

**Tentative Plan**

<b>Week #1</b>	Introduction to Physics 101
<b>Weeks #2 and 3</b>	<b><u>Ch 3: Vectors</u></b> 3.1 Cartesian coordinates 3.2 Vectors and Scalar Quantities 3.3 Properties of Vectors 3.4 Components of a vector and Unit vectors 7.3 The Scalar Product of Two Vectors 11.1 The Vector (cross) Product. <b>Suggested Problems:</b> 3.1, 3.14, 3.25, 7.9, 11.1
<b>Week #4</b>	<b><u>Ch 2: Motion in One Dimension</u></b> 2.1 Position, Velocity, and Speed 2.2 Instantaneous Velocity and Speed 2.4 Acceleration 2.6 Particle Under Constant Acceleration 2.7 Free Falling <b>Suggested Problems:</b> 2.1, 2.3, 2.9, 2.14, 2.25, 2.28, 2.29, 2.65
<b>Week #5</b>	<b><u>Ch 4: Motion in Two Dimensions</u></b> 4.1 Position, Velocity and Acceleration Vectors 4.2 Two-Dimensional Motion with Constant Acceleration 4.3 Projectile Motion 4.4 Uniform Circular Motion 4.5 Tangential and Radial Accelerations <b>Suggested Problems:</b> 4.1, 4.6, 4.7, 4.9, 4.13, 4.20, 4.40, 4.62
<b>Week #6</b>	<b><u>Ch 5: The Laws of Motion</u></b> 5.1 The Concept of Force 5.2 Newton's First Law 5.3 Mass 5.4 Newton's 2 <sup>nd</sup> law 5.5 Weight 5.6 Newton's 3 <sup>rd</sup> Law 5.7 Analysis Models Using 2 <sup>nd</sup> Law 5.8 force of Friction. <b>Suggested Problems:</b> 5.3, 5.19, 5.40, 5.49, 5.55, 5.61, 5.65, 5.85
<b>Week #7</b>	<b><u>Ch 6: Circular Motion</u></b> 6.1 Uniform Circular Motion 6.2 Non-uniform Circular Motion <b>Suggested Problems:</b> 6.1, 6.6, 6.9, 6.18, 6.39, 6.40
<b>Week #8</b>	<b><u>Ch 7: Energy</u></b> 7.2 Work done by a Constant Force 7.4 Work done by Varying Force 7.5 Kinetic Energy and Work-Kinetic Energy Theorem 7.6 Potential Energy 7.7 Non-conservative forces <b>Suggested Problems:</b> 7.5, 7.9, 7.14, 7.31, 7.43, 7.49, 7.63
<b>Week #9</b>	<b><u>Ch 8 Conservation of Energy</u></b> 8.2 Isolated System 8.3 Situations Involving Kinetic Friction 8.4 Changes in Mechanical Energy for Non-conservative Forces 8.5 Power <b>Suggested Problems:</b> 8.3, 8.5, 8.6, 8.15, 8.23, 8.29, 8.63
<b>Weeks #10 and 11</b>	<b><u>Ch 9: Linear Momentum and Collisions</u></b> 9.1 Linear Momentum 9.2 Isolated System 9.3 Impulse and Impulsive Force 9.4 Collisions in one Dimension 9.5 Collisions in Two Dimensions 9.6 The Center of Mass 9.7 Systems of Many Particles <b>Suggested Problems:</b> 9.2, 9.11, 9.13, 9.31, 9.37, 9.45, 9.51, 9.67, 9.81
<b>Weeks #12 and 13</b>	<b><u>Ch 10 Rotation of a Rigid Object About a Fixed Axis</u></b> 10.1 Angular Position, Velocity, and Acceleration 10.2 Rigid Object Under Constant Angular Acceleration 10.3 Angular and Translational Quantities 10.4 Torque 10.5 Rigid Object Under Net Torque 10.6 Moments of Inertial (For Point Particles) 10.7 Rotational Kinetic Energy 10.8 Energy Consideration in Rotational Motion 10.9 Rolling of a Rigid Object <b>Suggested Problems:</b> 10.9, 10.20, 10.32, 10.73, 10.78
<b>Week #14</b>	<b><u>Ch 11 Angular Momentum</u></b> 11.3 Angular Momentum of a Rotating rigid Body 11.4 Conservation of Angular Momentum <b>Suggested Problems:</b> 11.5, 11.11, 11.30, 11.34
<b>Week #15</b>	<b><u>Ch 12 Static Equilibrium</u></b> 12.1 Rigid Body at Equilibrium 12.3 Examples <b>Suggested Problems:</b> 12.1, 12.9, 12.11