



Department
of
Design and Manufacturing Technologies



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DMT 90: Print Reading and Dimensional Metrology

I. Course Description

Interpretation of multi-view engineering blue prints and CAD drawings, visualization techniques, auxiliary and section views. Appraisal of revision columns, title blocks and bills of material, interpretation of dimensional tolerancing notations, and introduction to geometric dimensioning and tolerancing (GD&T) using ANSI and ISO standards. Applications and capabilities of semi-precision and precision measuring tools, including scaled, Vernier and digital instruments, used in manufacturing environments to inspect production and prototype parts. Review of typical calculations used in the machine shop.

II. Method of Instruction:

Reading assignments and exercises will be made from the text. These are expected to be completed before the class meeting for the assigned date.

Class meetings will consist of reading assignment reviews, lectures, and class exercises. Classroom exercises will include measurement projects, quizzes, and directed activities to apply and test the theories presented in the class lectures, laboratory demonstrations, and reading assignments.

III. Attendance & Conduct Policy

Since practical participation is an essential part of the class, any student will be dropped from the class on their third unexcused absence. Every two early departures from class or tardy arrivals will each be considered a time absent. Any student not attending the first two class meetings will automatically be dropped. Once dropped, re-registration will be required for this course.

Any student disrupting class may be asked to leave. De Anza College will enforce all procedures set forth in the Student Standards of Conduct (see class schedule); appropriate remedial and/or disciplinary steps will be taken when violations occur.

IV. Student Materials

PROVIDED:

1. Metrology Handouts / Worksheets



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REQUIRED:

Available at the [De Anza College Bookstore](#) or [Amazon](#):

1. Text: Blueprint Reading for the Machine Trades, 7th Edition, Schultz and Smith, Pearson
2. Calculator: need not be graphing, but must have trig and inverse trig functions. The ability to insert open and close paren symbols will be useful. Ex: TI-36X Pro or equivalent.

Note: This text contains workbook pages that you will fill out as part of class exercises. Therefore, it is not recommended that you purchase a rental or e-book version of the book.

OPTIONAL:

Available at Amazon and other stores that stock machine & inspection tools.

1. Text: Mathematics for Machine Technology, 7th Edition, Peterson and Smith, Cengage Learning
2. Text: Precision Machining Technology, 2nd Edition, Hoffman, Hopewell, and Janes; Cengage Learning

V. Evaluation of Outcome:

The student's progress is evaluated objectively on the basis of scores from examinations, quizzes, and other classroom exercises covering both laboratory work and lecture material. Three major examinations are given: two mid-term exams and a final exam the last class meeting of the quarter. These examinations combined constitute approximately 50-60% of the final grade.

Classroom work constitutes approximately 40-50% of the final grade. Assignments must be completed during the class or lab period in which they are assigned.

Any student that has never been absent, turns all lab assignments in on the assigned day, and is within one percent (1%) of the next higher grade, will receive the higher grade.

GRADE CALCULATION (approximate):

Daily Quiz and Lab Assignments:

~12 assignments, 30-80 points each ~600

Examinations:

Mid-Term #1 ~200
 Mid-Term #2 ~200
 Final Exam ~300

Total: ~1300

GRADE DISTRIBUTION:

A+= 97% to 100%
 A = 93% to 96.99%
 A- = 90% to 92.99%
 B+= 87% to 89.99%
 B = 83% to 86.99%
 B- = 80% to 82.99%
 C+= 77% to 79.99%
 C = 70% to 76.99%
 D = 60% to 69.99%
 F = less than 60%