

# EASTERN ARIZONA COLLEGE

## Engineering Drafting

Course Design  
2012-2013

### Course Information

**Division** Industrial Technology Education  
**Course Number** EGR 120  
**Title** Engineering Drafting  
**Credits** 2  
**Developed by** Dee Lauritzen  
**Lecture/Lab Ratio** 1 Lecture/2 Lab

### Transfer Status

| ASU              | NAU             | UA     |
|------------------|-----------------|--------|
| Non Transferable | Elective Credit | CE 210 |

**Activity Course** No  
**CIP Code** 14.0101  
**Assessment Mode** Pre/Post Test (35 Questions/35 Points)  
**Semester Taught** Fall and Spring  
**GE Category** None  
**Separate Lab** No  
**Awareness Course** No  
**Intensive Writing Course** No

### Prerequisites

None

### Educational Value

This course is designed as an introduction to mechanical drafting for the student who plans to enter the drafting field or continue with a pre-engineering program. This course introduces the universal language of graphic communication and lends itself to everyday application.

### Description

Course is designed for students with little or no drafting background. Course content includes use of drafting equipment, drafting techniques, lettering, geometric construction, multi-view, isometric, section view, and auxiliary view drawings. All drawings will meet the ASME Y14.5M standard for dimensioning and drawing layout.

### Supplies

Two .5mm Mechanical Pencils  
One .7 mm Mechanical Pencil

### **Competencies and Performance Standards**

- 1. Produce drawings that display proper line work, symbology, lettering, and techniques acceptable to industrial standards (ASME Y14.5M).**

#### **Learning objectives**

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

- Utilize proper drafting techniques in all assigned drawings.
- Be able to understand and use basic dimensioning correctly in all assigned drawings.

#### **Performance Standards**

*You will demonstrate your competence:*

- when student successfully completes all assignments related to this competency

*Your performance will be successful when:*

- learner completes assigned activities

- 2. Produce multi-view working drawings, section and auxiliary drawings, isometrics, obliques using proper scaling, and dimensions acceptable to industrial requirements.**

#### **Learning objectives**

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

- Acquaint self with multi-view drawings, section and auxiliary drawings, and isometric and oblique drawings.
- Use correct technique in production of multi-view, section, auxiliary, isometric and oblique drawings.
- Derive proper scaling and dimensions acceptable to industrial requirements on each assigned drawing.

#### **Performance Standards**

*You will demonstrate your competence:*

- when student successfully completes all assignments related to this competency

*Your performance will be successful when:*

- learner completes assigned activities

- 3. Identify basic drafting tools, explain the various grades of lead hardness, and list standard paper sizes.**

#### **Learning objectives**

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

- Identify basic drafting tools.
- Acquaint self with standard paper sizes.
- Explain the various grades of lead hardness in pencils used in manual drafting.

#### **Performance Standards**

*You will demonstrate your competence:*

- when student successfully completes all assignments related to this competency

*Your performance will be successful when:*

- learner completes assigned activities

**4. Make single-view drawings using basic drafting equipment and apply correct layout and drawing techniques.**

***Learning objectives***

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

- a. Develop correct lettering techniques.
- b. Apply correct layout and drawing techniques in single-view drawings.
- c. Comply with correct drafting procedures and techniques.

***Performance Standards***

*You will demonstrate your competence:*

- when student successfully completes all assignments related to this competency

*Your performance will be successful when:*

- learner completes assigned activities

**5. Construct geometric problems and relate these principles to engineering drawings.**

***Learning objectives***

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

- a. Construct assigned geometric problems.
- b. Apply knowledge of geometry to engineering drawings.

***Performance Standards***

*You will demonstrate your competence:*

- when student successfully completes all assignments related to this competency

*Your performance will be successful when:*

- learner completes assigned activities

***Types of Instruction***

Classroom Presentation

Lab

***Grading Information***

***Grading Rationale***

Each instructor has the flexibility to develop evaluative procedures within the following parameters.

1. The Post Test will represent 10% of the course grade.
2. Course learning activities shall represent 90% of the course grade.

***Grading Scale***

|   |               |
|---|---------------|
| A | 90% - 100%    |
| B | 80% - 89%     |
| C | 70% - 79%     |
| D | 60% - 69%     |
| F | 59% and below |