**Linn-Benton Community College, Machine Tool Technology Department**

**Course Syllabus**

Course name: Basic Print Reading: Metals

Course number: MA3.431

Credits: 2

Required text: *Basic Blueprint Reading and Sketching* 9th edition

Days, Hours: Tuesday, 1:00 PM to 2:50 PM

Location: IB 102

Instructor: Chris Berry

Office hours: Wednesday 4:00-5:00pm, Thursday 5:00-6:00pm, IB 111C

Phone number: Office 541-917-4509 / Cell 503-931-7728 (Text Only)

Email address: berryc@linnbenton.edu

Catalog description: This course provides training and learning experiences in interpreting industrial prints.

Course learning outcomes: Students successfully completing this course will have acquired the skills necessary to read prints and understand the terminology related to the machinist’s trade.

Learning activities: This course will include lectures, reading / textbook assignments and tests.

Assessment tasks: A student’s progress will be evaluated as follows:

• Class participation 10%

• Unit Assignments and quizzes 60%

• Midterm Exam 10 %

• Final exam 20%

Course content (Subject to change at instructor's discretion)

**Week 1** Lecture topics: introductions and discuss students objectives, textbook information, the function of prints in the manufacturing environment and their importance, line types.

Lab: Pairs drawing exercise.

Assignment: Read Units 1 through 5. Answer BP-5

**Week 2** Lecture topics: Review homework, three view drawings, orthographic projection, first angle projections, arrangement of views, auxiliary views.

Lab: Missing view exercise

Assignment: Read Units 6 through 8. Answer BP-6A and BP-8B

**Week 3** Lecture topics: Geometric Dimensioning and Tolerancing (GD&T), ASME 14.5 1994, views, size and location dimensions, dimensioning arcs, circles and cylinders.

Lab: Missing view exercise.

Assignment: Read units 9 through 12. Answer BP-11 and BP-12

**Week 4** Lecture topics: making machines that work, the roll of GD&T with respect to functionality, dimensioning holes, tolerances.

Lab: Using the polar to Cartesian coordinates feature of our calculator to determine locations for a bolt hole circle.

Assignment: Read Units 13 through 16. Answer BP-14 and BP-16

**Week 5** Lecture topics: tolerances, classes of fits, threads.

Lab: Bolt circle exercise 2

Assignment: Read Units 17 through 19. Answer BP-19

**Week 6** Lecture topics: surface roughness specifications, more on threads.

**Midterm Exam**

Assignment: Read Units 20 through 22. Answer BP-22

**Week 7** Lecture topic: the metric system, first angle projection, metric thread specifications.

Lab: using the conversion feature of our calculator for metric and conventional units.

Assignment: Read Units 23 through 25. Answer BP-25

**Week 8** Lecture topics: sectional views, making prints easier for the machinist to read.

Lab: missing view exercise

Assignment: Read Units 26 through 28. Answer BP-28

**Week 9** Lecture topic: Geometric Dimensioning and Tolerancing

Lab: “what it means” as a practical matter.

Assignment: Read Unit 29. Answer BP-29

**Week 10** Lecture topic: Computer Numerical Control technology (CNC).

Lab: a visit to the Machine Tool Technology Department for a CNC demonstration.

Assignment: Study for Final Exam

**Week 11 Final Exam**

Request for Special Needs or Accommodations

Direct questions about or requests for special needs or accommodations to the LBCC Disability Coordinator, RCH-105, 6500 Pacific Blvd. SW, Albany, Oregon 97321, Phone 541-917-4789 or via Oregon Telecommunications Relay TTD at 1-800-735-2900 or 1-800-735-1232. Make sign language interpreting or real-time transcribing requests 2-4 weeks in advance. Make all other requests at least 72 hours prior to the event. LBCC will make every effort to honor requests. LBCC is an equal opportunity educator and employer.

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Students who may need accommodations due to documented disabilities, who have medical information which the instructor should know, or who need special arrangements in an emergency should speak with their instructor during the first week of class. If you believe you may need accommodations but are not yet registered with the Center for Accessibility Resources (CFAR), please visit the [CFAR Website](https://linnbenton.edu/cfar) for steps on how to apply for services or call 541-917-4789.