

Physics Lab Experiment Schedule Spring 2024

Week	1*	2	3	4	5	6	7	8**	9	10***	11	12	13	14****
Dates	1/16(T) - 1/22(M)	1/23(T) - 1/29(M)	1/30(T) - 2/5(M)	2/6(T) - 2/12(M)	2/13(T) - 2/19(M)	2/20(T) - 2/26(M)	2/27(T) - 3/4(M)	3/5(T) - 3/18(M)	3/19(T) - 3/25(M)	3/26(T) - 4/1(M)	4/2(T) - 4/8(W)	4/9(T) - 4/15(M)	4/16(T) - 4/22(M)	4/22(T) - 4/30(T)
102A	Intro	104	109	111	112	113	106	131	122	126	127N	120N	103	121
Interface	Error Analysis	Creating Motion	One Dimensional	Projectile Motion	Newton's Second	Atwood's Machine	Static & Kinetic	Centripetal Force	Conservation of Energy for an Object on an Inclined Plane	Conservation of Momentum & Impulse-Momentum Theorem	Torque and Rotational Inertia	Conservation of Angular Momentum	Translational Static Equilibrium Force	Rotational Static Equilibrium Forces on a Strut
103A	Intro	Graph A	Motion 7	D	Law E	F	Frictions G	B1	W	J	H	215	M	N
Interface	Error Analysis	Young's Modulus	Archimedes' Principle & Density	Linear Expansion Coefficient	Specific Heat	Heat of Fusion of Ice	Mechanical Equivaient of Heat	Simple Harmonic Motion	Transverse Standing Waves on a String	Longitudinal Standing Tube	Conservation of Electrical Energy to Heat	Ohm's Law	Lenses	Grating Diffraction
111A	Intro	103	109	111	112	106	6a1	125	126	114	9a1	127	121	7
Interface	Error Analysis	Translational Static Equilibrium Force Table	One Dimensional Motion	Projectile Motion	Newton's Second Law	Static & Kinetic Frictions	Work and Kinetic Energy	Conservation of Energy in Spring-Mass System	Conservation of Momentum and Impulse Theorem	Uniform Circular Motion	Moment of Inertia and Energy in Rotational Motion	Torque and Rotational Inertia	Rotational Static Equilibrium Forces on a Strut	Archimedes' Principle & Density
121A	Intro	Matlab	200	201	202	203	205	215	217	212	210	223	218	221
Interface	Error Analysis & MATLAB 1	MATLAB 2	Electric Charge & Force	Electric Field by Point Charge	Numerical Verification of Gauss Law	Electric Potential and Electric Field	Parallel Plate Capacitor	Ohm's Law	RC Circuit	Measurement of e/m for an Electron	Helmholtz Coil	Faraday's Law	RL Circuit	LC Circuit
231A	Intro	B2	C&O	W	J	K	LP	N1	N2	N	P	S	Q	U
Interface	Matlab & Error Analysis	Simple Harmonic Motion	Physical Pendulum with Small & Large Amplitude	Transverse Standing Waves on a String	Longitudinal Standing Tube	Refraction, Reflection and Dispersion of Light	Polarization of Light (Malus's Law)	Diffraction Pattern of Light with a Single Slit	Diffraction Pattern of Light with a Double Slit	Grating Diffraction	Photoelectric Effect	Emission Spectrum of Hydrogen Atom	Electron Diffraction	Semi-conductor Diode Characteristics
202A	Intro	1	2	3	4	5	6	7	8	9	10	11	12	13
Interface		The Celestial Sphere: Horizon Coordinate System	The Celestial Sphere: The Ecliptic	The Celestial Sphere: Equatorial Coordinate System & Sidereal Time	Motion of Mercury: Drawing the Orbit	Orbit of Mercury: Kepler's Laws	The Moon	Planetary Configuration	The Synodic Period of the Sun	Spectroscopy	Reflection and Refraction	Thin Lenses and Astronomical Telescope	The Hertzprung-Russel Diagram	The Hubble Classification of Galaxies and Cosmology
203A	Intro	1	2	3	4	5	6	7	8	9	10	11	12	13
Interface		Earth's Geography I	Earth's Geography II	Rock Identification	Properties of Water: Latent Heat of Fusion	Earthquakes: Locating the Epicenter	Understanding density	The Archimedes' Principle	The Acceleration Due to Gravity	Properties of Water: Specific Heat	Properties of Water: Dissolved oxygen	Properties of Water: Salinity	The Ideal Gas Law: Determining the Absolute Zero of Temperature	None

* 1/22 (Monday) Last Day to add/drop a class

** 3/11 (Mon.) through 3/16 (Sat.) NJIT Spring Recess. No Classes.

*** 3/29 (Fri.) Good Friday. No Classes.

*** 4/1 (Mon.) Last Day to Withdraw

***** 4/30 (Tue.) Friday classes meet. Lab experiment in Week 10 (skipped on Good Friday) will be performed.