**Essential Skills**

**For**

**Industrial Technology**

**Materials and Processes I**

1. The student will pass a safety test within the first three weeks of the course to an accuracy of 90%.

2. The student will create a functioning sheet metal object to an accuracy of 90% by the end of the metals unit.

3. The student will take and pass a midterm test dealing with manufacturing, sheet metal, and metal properties to an accuracy of 80%.

4. The student will create a woodworking project (Bread box) that utilizes mechanical separation, joinery, abrasive finishing and oil staining to an accuracy of 85% using a scoring guide.

5. The student will take a final that covers wood science, joinery, and abrasive finishing.

**Materials and Processes II**

1. The student will create a woodworking project (Bread box) that utilizes mechanical separation, joinery, abrasive finishing and oil staining to an accuracy of 85% using a scoring guide.

2. The student will take a final that covers wood science, joinery, and abrasive finishing.

3. The student will pass a safety quiz on the vertical mill and lathe.

4. The student will identify and explain the major parts of a vertical mill and a machinist lathe.

**Materials and Processes II cont.**

5. The student will assemble a major multiple part item that is functional (Bar-B-Que grill) to an accuracy of 80%.

6. The student will have a cabinet carcass completed with dados joints; rabbet joints, and is square to an accuracy of 90%. The cabinet will be glued together and will have adjustable shelving located within the interior of the cabinet.

7. The student will construct a particle board (faux) top with a 1”skirt and then cover that with plastic laminate and then trim the sides flush and the top to 15° to an accuracy of 90%.

8. The student will construct a major multiple part project out of wood, laminate, and engineered wood products that has a functioning door/drawer (night stand cabinet) to an accuracy of 80%.

**Home Maintenance and Repair**

1. The student will pass a safety test within the first three weeks of the course to an accuracy of 90%.

2. The student will create a repair (wallpaper and/or vinyl) that utilizes the double cut method to an accuracy of 90%.

3. The student will wire a single pole switch to an accuracy of 100% so that a device is capable of being turned on/off.

4. The student will calculate miter angles; saw cut angles and numbers of cuts for equal lateral geometric objects to an accuracy of 100%.

5. The student will diagram how to attach electrical wires to a device such as a receptacle or switch to an accuracy of 100%.

6. The student will identify and explain the use of common plumbing fittings used for residential construction to an accuracy of 100%.

**CAD -I**

1. Identify all tools on Modify tool bar.

2. Use each tool effectively to create professional drawings based on ANIS standards.

3. Analyze drawing problems and use proper tool to solve.

4. Identify each tools icon.

5. Understand how to enter in command line, pull off menu bar, or floating tool bar by choosing correct icon off tool bar.

**CAD -II**

1. Identify and select the various views of an object.

2. Determine the number of views needed to describe fully the shape and size of an object.

3. Define the term orthographic projection.

4. Develop a multiview drawing, following a prescribed step-by-step process, from the initial idea to a finished drawing.

5. Describe the procedures used to create orthographic projections using CAD.

**ARCHITECTURE**

1. Students will create elevations for various house designs.

2. Learn functions of elevations plans.

3. Students will learn terminology associated with elevations plans.

4. Students will create architectural plans based on ANSI standards.

5. Students will use AutoCAD effectively to create different elevations.

**CIVIL Drafting**

1. Read and create legal descriptions using various methods

2. Perform simple differential leveling procedures

3. Perform simple traverses

4. Create topographic surveys

**Intro to Technology (Technology I)**

1. Explain the general problem-solving/design process.
2. Describe ways society assess technological advancement.
3. Explain the difference between science and technology.
4. Explain the true definition of technology and not the media use for “computers”.

**Technology II**

1. Student will be able to differentiate the different types of engines currently available to the public.
2. Student will be able to build a product utilizing the information learned about electrical components.
3. Student will be able to draw conclusion how transportation technology inventions impact the society.
4. Student will be able to investigate how power is controlled and what items are required to change the properties of power.

**Design in Construction**

1. Explain the concept of safe and unsafe when using machines and tools.
2. Student shall know how to construct a product using precise measurement tools and measuring strategies.
3. Student will be able to critique the relationships of parts involved in structural dependent components.
4. Students will be able to assess the different career opportunities available for employment opportunities. fd:essential skills