

Technology Education
Woodwork Technology 30G 7990 1 credit
Applied Technology 40S 7997 1 credit

Teacher: Mr. Annetts

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Industrial Arts Room

Prerequisites: Woodworking 20G

Course Description

The grade 11-12 program is an intermediate-advanced program designed to introduce the student to a variety of cutting edge technologies and processes used in the woodworking industry. It is a “hands on” program with the students “learning by doing” and with the students becoming an active member of the learning process. In all areas of the program, re-enforcement of the academic subjects, including math, science, computer applications and communication are emphasized.

Required materials:

Objectives:

Students will:

- Safely use the larger power tools and equipment.
- Use the newer technologies such as the, CNC Wood Router, laser and the 3D Printer
- Utilize defined design procedures to design and construct their projects.
- Accurately use rulers and tape measures to layout projects.
- Use finishing techniques to complete the projects.
- Develop and use problem solving and teamwork skills.
- Develop a wide range of employability skills including responsibility, self-motivation and, and ingenuity.

Assessment

- The objectives will be taught throughout out the term and on an ongoing basis. Thirty percent of the mark will consist of ongoing evaluation of shop skills, equipment usage and computer design skills. The completed project evaluation will be 70 percent of the final mark. Assessment will be based on rubrics. This is subject to change or adjustment depending upon the situation of each student and class. There will not be a final exam in the course.
- Students who do not finish a project will be marked on its level of completion. Extra time to complete projects will not be allowed if the student has not been diligently working through the term.
- As this is a hands on course missed work must be caught up in the shop, when it is convenient for the instructor and does not interfere with other classes.

Behavioral Assessment

Students will be assessed as per the guidelines from the Manitoba provincial report card, in the areas as follows:

Personal Management Skills

- Organizes material, uses class time productively, works independently, completes all work on time, persists when faced with challenges, seeks help when needed, demonstrates a strong work ethic, shows patience, demonstrates on-task behavior, sets personal management goals

Active Participation in Learning

- Shows interest, asks questions, takes initiative, self-assesses work quality based on criteria, uses feedback to improve learning, uses criteria to provide feedback, uses a variety of media for communication, investigates questions, hypothesizes, analyzes

Social Responsibility

- Works and interacts well with others, is welcoming and positive, shares resources and equipment with others, respects school values, respects and follows classroom routines, takes an equitable share in group work, is courteous, respects the need for safety, sets personal management goals.

Advanced Woodworking Design - Computer Aided Design and Manufacturing

The students will be using all of the major pieces of equipment in the woodworking shop including the table saw, jointer, thickness planer, CNC Router, lathe, etc to create a project of their choosing. The students will be using an Industry leading CAD/CAM (computer aided design-manufacturing) program called Mastercam to aid in the construction of their project. Along with this program, the students will use the shops computer robotic wood router in the construction process. The students will also utilize our engraving cutting CNC Laser plus the 3d printer. This is a rapidly expanding area of manufacturing and is highly recommended by industry to be part of manufacturing programs.

Major Project

Senior 3 and Senior 4 students will both design and construct a major project of his/her choosing, using the Mastercam design software. Senior 4 students will also design a mold and a lithograph picture with the program called Mastercam Art.

Required Materials

- Pen and Pencil
- Small notebook or binder for drawing, etc.

Course Scheduling

As there is an exhaustive list of skills and techniques covered in the shop class a defined schedule with time allotment is not possible. As the need arises with each individual student's project development,

new concepts are introduced along with techniques using the equipment to fulfill that stage of its development.

Resources

- Shop supplies
- Online Information
- Videos

Cell Phone Policy

Cell phones are not to be used in the shop unless it is specifically at the direction of the teacher and only for schoolwork.

Absenteeism and Late Policy- As per school policy.

As this is a “hands-on” course, students being late and or absent make it very difficult to complete the objectives. Most equipment demonstrations and new work are covered at the beginning of each class are very time consuming to reteach to one individual student without compromising the safe supervision of the remaining class. Students are expected to arrive to class on time, with the proper materials, ready to learn. The belief of this instructor is that the best learning comes from “learning by doing” and the program is designed to represent this belief.

Extra Help

The shop is usually open at noon hour and after school for those students needing extra help for students missing class due to a legitimate reason. This option is not available to students who are not working steady during their regular shop class.

Homework Policy

Very little, if any homework is assigned in this class. If a student is working steady in the shop, there will be no need to have homework.

General Rules

1. Operate tools and equipment only after receiving permission.
2. Report all accidents-even minor cuts to the instructor immediately.
3. Always wear suitable eye protection, tuck in loose clothing and keep long hair in place.
4. “Horseplay” of any kind is a severe violation of expected behavior and will result in withdrawal of privileges in this class. Careless attitudes and failure to observe safety precautions will result in the same action.
5. Report any defective tools or machines immediately to myself.
6. Do not attempt to use any tool or machine if you have the slightest doubt of what you are doing. Know exactly how and what you are doing before doing it. Always consult the instructor when in doubt.
7. No food or drink is allowed in the shop area unless given permission.
8. Always know the procedure and route for leaving in case of fire.
9. It is the responsibility of everyone to clean up the entire shop before the class is dismissed.
10. No student is allowed out of the room without the instructor’s permission.
11. The school’s late policy will be in effect for students arriving late to class.

12. No student is allowed to **prevent the teacher from teaching** and other **students from learning**.
Students **will** be removed from the class if they are fooling around.