Woodwork 11/12 – Course Outline

Woodwork 11/12 requires no prior experience. Students will build projects designed to teach woodworking skills suited to their experience level. Introductory projects will develop the skills and knowledge required for student project choice. After completion of required base projects, students, in consultation with the teacher, will determine project direction for their 'student choice' project(s). Students interested in trades, may elect, for their 'choice' project, to complete trades sampler modules to better understand electrical, plumbing, carpentry and/or drafting.

Applied Design, Skills, and Technology Courses (ADST)

Woodwork 11/12 is a course that falls under the *Applied Skills, Design and Technologies* umbrella of BC's New Curriculum. The ability to design, make, acquire, and apply skills and technologies is important in the world today and key in the education of citizens for the future.

ADST curriculum is an experiential, hands-on program of learning through design and creation.

The 'Big Ideas' – overarching organizers for the development and delivery of the course

Content

Upon completion of the course, students are expected to know the following:

Ideating

- Take creative risks in generating ideas and add to others' ideas in ways that enhance them
- Screen ideas against criteria and constraints
- Critically analyze and prioritize competing factors, including social, ethical, and sustainability considerations, to meet community needs for preferred futures
- Choose an idea to pursue, keeping other potentially viable ideas open

Making

- Identify and use appropriate tools, technologies, materials, and processes for production
- Make a step-by-step plan for production and carry it out, making changes as needed
- Use materials in ways that minimize waste

Applied Skills & Technologies

- Choose, adapt, and if necessary learn about appropriate tools and technologies to use for tasks
- Demonstrate an awareness of precautionary and emergency safety procedures in both physical and digital environments
- Identify the skills and skill levels needed, individually or as a group, in relation to specific projects, and develop and refine them as needed

Sharing

- Critically reflect on their design thinking and processes, and evaluate their ability to work effectively both as individuals and collaboratively in a group, including their ability to share and maintain an efficient co-operative work space
- Identify new design issues

Projects

With respect to projects, the course will unfold in three phases.

1. Introductory Project – **Coasters**

   The coaster project is a design and manufacturing project. Students will use CAD (computer assisted design), traditional stationary power tools and CNC (computer numeric controlled) machines in the production of their personalized coasters. This project will provide the opportunity to review/teach machine safety for many of the tools regulary used in the shop.

2. Main Project – **End Table**

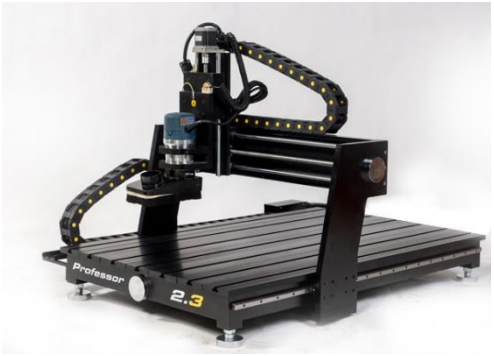
   The main course project will be the building of an end table. Students will be given the opportunity to make limited choices in its design. Project planning will be discussed and project costing will be completed by all students in preparation for the undertaking of future projects driven by student choice.

3. Secondary Project(s)

   Upon completion of the main project, students, in consultation with the teacher, will determine secondary project(s). Both demonstrated competency and time remaining will be considered in the choosing of any project(s)

Modern Woodworking

In recent years, technology seems to have crept into every aspect of our lives, with the shop being no exception. Students will be encouraged to make use of technology in their project designs, through the use of computers for design generation, and the incorporation of CNC Routers, Laser Cutter/Engravers and 3D Printers in the manufacturing process. Learning how to use these technological tools can help novice Makers to achieve professional outcomes only once achievable through years of skill development as well as expand the possibilities for making!



Theory

Theory study is the building of formal knowledge that allows us to do cool things. This course will not contain a lot of formal theory, but some is not only necessary, it's good for us 😊

Theory Topics

- Measurement Systems and Applications
- Wood Species Identification
- Sustainability / Materials Usage
- Project Planning / Costing

Curricular Competencies

Students are expected to be able to do the following:

Understand Context – how things fit into the larger picture

Define – identify project constraints; associated criteria; potential users

Ideate – generate ideas within a project's constraints, critically analyze these, determine (ongoing) viability; identify sources of inspiration

Prototype – develop a plan; evaluate potential materials; make changes as needed; keep records of process/iterations

Test – identify sources of feedback; develop appropriate test methods; conduct testing; evaluate results and iterate as needed

Make – use tools, technologies, materials and processes; follow a step by step plan; be sensitive to waste

Share – identify methods and targets for sharing of products and processes; demonstrate; identify new goals

Grades

Grades will be calculated cumulatively and posted to My Ed BC regularly. This course is a semester length course, approx. 120 hrs. The grade breakdown is as follows:

Safety – 10%

Intro Project – 20%

Main Project – 60%

Secondary Project(s) – 10%

Due to the nature of project work undertaken, term grades will be weighted as follows:

1st term – 30% (Safety & Intro Project)

2nd term – 70% (Main Project & Secondary Project(s))

Safety

Your safety and the safety of others is the highest priority in the shop. Safe work practices, handling of materials, techniques and expected behaviour will be clearly conveyed and it is expected that you will demonstrate your understanding by demonstrating safe work habits at all times.

All users of power tools must adhere to the following safety protocol:

1. Students receive a demonstration on proper tool use and safety considerations
2. Students must pass a safety test achieving a minimum standard. Corrections, if needed, must be made and the teacher satisfied that understanding has been achieved. Testing that results in a grade below the minimum standard may result in the student needing a second demonstration before they can use the equipment.
3. The teacher will observe the student the first time they use a given tool
4. Students will ask for the teacher for permission immediately prior to using any power tool

Responsibility Of The Student:

1. Always demonstrate responsibility and maturity while in the shop.
2. Unsafe or foolish behaviour is unacceptable and could result in removal from the class.
3. Treat tools & equipment with care and respect so that they will always work properly for you and for others.
4. If an accident occurs report it to the teacher immediately.
5. If a tool or machine is broken report it to the teacher immediately.
6. If you are ever in doubt, ask the teacher.
7. If a student is absent, it is her/his responsibility to make-up missed work and make arrangements, if necessary, to do so.

Class Website (Google: 'Isfeld Makerspace')

A website is maintained to support all courses offered in this room. The direct address is http://makerspace.isfeldschool.com/, however it is often easier to simply Google 'Isfeld Makerspace' to get there. You will be using this site often and it cannot be over emphasized how important it is to remember how to get there!

Recommended

We will be utilizing online video tutorials during the design portion of the course. Having everyone use the computer's built in speakers does not work for obvious reasons. Please bring ear buds or headphones with you to use for this purpose.

Flex Block (*Friday's Last Block*)

Flex Block is an opportunity for you to catch up on missed work/assignments and/or get a little bit of extra time if you find that you are falling behind. Please do make use of this time if you feel that you need to