**Physics 12 Course Outline**

**TOPICS**

1. Vector Kinematics: Linear motion, Projectiles, Relative Motion
2. Vector Dynamics: Newton’s Laws, Free-body Diagrams, 2-D Forces, Inclined Planes, System of Masses
3. Vector Momentum: Linear Momentum, Impulse, Conservation of Momentum, 2-D Momentum
4. Mechanical Energy: Work, Power, Energy, Conservation of Energy, Efficiency
5. Static Equilibrium: Translational & Rotational Equilibrium, Torque, Center of Gravity
6. Circular Motion & Gravity: Centripetal Acceleration, Newton’s Law of Universal Gravitation, Gravitational Potential Energy, Escape Velocity
7. Electrostatics: Electric Force, Coulomb’s Law, Electric Field, Electric Potential Energy, Electric Potential Difference
8. Current Electricity: (DC) Electric Current, Voltage, Electro-Motive Force, Resistance, Ohm’s Law, Power, Joule’s Law, Circuit Diagrams, Kirchhoff’s Laws, Internal Resistance
9. Magnetism & Electromagnetism: Magnetic Force, Magnetic Field, Induced EMF, Magnetic Flux, Faraday’s Law, Lenz’Law, Generators, Motors, Back EMF, Transformers

**EVALUATION**

Tests and Quizzes 90 %

Assignments 10 %

**LATE WORK OR MISSED EXAMS**

Missed exams must be made up on your return to class.

Late or missed work will not be accepted but you will not be given a zero, rather, that portion of your mark will be added to your test.

**ACADEMIC MISCONDUCT**

Cheating or Plagiarism will result in a zero for the test or assignment and referral to the office for disciplinary action. Re-writes are not appropriate in any case of cheating nor will they be allowed.