

Istanbul Technical University

RES 107 E – Technical Drawing

1+2 (2 credits - 3 ECTS credits)

Content of the Course Principles of technical drawing in mechanical engineering. Description of line types. Rules of lettering. Dimensioning fundamentals. Geometric construction. Principles of orthographic projection and multi-view drawings. Hidden details and Scales. Sections and sectional views. Half section, local section, revolved section and removed section. Auxiliary views and intersections. Pictorial drawings. Surface texture indication. Engineering fasteners and screw threads. Principles of Computer Aided Drawing, Two dimensional Sketching with AutoCAD.

The text books **Engineering design graphics: AutoCAD 2007**, J.H. Earle, Pearson/Prentice Hall, New York, 2008

Recommended Text Books **Engineering Drawing for Technicians - Volume 1**, O. Ostrowsky, English Language Book Society/Edward Arnold, 1987
Technical Drawing 2 – Mechanical Drawing, A. Bankole, S. Bland, Longman, 2002
Engineering Graphics, F.E.Giesecke, *et.al.*, Pearson/Prentice Hall, New Jersey, 2004
Technical Graphics Communication, G.R.Bertoline, *et.al.*, McGraw-Hill, Boston, 2003
Teknik Resim, Temel Bilgiler, İ.Z.Şen, N.Özçilingir, DE-HA Yayımcılık, 2007
Mühendislik Çizimin Esasları, S.Kurt, İ.Gerdemeli, C.E.İmrak, Birsen Yayınevi, İstanbul, 2005
Technical Graphics Communication, G.R.Bertoline, *et.al.*, McGraw-Hill, Boston, 2003
Technical Drawing 2 – Mechanical Drawing, A. Bankole, S. Bland, Longman, 2002
Engineering Drawing for Technicians - Volume 1, O. Ostrowsky, English Language Book Society/Edward Arnold, 1987

Objectives of the Course This course of study aims to teach students:

- learning the standard techniques of preparing engineering drawings,
- reading and writing the language of engineering graphics and interpreting drawings,
- solving three-dimensional technical problems that require the application of descriptive geometry and graphical analysis,
- applying dimensioning in 2D multi-view drawings,
- drawing standard mechanical engineering components,
- Sketching 2-dimensional multi-view drawings in AutoCAD.

Learning Outcomes of the Course In successfully completing this course students will be able to

I. make free hand sketches and letter	V. add surface texture symbols to drawings
II. dimension drawings	VI. draw standard mechanical engineering parts
III. draw views of machine components	VII. construct assembly views
IV. draw sectional views of parts	VIII. sketch 2D multi-view drawings in AutoCAD

Assessment

<u>Method</u>	<u>Quantity</u>	<u>Weight</u>
Midterm Exam	1	% 20 - <u>No make-up exam will be given.</u>
Assignment	5	% 20 - <u>No credit will be given for late work or task.</u>
Homework	1	% 10 - <u>Late homework is not evaluated.</u>
Final Exam	1	% 50

NOTES:

1. No credit will be given for late work and no make-up assignment will be given
2. **VF** (nonattendance) is the grade given to students who have failed to regularly attend courses or have not fulfilled the requirements of course practices. These requirements are:

- **ATTEND at least 70 % of the lectures and 80% of the practices.**
- **FULFILL at least average grade of 40 in midterm exams,**
- **FULFILL at least average grade of 40 in assignments.**