**Objectives Unit 4 – Forces**

**Chap 12.1 “Newton’s First and Second Laws”**

* What is a **Force Diagram** and how does it help you determine the motion and/or **Net Force** acting on an object?
* What is **Newton’s First Law**?
* Why do objects on earth seem to break **Newton’s First Law** and come to a stop even if it appears no outside forces have acted upon it?
* What is **Inertia**, and why is Newton’s First Law often called the **Law of Inertia**?
* What is **Newton’s Second Law** and how do you calculate with it?



**Chap 12.2 “Gravity”**

* What is the difference between **Weight** and **Mass**?
* What is the equation for **Weight** and how do you calculate with it?



* What is the **Acceleration due to Gravity** on Earth?
* What is the **Law of Universal Gravitation** and what does it tell you about the gravitational force between two objects?



* What is **Free Fall**?
* What is **Terminal Velocity**?
* What is **Projectile Motion**?

**Chap 12.3 “Newton’s Third Law”**

* What is **Newton’s Third Law**?
* Why, if there are equal and opposite forces on interacting objects, do they not have equal effects on the objects?



* What is **Momentum**, its equation, and how do you calculate with it?
* What is the **Law of Conservation of
Momentum** and how does it apply to collisions?