Industrial Arts

Woodworking I

Credit: .5
Weighting: 0

Course Description

Introduction to Woodworking will provide students with foundational skills for a limitless future of recreational or professional woodworking and carpentry. Students will learn shop safety, measuring skills, the safe operation of hand and power tools, as well as woodworking basics. They will work hands-on to create projects out of wood, as well as reimagine pre-built pieces. Students will work with both reclaimed and new wood and lumber and explore a variety of joinery options.

Course Requirements

None

Woodworking II

Credit: .5
Weighting: 0

Course Description

This class will prepare students for a variety of careers in the building and construction field. Students will continue to expand their knowledge and expertise using hand and power tools. Further, students will learn about building materials for framing, window and door construction, and finish work. Students will work collaboratively on class projects with real world applications and use.

Course Requirements

Prerequisite: Woodworking I

Construction III

Credit: .5
Weighting: 0

Course Description

This class prepares students to apply technical knowledge and skills to lay out, fabricate, erect, install, and repair wooden structures and fixtures using hand and power tools. The program also includes instruction in areas such as common systems of framing, construction materials, estimating, blueprint reading, and finish carpentry techniques.

Course Requirements

Prerequisite: Woodworking I and II

Home Repair

Credit: .5
Weighting: 0

Course Description

This class prepares students to apply technical knowledge and skills to address general home repair tasks incorporating skills in the areas of plumbing, electric, and construction.

Course Requirement

Prerequisite: Woodworking I and II

Building Trades

Credit: 2.5
Weighting: 0

Course Description

Building Trades provides basic technical knowledge and safety skills to begin preparing students for a career in the field. Students will learn about the importance of safety and personal protection in all aspects of construction. This program exposes students to the opportunities available in the architecture and construction industry, including occupations such as a carpenter, electrician, plumber, air conditioning technician, safety supervisor, architect, engineer, and other occupations. Students learn about the processes involved in construction projects and engage in a variety of small projects. Hands on lessons provide students with basic knowledge and skills required for construction of commercial, residential, and institutional structures. This program provides experiences and information (typically including career opportunities and training requirements) regarding construction-related occupations. Students engage in activities such as reading blueprints, preparing building sites, starting foundations, erecting structures, installing utilities, finishing surfaces, and providing maintenance.

At the completion of the Building Trades program, students will be able to apply the trade skills necessary for entry-level employment, apprenticeships and post-secondary education. Students will study and practice safety training, framing, roofing, door and window installation, hand and power tool use, concrete, masonry and bricklaying, blueprint reading, plumbing, electrical, and construction equipment and rigging. Students will learn the theory of the construction process and have the opportunity to put those theories into practice with authentic, hands-on, project-based activities. Students will also have the opportunity to earn the NCCER (National Center for Construction Education and Research) Construction Core as well as the OSHA 10 certifications, recognized throughout the construction industry as indicators that the individual is job ready.

Course Requirements

Prerequisite: Algebra, Entrance Application, Teacher Recommendations, and Interview

Intro to Machine Manufacturing

Credit: .5
Weighting: 0

Course Description

This course is designed to provide the basic knowledge necessary to get started as a CNC machine operator or CNC machinist. It offers an introduction to basic CNC machine operation, proper machine safety, and fundamental machining processes. After course is completed, a hands-on test at a local Haas Factory Outlet is required to obtain your Certificate as a CNC Mill Operator and CNC Lathe Operator.

What we will learn:

- CNC Machine tools and Safety
- Machine maintenance, start up, shut down and clean up.
- Basic Blueprint reading and Measuring Tools
- HAAS Machine Keypad and Control Functions
- Mill and Lathe Cutting and Common Materials

Course Requirements

Prerequisite: DDP, *Seat limit – 10 - Safety constraints for HAAS machines*

Machine Manufacturing and Part Programming

Credit: 1
Weighting: 0

Course Description

Students will learn Haas and Autodesk Fusion 360 to create—CAD, CAM, and CNC for 2.5 axis milling—

and gear up students for future manufacturing careers. Students will start with learning blueprint reading and CAM setup, then move to the basics of CAD modeling and creating toolpaths to completely machine the first side of a part. Then, they will import a vise and soft jaw blanks and then set up and machine soft jaws on a CNC mill. By the end of Course, students will create a new setup to machine a part i.e. brake caliper or prosthetic implant and simulate all toolpaths, and actually machine parts!

Course Requirements
Prerequisite: *DDP & Intro to Machine Manufacturing*
Seat limit – 10 Safety constraints for HAAS machines