (2.3)</u>							
Fezan Javed	Michelson interferometry (2.9)		Chaos and nonlinear physics (2.5)		<u>EXPLORATION: Building and exploring chaos and nonlinear phenomena in a Chua circuit (<a href="http://www.cmp.caltech.edu/~mcc/chaos_new/Chua.html">http://www.cmp.caltech.edu/~mcc/chaos_new/Chua.html</a>)</u>			
Zain Ul Abdin								
Haseeb Ahmad	<u>Superconducting quantum interference devices (2.4): will also involve an EXPLORATION: AC Josephson Effect</u>							
Mohsin Raza Khan								
Kaynat Alvi	Band structure and electrical conductivity in semiconductors (2.10)		Investigating polarization of light through Jones calculus (3.3)		Analyzing the polarization state of light through the Fourier series (3.4)		Gamma ray spectroscopy (2.19)	
Shafia Elahi								
Syed Hasan Abbas Bukhari	<u>EXPLORATION: Investigate Johnson noise</u>				Band structure and electrical conductivity in semiconductors (2.10)		The lock-in amplifier (2.2) and Faraday effect (2.6)	
Najeha Rashid								