

**BASIC MECHANICAL SKILLS****3 Credit Hours, SCH (2-2)**

**Course Description:** Basic mechanical skills using hand and power tools in an industrial environment. Topics include tool use and maintenance, lubrication, measuring, threads and fasteners, bench works, basic mechanical drawings, basic shop calculations (English and metric), and **SAFETY**. Also addresses rigging. Students will use basic hand, hand power, and some stationary power tools; determine appropriate Bill of Materials (BOM); interpret basic mechanical drawings and perform associated calculations; apply measuring tools; perform part layout, drilling, location of hole centers; perform preventative maintenance on tools; describe basic lubrication practices; demonstrate basic rigging procedures; and employ good housekeeping, environmental awareness, safety procedures, sensory skills, and preventative maintenance.

**Text, Supplies**      **1. Industrial Mechanics**, Third Edition, Albert W. Kemp, and other materials to be specified at a later date.

2. Scientific calculator

3. Safety glasses

**Goals and Objectives**

<b>Competencies</b>	<b>Purpose and/or sample of real life applications</b>	<b>Skills used in class</b>	<b>Used throughout the course</b>
Tool and device Identification	Be able to identify tools and devices used in industry	Identify and be able to use tools and devices	Yes
Precision instruments	Test, calibrate, and repair equipment using testing instruments	Test, calibrate, and repair equipment using testing instruments	Yes
Technical calculations	Calculate and measure various outputs	Learn Ohm's Law and apply it to different projects	Yes
AC/DC Motors	Understand the difference in the two and the methods of operation	Install and use both type motors in projects	Yes
Projects	Create projects in a professional and realistic manner	Time management, organizational skills and presentation	Yes

## **Student Contributions/Absences/Drops**

**A failing grade will be given to students who do not attend class and do not drop.** If you cannot attend class, please call and let me know before class, if at all possible. Projects will be a daily event and participation is mandatory.

## **Class Policies and Make-up work**

Make-up exams will be allowed only at the discretion of the instructor. However, lab work **CANNOT** be made up. Materials will be put away and stored properly at the end of each class period; neatness of your work area will be part of your grade.

## **Grading/Evaluation**

In-class participation, plus performance on homework assignments, lab projects, major project, and exams form the basis for grading:

In Class Participation and Attendance	10%
Final Exam	20%
Lab Projects	20%
Exams	<u>50%</u>
Total	100%

## **Instructor/ Division Information**

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## **Students with Disabilities**

Midland College provides services for students with disabilities through Student Services. In order to receive accommodations, students must place documentation on file with the Counselor/Disability Specialist. Students with disabilities should notify Midland College prior to the beginning of each semester. Student Services will provide each student with a letter outlining any reasonable accommodations. The student must present the letter to the instructor at the beginning of the semester.

**Students MUST actively participate by completing an academic assignment required by the instructor by the official census date. Students who do not actively participate in an academically-related activity will be reported as never attended and dropped from the course.**