**Corse Title:** Cabinet & Furniture Design

**Instructor:** Brent Kerr

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**Course Description:**

This is an introductory course providing a study of design and construction in wood and/or wood substitutes and practical experiences in the safe and proper use of woodworking tools, machines, and finishing materials. Specifically, this course is designed to:

1. Study about the lumber industry and TRACE the methods used in harvesting, processing, and manufacturing products for consumer use,
2. CONTRAST and COMPARE information about the properties and characteristics of wood, wood products, and wood substitutes,
3. help ANALYZE projects and develop critical thinking skills and problem solving in designing and using the materials of the woodworking industry,
4. develop skills in basic drafting as it is used in woodworking to help SUMMARIZE the steps and operations in construction and to help PREDICT material requirements and costs,
5. EXPLAIN skills in finishing and gain knowledge of finishes and products of the industry, and
6. provide opportunities for the development of manipulative skills in the safe and proper operation of woodworking tools and machines.

Instruction - approximately one-fourth of the class/lab time will be used for illustrated lectures and demonstrations that will SUPPORT: safety procedures, wood technology, project design, and planning. Tool and machine demonstrations will precede any student use of equipment throughout the year. Individual instruction will be used to solve specific problems. In addition, class or group demonstrations will be integrated into the laboratory experiences to assist the students' understanding and learning the mechanics of material processing.

Students will EVALUATE their work in essay format. They will FORMULATE and DESCRIBE ways to improve their skills.

**Course Outline:**

A. Introduction
1. course requirements
2. classroom procedures
3. record keeping

B. Vocabulary
1. general shop
2. safety

C. Measurement
1. Reading a rule
2. Measuring accurately

D. Wood Characteristics and Properties
1. growth patterns -heartwood, sapwood, grain, cell structure
2. defects - warpage, knots, splits, pitch, stain, etc.

E. Safety and Demonstrations
1. general safety
2. hand tools
3. portable power tools
4. machines

F. Joinery
1. joint recognition and application
2. joint construction

G. Project Planning
1. design
2. dimensioning
3. procedure

H. Basic Construction
1. laying out lumber
2. preparation of lumber
3. millwork
4. gluing and assembly
5. fasteners

I. Project Finishing
1. finishing equipment and materials
2. preparing for finish

3. finish procedures

J. Wood Technology
1. lumber industry
2. specifications and purchasing

K. Drafting in woodworking
1. sketches
2. scale
3. detailed sketches
4. working drawings (scale drawings)

L. Career Options for Hands-On People
1. exploring real jobs in the working world
2. exploring areas outside the world of woodworking

**Course Requirements:**

Good attendance is required. Each student will be required to pass a test covering the safe operation of shop equipment with 100% accuracy before being allowed to use that equipment. Everyone needs to bring a pencil, I-pad, and tape measure to class.Much of the class will involve teamwork and hands-on activities which cannot be effective without the student’s engagement.  Work habits and participation will be a major part of the student’s overall grade, so being on time and in class every day is important.  Students who are absent will be given two days to make-up work.  Students who fall behind and need extra help need to see the instructor.  In case of absence, the student is responsible for getting all information and/or assignment given out while gone.

**Course Evaluation:**

The following factors will be used to determine the student's grade in this course:

A. written assignments
B. tests
C. amount of time on task
D. behavior and attitude
E. final

The above will be averaged to determine a class grade Homework: work not completed in class may, at my discretion, be sent as homework. If so, it is due the next time the student is in class.

**PROJECTS** Students will be charged for their projects according to the amount of materials used. Generally, the amount of wood is figured and priced by the board foot. 10% is added to cover the cost of glue, fasteners, and finishing materials. The price will be figured before the project is started.