

## SYLLABUS

**DIVISION:** Business & Engineering Technologies

**REVISED:**2014

**CURRICULA IN WHICH COURSE IS TAUGHT:** Precision Machining Technology

**COURSE NUMBER AND TITLE:** CAD 120 – Introduction to Graphic Representation

**CREDIT HOURS: 3 HOURS/WK. LEC: 2 HOURS/WK. LAB: 3 LEC/LAB COMB: 5**

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**I. CATALOG DESCRIPTION:**

CAD 120 teaches use of instruments, lettering, sketching, and drawing conventions. Emphasizes legible drawings and the value of presentation.

**II. RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES IN WHICH IT IS TAUGHT:**

To teach students the basics of drafting so that they might understand the procedures necessary and be able to interpret blueprints better in the machine shop.

**III. REQUIRED BACKGROUND:**

None

**IV. COURSE CONTENT:**

1. Tools and equipment of drafting
  - a. The drawing surface
  - b. T-squares
  - c. Parallel straight edge
  - d. Triangles
  - e. Scales
    1. Architect's scale
    2. Engineer's scale
    3. Metric scale
  - f. Drawing instruments
  - g. Templates
  - h. Pencils and lead holders
  - i. Erasers
2. Lettering
3. Geometry in drafting
4. Shape description
5. Size and location description
6. Tolerancing
7. Two and three view drawings
8. Sectional drawings
  - a. Full sections
  - b. Half sections
  - c. Offset sections
  - d. Revolved sections
  - e. Removed sections

9. Pictorial drawings
  - a. Isometric drawings
  - b. Oblique drawings
  - c. Perspective drawings
10. Sketching
11. Drawings for production
  - a. Working drawings
  - b. Assembly drawings
12. Fasteners
13. Springs

**V. The following General Education Objectives will be addressed in this course:**

- Communications       Information Literacy
- Culture and Social Understanding
- Critical Thinking       Scientific reasoning
- Quantitative Reasoning       Personal Development

**VI. LEARNER OUTCOMES**

**VII. EVALUATION**

<b>Learner outcome</b> <ul style="list-style-type: none"> <li>• Read and interpret part blueprints</li> </ul>	<b>Evaluation method</b> <ul style="list-style-type: none"> <li>• Lab exercises and written test</li> </ul>
<b>Learner outcome</b> <ul style="list-style-type: none"> <li>• Create sketches of parts</li> </ul>	<b>Evaluation method</b> <ul style="list-style-type: none"> <li>• Lab exercises and written test</li> </ul>
<b>Learner outcome</b> <ul style="list-style-type: none"> <li>• Create part drawings</li> </ul>	<b>Evaluation method</b> <ul style="list-style-type: none"> <li>• Lab exercises and written test</li> </ul>
<b>Learner outcome</b> <ul style="list-style-type: none"> <li>• Create orthographic projection drawings</li> </ul>	<b>Evaluation method</b> <ul style="list-style-type: none"> <li>• Lab exercises and written test</li> </ul>

**VIII. Over 90% of the students complete this class.**