Intro Physics Course Outlines—Topics and Number of Periods

Table 1 The topics for each of our introductory calculus-based physics courses and *the number of lecture periods* each one ought to take in order to cover all the material required. Note that for all our calculus based introductory physics classes there are 28 75-minute lecture periods and 14 150-minute lab periods—for those teaching a two day schedule, one day is a two-period lecture and the other is a lab period. The reason for the half-period in the first topics is because on the first day about 30–60 minutes of class are used to administer a pre-course content diagnostic assessment.

Intro Mechanics		**Intro Thermo, Fluids, Waves, & Optics**		**Intro Electricity & Magnetism**	
Foundations	0.5	Fluid mechanics	3	Electric Interactions	2
One-dimensional motion	2	Entropy	3	Electric Field	2
Acceleration	2	Thermal Energy	4	Gauss's Law	2
Momentum	2	Engines and Thermodynamic Laws	3	Electric Work and Energy	2
Energy	2	Waves in One Dimension	3	Capacitance	3
Relativity and Frames of Reference	2	Waves in Two and Three Dimensions	3	Magnetic Interactions	2
Interactions	2	Geometric Optics	4	Magnetic Field	2
Force	2	Wave Optics	4	Changing Magnetic Fields	3
Work	2			Changing Electric Fields	3
Two-Dimensional Motion	3			Electric Circuits	3
Circular Motion	2			Electronics	3
Torque and Angular Momentum	2				
Gravitation	2				
Simple Harmonic Motion	2				
TOTAL	**27.5**		**27**		**27**

Table 2 The topics for each of our introductory algebra-based physics courses and *the number of lecture periods* each one ought to take in order to cover all the material required. Note that for all our calculus based introductory physics classes there are 28 75-minute lecture periods and 14 150-minute lab periods—for those teaching a two day schedule, one day is a two-period lecture and the other is a lab period. The reason for the half-period in the first topics is because on the first day about 30–60 minutes of class are used to administer a pre-course content diagnostic assessment.

Physics I — No Calc		**Physics II — No Calc**	
Intro, math review, units	1.5	Oscillations	1.5
One-dimensional Motion	2	Traveling Waves and Sound	2
Vectors and Two-dimensional Motion	2	Superposition and Standing Waves	2
Forces and Newton's Laws	2	Wave Optics	2
Applying Newton's Laws	2	Ray Optics	2
Circular Motion	2	Optical Instruments	3
Rotational Motion	2	Electric Fields and Forces	2
Equilibrium and Elasticity	2	Electric Potential	2
Momentum	2	Current and Resistance	2
Energy and Work	2	Circuits	2
Using Energy	2	Magnetic Fields and Forces	2
Thermal Properties of Matter	3	Induction and E-M Waves	3
Fluids	3	AC Electricity	2
TOTAL	**27.5**		**27.5**