SKILLS EXPLORATION 11/12

COURSE OUTLINE

COURSE OBJECTIVE:

The objective of this course is to introduce students to a variety of hands on skills in Carpentry, Electrical, Plumbing, Drafting, and fine woodworking. Students will develop a general understanding of these trades and the importance of safety while working in a shop. Along the way, students will develop a set of hands on skills pertaining to tool knowledge and use, skills that can be used for the rest of their lives! This course is hands on!!

RESPONSIBILITY OF THE STUDENT:

1) Always show responsibility and maturity while operating in the shop. Unsafe or foolish behaviour is unacceptable and could result in removal from the class.
2) Treat tools carefully so that they will always work properly for you and for others.
3) If an accident occurs report it to the teacher immediately.
4) If a tool or machine is broken report it to the teacher immediately.
5) If you are ever in doubt, ask the teacher.
6) If a student is absent, it is his/her responsibility to make-up missed work. All materials and assignments can be found here Makerspace.Isfeldschool.com
7) You will need a NOTEBOOK, PENCIL and ear buds (NOT your cell phone) for most classes.

ASSIGNMENTS/PROJECTS:

1) Electrical Unit

   Students will learn basic electrical theory and how to wire basic circuit in a house. Several individual small labs will take place before students are paired up to work on a much larger lab.

2) Plumbing Unit

   Students will learn the basic of plumbing using PEX Pipe and soldering copper pipe for water lines as well as ABS pipe for drains. Several small labs will happen individually before students are paired up to work on a larger lab.

3) Carpentry Unit

   Students will learn the terminology and basics of framing walls and building a floor.

4) Technical Drawing using Autodesk Fusion 360

Students will complete tutorials meant to familiarize them with this software and how to use it to draw their projects in 3D, produce sets of plans and export out parts to a CNC tools such as a laser cutter.

5) Fine Woodworking/Carpentry/Maker Project

This project is to be designed by the student. Depending on skill level and experience this project will vary in complexity and scope based on the student's ability and interest. This could be a group project. The teacher and students will discuss project options in class.

MATERIALS and FEES

Wood costs can be significant. Because of this, students using wood other than the base materials will need to pay the additional costs. This cost could range from an additional ten to hundreds of dollars depending on the type of wood used and size of the project. Please refer to the class website for more information about determining material costs.

THEORY:

This is an integral part of the course if a student wishes to be successful. Although less time is spent on theory work, students should be aware that it is still a very important part of the course. The theory portion mark consists of;

1) Safety Quizzes - Given to ALL students before they can use a machine. You MUST achieve 80% or better before using the machine.

2) Daily Demos - Daily demo on tools, safety, etc will be give throughout the course. Daily demos could be quizzed on.

3) Assign/Quiz - Given throughout the year for reinforcement of key concepts in the course.

CLEANUP

Cleanup is called approximately 5 minutes prior to the end of the class. It is important that all students put away their own equipment. No student is permitted to open the door or leave until all the tools are accounted for. When the teacher is satisfied with the cleanup, you will be dismissed.

COURSE EVALUATION

Assignments/Projects	80%
Theory	20%