Physics 18 Week Plan

Unit 1	**Kinematics (week 1-4)**
COS	**AL.1**
CH 2	**MOTION IN ONE DIMENTION**
2.1	DISPLACEMENT AND VELOCITY
2.2	ACCELERATION
2.3	FALLING OBJECTS
CH 3	**TWO-DIMENTIONAL MOTION AND VECTORS**
3.1	INTRODUCTION TO VECTORD
3.2	VECTOR OPERATIONS
3.4	PROJECTILE MOTION
labs	
	Basketball Toss Video Analysis (PTRA)
	Changing Velocity
	Comparing Linear Speed and Circular Speed
	Constant Velocity
	Journey of a Physics Student
	Match the Graph
	Motion Graphs
	Motion of a Falling Marble
	Motion of a Toy Car
	Motion on an Incline
	Muzzle Velocity
	Projectile Motion Photo Worksheet (PTRA)
	Range vs. Angle
	Significant Times
	Tractor Pull
	Traveling Washer in 1D (PTRA)
	Treasure Hunt
Unit 2	**Forces (week 5 thru 8)**
COS	**AL.1, AL.2, AL.3, AL.5, AL.6**
ch 4	**Forces and the Laws of Motion**
4.1	RELATIVE MOTION
4.2	CHANGES IN MOTION
4.3	NEWTON'S 1ST LAW
4.4	NEWTON'S 2ND AND 3RD LAWS
ch 5	**Work and Energy**
5.1	EVERYDAY FORCES
5.2	WORK
5.3	ENERGY
5.4	POWER

Ch 6	**Momentum and Collisions**
6.1	MOMENTUM AND IMPULSE
6.2	CONSERVATION OF ENERGY
6.3	ELASTIC AND INELASTIC COLLISIONS
labs	
	Acceleration on an Incline
	Force and Motion
	Force Tables
	Forces as Vectors (PTRA)
	Forces Poster (PTRA)
	Free Body Diagrams (PTRA)
	Friction
	Hooke's Law
	Horizontal Circular Motion
	Newton's Second Law
	Newton's Third Law
	Pool Ball Inertia
	Weight Versus Mass
	Impulse and Momentum ACOS 2015
	Conservation of Momentum
	Conservation of Momentum 2D
	Impulse Momentum
	work
	Work Energy Theorem
	CONSERVATION OF ENERGY
unit 3	**Circular Motion (week9)**
COS	**AL.2,AL.4**
ch 7	**Circular Motion and Gravitation**
7.1	CIRCULAR MOTION
7.2	NEWTON'S LAW OF UNIVERSAL GRAVITATION
7.3	MOTION IN SPACE
7.4	TORQUE AND SIMPLE MACHINES
labs	
	Conservation of Angular Momentum
	Introduction to Torque
	Moment of Inertia
	Rotational Motion

Physics 18 Week Plan

Unit 4	**Thermo (week 10)**
COS	**AL.7**
ch 9	**Heat**
9.1	TEMPERATURE AND THERMAL EQUILLIBRIUM
9.2	DEFINING HEST
9.3	CHANGES IN TEMPRERATURE AND PHASE
ch 10	**Thermodynamics**
10.1	RELATIOSHIPS BETWEEN HEAT AND WORK
10.2	1ST LAW OF THERMODYNAMICS
10.3	2ND LAW OF THERMODYNAMICS
labs	
	Heat Transfer
Unit 5	**Waves (week 11-12)**
COS	**AL.8**
ch 11	**Vibratin and Waves**
11.1	SIMPLE HARMONIC MOTION
11.2	MEASURING SIMPLE HARMONIC MOTION
11.3	PROPERTIES OF WAVES
11.4	WAVE INTERACTIONS
Ch 12	**Sound**
12.1	SOUND WAVES
12.2	SOUND INTENSITY AND RESONANCE
12.3	HARMONICS
Labs	
	Title
	Properties Of Sound
	Simple Harmonic Motion
	Speed Of Sound
Unit 6	**Optics (week 13-14)**
COS	**AL.10**
ch 13	**Light and Reflection**
13.1	CHARACTERISTICS OF LIGHT
13.2	FLAT MIRRORS
13.3	CURVED MIRRORS
13.4	COLOR AND POLARIZATION
ch 14	**Refraction**
14.1	REFRACTION
14.2	THIN LENSES
14.3	OPTICAL PHENOMENA
Ch 15	**Interference and Diffraction**
15.1	INTRERFERENCE
15.2	DIFFRACTION
15.3	LASERS
Labs	
	Title
	Color Addition
	Concave Mirror
	Convex And Concave Lenses
	Convex Lens
	Double Slit Interference
	Light Intensity
	Plane And Curved Mirrors
	Polarization
	Single Slit Diffraction
	Snell's Law
Unit 7	**Electricity and Magnatism (week 15-16)**
COS	**AL.9,AL.11,AL.12**
Ch 16	**Electric Force and Fields**
16.1	Electric Charge
16.2	Electric Force
16.3	The Electric Field
Ch 17	**Electrical Energy and Current**
17.3	Current and Resistance
Ch 18	**Circuits and Circuit Elements**
ch 19	**Magnetism**
19.1	<agnets and Magnetic Field
19.2	Magnetism from Electricity
19.3	Magnetic Force
Ch 20	**Electromagnetic Induction**
20.4	Electromagnetic Waves
labs	
	Discovering Ohm's Law
	Electric Fields (PhET)
	Electromagnetic Induction
	RC Circuit
	Resistance
	Simple Circuits

Physics 18 Week Plan

Unit 8	**Modern (week 17)**
COS	**Al.9**
ch 21	**Atomic Physics**
21.1	Quantization of Energy
Labs	
	Emission Spectra
	Photoelectric Effect (PhET)
	Week 18- FINALS