

**MIDDLE EAST TECHNICAL UNIVERSITY NORTHERN CYPRUS CAMPUS**

**Syllabus for MECH-113 (2-2)3 Computer Aided Engineering Drawing I  
2009-10 Academic Year Fall Semester**

**Instructor:**

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**Course Schedule:**

<u>Section 1:</u> Class Room: I- 104	<u>Section 2:</u> Class Room: I- 104
Wednesday (13:40 - 15:30)	Monday (10:40 - 12:30)
Friday (08:40- 10:30)	Wednesday (10:40 - 12:30)
<u>Section 3:</u> Class Room: I- 104	<u>Section 4:</u> Class Room: I- 104
Thursday (13:40 - 15:30)	Monday (13:40 - 15:30)
Friday (13:40 - 15:30)	Friday (10:40- 12:30)

**Reference Books:**

“Engineering Drawing and Design” by Jensen/ Helsel/ Short, 7<sup>th</sup> Edition, 2008, Mc Graw- Hill.  
“Engineering Design and Graphics with Autodesk Inventor 6”, by Bethune, J.,2004,Pearson Prentice Hall  
“Teknik Resim-Temel Bilgiler”, Şen, İ.Z., ve Özçilingir, N., 2003, Deha Yayıncılık.  
“Technical Drawing” Giesecke, E. Frederick, et. al., 12<sup>th</sup> Edition, 2003, Prentice-Hall.  
“Autodesk Inventor 2009 Getting Started”, Autodesk Inc., USA.  
“Autodesk Inventor Routed Systems 2009, Getting Started”, Autodesk Inc., USA.  
“Autodesk Inventor Simulation 2009, Getting Started”, Autodesk Inc., USA.  
“Autodesk Data Management Server 2010, Implementation Guide”, Autodesk Inc., USA.  
“AutoCad Mechanical 2010, Getting Started”, Autodesk Inc., USA

**Grading:**

Midterm Exam. : 40%  
Pop Quizzes : 20%  
Final : 40%

***Important Note for Attendance:*** 80% attendance is mandatory. If your attendance is below 80% at the end of the course and your Midterm Exam Grade is very low you will not be allowed to take final exam.

**Course Content**

Introduction to engineering drawing; drafting as a language, drafting environment, board drafting, Computer Aided Drafting. Geometrical constructions; sketching in Inventor environment, Drawing and editing commands. Orthographic projection; 1st and 3rd angle projection, Principal views, Auxiliary views, Basic Dimensioning, Tolerancing. Creating three dimensional Models; Extrude, Revolve, Holes, Shell, Fillet, Chamfer, Split, Work Planes, Axes, Ribs, Loft, Sweep. Generating orthographic views from a solid model. Pictorial Drawing; Isometric Drawing, Oblique Drawing. Sectioning and conventions.

**Course Outline:**

<b>Week</b>	<b>Topics</b>
1-2	Introduction; Drawing Tools and Instruments, Drawing Paper/Screen, Scaling, Types of Lines, Lettering
3 - 4	Geometrical Constructions, 2-Dimensional Sketching, Layer creation, AutoCad and Inventor Commands; Drawing and Editing Commands, Solid Models; Extrude, Holes, Transferring a dwg file to Inventor environment.
5-6	Orthographic Projection; Principle Picture Planes, 1st.Quadrant, 3rd.Quadrant projections, Principle Views, Object Orientation, Selection of Views, Drawing the Principle Views; Order of Drawing, Precedence of Lines
7	Fillet, rounds and run outs, Revolution Convention, Auxiliary Views.
8-9	3-Dimensional Models, Solid Models; Extrude, Holes, Shell, Split, Revolve, Work Planes, Work Axes, Ribs, Loft, Sweep, Chamfer, Fillet, Viewing orthographic images from a solid model, Transferring a drawing file from Inventor environment to AutoCad environment.
10-11	Dimensioning, Size Tolerances
12-13	Method of View Reading, Reading Details, Exercises
14-15	Isometric Drawing, Oblique Drawing, Sectioning; Half Sections, Broken-out Sections, Rotated Sections, Removed Sections, Conventions