MACH 162 Course Outline as of Spring 2021

CATALOG INFORMATION

Dept and Nbr: MACH 162 Title: BLUEPRINT READ FOR MACH Full Title: Blueprint Reading for Machine and Related Industries Last Reviewed: 3/9/2020

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	6	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 157.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	MACH 52

Catalog Description:

Interpretation of engineering drawings and specification for machinists and welders: Explanation of the rules, symbols, and relationships covered in blueprints, assembly drawings and weldments. Emphasis on American National Standards Institute (ANSI)/American Society of Mechanical Engineers (ASME) Y14.5 Geometric Dimensioning and Tolerancing (GD&T) Standards and use of Coordinate Measuring Machine (CMM) for inspection of GDT specifications.

Prerequisites/Corequisites:

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:

Description: Interpretation of engineering drawings and specification for machinists and welders: Explanation of the rules, symbols, and relationships covered in blueprints, assembly drawings and weldments. Emphasis on American National Standards Institute (ANSI)/American

Society of Mechanical Engineers (ASME) Y14.5 Geometric Dimensioning and Tolerancing (GD&T) Standards and use of Coordinate Measuring Machine (CMM) for inspection of GDT specifications. (Grade Only) Prerequisites/Corequisites: Recommended: Limits on Enrollment: Transfer Credit: Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree: CSU GE:	Area Transfer Area	Effective: Effective:	Inactive: Inactive:
IGETC:	Transfer Area	Effective:	Inactive:
CSU Transfer	: Effective:	Inactive:	
UC Transfer:	Effective:	Inactive:	

CID:

Certificate/Major Applicable:

Both Certificate and Major Applicable

COURSE CONTENT

Student Learning Outcomes:

At the conclusion of this course, the student should be able to:

1. Analyze engineering drawings and blueprints to determine their parts, features, sizes, locations, tolerances, relationships, fits, finishes and material conditions.

- 2. Effectively express and exchange ideas through various modes of communication.
- 3. Demonstrate technical skills in keeping with the demands of their field of study.

Objectives:

At the conclusion of this course, the student should be able to:

- 1. Explain why drawings are so important to production planning and manufacturing.
- 2. Recognize viewing angles for the front, top, and side views of prints.
- 3. Identify the Alphabet of lines.
- 4. Describe the purpose of the title block and all of its meanings and uses.
- 5. Define the rules of dimensioning and the difference between size and location dimensions and dimensions with shop notes.
- 6. Identify basic geometric dimensioning, tolerancing, and datum referencing.

Topics and Scope:

- I. Prints, Sketches and Drawings
 - A. Industrial prints
 - B. Manufacturing prints
 - C. Sketches
 - D. Assembly drawings

E. Sectional drawings

II. Views

- A. Three-view drawings
- B. Arrangement of views
- C. Two-view drawings
- D. One-view drawing
- E. Auxiliary views
- III. Lines
 - A. Object lines
 - B. Hidden lines
 - C. Center lines
 - D. Extension lines
 - E. Projection lines
 - F. Other lines
 - G. Line combinations
- IV. Block and Zoning
 - A. Title block
 - B. Material block
 - C. Revision block
 - D. Print distribution block
 - E. Zoning
 - F. Special title block
- V. Dimensions and Notes
- VI. Geometric Dimensioning and Tolerancing

Assignment:

- 1. Read and study assigned chapters in the assigned text
- 2. Homework problems and reports, such as Research and obtain blueprint sketch or drawing from manufacturing firm or employer
- 3. Reading and drawing sketches
- 4. Quizzes and final

Methods of Evaluation/Basis of Grade:

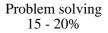
Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, reports

Writing 0 - 0%



Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

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Reading and drawing sketches

Exams: All forms of formal testing, other than skill performance exams.

Quizzes and final

Other: Includes any assessment tools that do not logically fit into the above categories.

Attendance and Professionalism

Representative Textbooks and Materials:

Print Reading for Machinists. Taylor, David. Delmar. 6th ed. 2019

Skill Demonstrations
15 - 20%

Exams 45 - 55%

Other Category 10 - 15%