

# EASTERN ARIZONA COLLEGE

## Dimensioning and Tolerancing

Course Design  
2018-2019

### Course Information

**Division** Industrial Technology Education  
**Course Number** DRF 150  
**Title** Dimensioning and Tolerancing  
**Credits** 1  
**Developed by** Doug Griffin  
**Lecture/Lab Ratio** 1 Lecture/1 Lab  
**Transfer Status**

ASU	NAU	UA
GIT Dept Elective	CTE Departmental Elective (1)	Non Transferable

**Activity Course** No  
**CIP Code** 15.1300  
**Assessment Mode** Pre/Post Test (40 Questions/40 Points)  
**Semester Taught** Spring  
**GE Category** None  
**Separate Lab** No  
**Awareness Course** No  
**Intensive Writing Course** No  
**Diversity and Inclusion Course** No

### Prerequisites

None

### Educational Value

Drafting Technology majors, Machine Shop majors, and individuals from the community who require knowledge in interpreting and using the ANSI Y14.5M geometric dimensioning and tolerancing standards.

### Description

An intensive course covering basic and advanced dimensioning techniques. Emphasis is placed on the ANSI Y14.5M standard for geometric dimensioning and tolerancing.

### Supplies

Pencil - .5mm

## **Competencies and Performance Standards**

### **1. Demonstrate knowledge of basic size and location dimensions.**

#### **Learning objectives**

*What you will learn as you master the competency:*

- a. Acquaint self with basic techniques in dimensioning and tolerancing.
- b. Adhere to dimension applications and limits of size.

#### **Performance Standards**

*Competence will be demonstrated:*

- o on course drawing assignments

*Criteria - Performance will be satisfactory when:*

- o learner uses his knowledge of basic size and location dimensions on drawing assignments

### **2. Identify proper dimensioning and tolerancing symbology. (Includes feature control frames, datum references, and feature control symbols.)**

#### **Learning objectives**

*What you will learn as you master the competency:*

- a. Acquaint self with proper geometric dimensioning and tolerancing symbology.
- b. Identify feature control frames, datum references and feature control symbols.

#### **Performance Standards**

*Competence will be demonstrated:*

- o on course drawing assignments

*Criteria - Performance will be satisfactory when:*

- o learner defines dimensioning and tolerancing symbology terms

### **3. Demonstrate the correct use of geometric tolerancing as it applies to mechanical drawings. (FORM, ORIENTATION, POSITION, RUNOUT, and PROFILE tolerances)**

#### **Learning objectives**

*What you will learn as you master the competency:*

- a. Acquaint self with form, orientation, position, runout, and profile tolerances.

#### **Performance Standards**

*Competence will be demonstrated:*

- o on course drawing assignments

*Criteria - Performance will be satisfactory when:*

- o learner correctly applies knowledge of form, orientation, position, runout and profile tolerances on drawing assignments

### **4. Demonstrate the correct use of datums as they apply to mechanical drawings.**

#### **Learning objectives**

*What you will learn as you master the competency:*

- a. Ascertain the correct use of datums in mechanical drawings.

### **Performance Standards**

*Competence will be demonstrated:*

- on course drawing assignments

*Criteria - Performance will be satisfactory when:*

- learner correctly uses datums on mechanical drawings

### **Types of Instruction**

Classroom Presentation

Lab

### **Grading Information**

#### **Grading Rationale**

Quizzes and Lab Assignments=80%

Final Exam=10%

Post Test=10%

#### **Grading Scale**

A 90-100%

B 80-89%

C 70-79%

D 60-69%

F 59% or lower