**AP Physics Syllabus- Mr. Valle 2017-18**

**Quarter 1**

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| Week of: | Chapter | Topics |
| July 31-Aug 4 | 1- Representing Motion | Position, Time, Velocity, Vectors |
| Aug 7-11 | 2- Motion in One Dimension | Uniform Motion, Acceleration, Instantaneous Velocity |
| Aug 14-18 | 3- Vectors and Motion in Two Dimensions | Vector Diagrams, Ramps |
| Aug 21-25 | 4- Forces and Newtons Laws of Motion | Identifying Forces, Newton’s 1st, 2nd and 3rd Laws |
| Aug 28- Sep 1 | 5-Applying Newton’s Laws | Equilibrium, Mass vs Weight, Normal Force, Friction |
| Sep 5-8 | Simple Machines | Wedge, Lever, Pulley, Wheel and axle, inclined plane, screw |
| Sep 11-15 | 6- Circular Motion, Orbits and Gravity | Unifrom Circular Motion, Gravity, Orbits |
| Sep 18-22 | 7- Rotational Motion | Rigid Bodies, Torque,, Moment of Inertia |
| Sep 25-29 | NA | Exam review, Exam |

**Quarter 2**

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| Week of: | Chapter | Topics |
| Oct 16-20 | 8- Equilibrium and Elasticity | Torque, Static Equlibrium, Hooke’s Law, Springs Law |
| Oct 23-27 | 9- Momentum | Impulse, Conservation of Momentum, Inelastic |
| Oct 30- Nov 3 | 10- Energy and Work | Work, Kinetic, Potential, Power |
| Nov 6-9 | 11- Using Energy | Temperature, Thermal Energy, Heat, Entropy |
| Nov 13-17 | 12- Thermal Properties of Matter | Atomic Model, Ideal Gases, Thermal Expansion |
| Nov 27- Dec 1 | 13- Fluids | Density, Pressure, Buoyancy, Fluid Dynamics |
| Dec 4-8 | 14- Oscillations | Linear Restoring Forces, Simple Harmonic Motion |
| Dec 11-15 | 15- Travelling Waves and Sound | Wave Model, Sound and Light, Doppler Effect |
| Dec 18-22 | NA | Exam review, Exam |

**Quarter 3**

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| Week of: | Chapter | Topics |
| Jan 9-12 | 16- Superposition and Standing Waves | Principle of Superposition, Standing Waves |
| Jan 16-19 | 17- Wave Optics | Interference, Diffraction |
| Jan22-26 | 18- Ray Optics | Ray Model, Reflection, Refraction |
| Jan 29-Feb 2 | 19- Optical Instruments | Camera, The Eye, Microscope |
| Feb 5-9 | 20- Electric Fields and Forces | Charges and Forces, Coulomb’s Law |
| Feb 12-16 | 21- Electrical Potential | Electrical Potential, Capacitance |
| Feb 20-23 | 22- Current and Resistance | Batteries and EMF, Ohm’s Law |
| Feb 26- Mar 2 | 23- Circuits | Series and Parallel Circuits, Kirchoff’s Law |
| Mar 5-Mar 9 | NA | Exam review, Exam |

**Quarter 4**

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| Week of: | Chapter | Topics |
| Mar 26-29 | 24- Magnetic Fields and Forces |  |
| Apr 2-6 | 25- Electromagnetic Induction and Electromagnetic Waves | Induced Current, Magnetic Flux, Faraday’s Law |
| Apr 9-13 | 26- AC Electricity | Household Electricity, Capacitors |
| Apr 16-20 | 27- Relativity | Principle of Relativity, Time Dilation |
| Apr 23-27 | 28- Quantum Physics | Photons, Quantization, Uncertainty Principle |
| Apr 30-May 4 | 29- Atoms and Molecules | Spectroscopy, Bohr’s Model |
| May 7-11 | 30- Nuclear Physics | Nuclear Decay, Radiation and Radioactivity |
| May 14-18 | TBD |  |
| May 21-25 | NA | Exam review, Exam |