

DRAFTING AND DESIGN

Grades 10-12

OBJECTIVE:

Drafting and design is an active, “hands-on” educational program concerned with technical sketching and drawing using both pencil and computer related applications. There is also a strong design component throughout, as well as, relating the drawings to actual construction. At the end of this course, students will be able to:

- *Use tools, techniques and other resources for technical drawing production*
- *Improve a student’s ability to work through a design/drafting process or to solve design problems, in both imperial and metric measurement systems*
- *Increase awareness of careers and opportunities in drafting*
- *Create an awareness and understanding of the relationships between technical drawings and the constructions they represent*

COURSE CONTENTS:

A. Manual drafting (Sketching, Drafting equipment, Basic geometric shapes, Multiview drawings, Dimensioning, Notes)

B. Computer-Aided Design and Drafting software (AutoCAD and Inventor).

C. Computer-Aided Manufacturing (3D printing, Vinyl printing and Computer numerical control machine)

COURSE COSTS

As per the policy laid out by the Surrey School District, there is no course fee charged for this course. Students will be provided with basic materials and supplies in order to meet the Ministry’s Prescribed Learning Outcomes. It must be emphasized that these materials are very basic in nature. Students who wish to enhance their learning may opt to purchase additional or alternate materials for their projects. These materials may be purchased through the school at district discounted pricing or can be brought in from home. Whether using the basic materials provided or additional and enhanced materials, each student will be required to pay for all materials going home. If a student chooses not to keep their project they fabricated, there will no charge.

Students who wish to take home their skill building projects will be assessed a charge of \$15.00 to cover the materials and consumable items used in the manufacturing of the projects. Please make cheques payable to: PANORAMA RIDGE SECONDARY

SKILL BUILDING PROJECTS:

These skills building projects are designed to give students an opportunity to acquaint themselves with drafting equipment and processes. Students are expected to demonstrate the proper use of the following equipment (3D printer & Vinyl printer & CNC machine), and software (Autodesk AutoCAD & Autodesk Inventor).

EVALUATION

Students will be evaluated using the following breakdown:

Manual drafting – 10 points

Computer-Aided Design and Drafting software – 60 points

Computer-Aided Manufacturing – 30 points