This is the Computer Aided Drafting & Design course is designed to further develop our student’s knowledge in drafting techniques and methods using Autodesk inventor. The course will comprise of learning basic engineering and design principals. The course is designed to enhance the student’s problem solving skills as well as learning the basic functionally of using rapid prototyping software.

In this course student will learn:

1. Feature base modelling which consist of:
   A. Learning the interface.
   B. Opening and creating system files.
   C. Learning the uses of geometric constraints.
   D. Using dimensional constraints.
   E. Learning how to manipulate lines circles and arcs on a perimetric plane.
   F. How to create fillets and chamfers.

2. Creating basic sketch features used to render three dimensional base images:
   A. How to use the extrude function
   B. How to use the revolve tool.
   C. How to use the Coil tool.
   D. How to Create secondary features.
   E. How to use shared sketches.
   F. How to use the loft tool.

3. The assembly design (This is where the prototype put together)
   A. Learning the assembly environment
   B. How to create joints.
   C. Learning the various degrees of freedom.
   D. How to apply assembly constraints.
E. How to properly constrain various parts in the assembly environment.
F. How to edit joints and constrain joints.

============== Marking period 3===============

4. Interacting with the assembly:
   A. How to select components
   B. Interference checking
   C. Constraint limits
   D. How to create working visuals
   E. How to create exploded views of a model.

5. This course will also introduce the basic functionality of 3D printing and its uses in drafting and design. At the end of this term the student will be able to produce a 3D prototype of the project of their own choosing. During this time the student will learn:
   A. What is 3d printing.
   B. What are the different types of 3d printers.
   C. How to use Model software.
   D. How to create the parts for the fabrication of the model.