Pop Up Class – 3d Printing and Job Submission

1. **Class Overview**
   - **Description**
     To provide an overview of 3d printing, 3D printing technologies and how a rapidly prototyped object is invaluable in the design process. Students will have a clear understanding of how to submit jobs for printing.
   - **Prerequisites**
     Ability to use a computer.
   - **Anticipated Class Size** – 8-10
   - **Class Duration** – 1 ½ hours
   - **Material Needed** –
     - Stratasys Eden 260v 3D printer
     - Computer
2. Safety
   - Standard Machine Shop Apparel.
   - Use of Nitrile gloves

3. Educational Objectives
   - Students will be able to:
     - Understand the basics of a 3D printer, including machine operation theory, maintenance routines, chemicals involved, and finishing the product.
     - Develop concepts of 3D prototyping.
     - Observe the EDEN 260v printer in various stages of printing.
     - Understand the job submission process.

4. Class Format
   a. Pre-Class activity
      i. View the 3d Printing Power point on the EIC eCampus site.
      ii. Read the forms 3D Printing Information, 3D printing job submission forms.
   b. In-Class activity
      i. Explain the working theory on the 3D printer software, hardware and finished prototype.
      ii. Demonstrate how 3d Printer parts have replaced handmade models of wood and clay.
      iii. Show class samples of 3D printed items and explain the differences in materials.
      iv. Explain how to use the 3d Printing Job Submission forms.
      v. Have students process a small prototype.
      vi. Assessment
         1. Completion of a prototype.

5. Evaluation
   c. Students will give verbal feedback to the instructor in a closing discussion.