Syllabus for MECH-113 (2-2)3 Computer Aided Engineering Drawing I
2016-2017 Academic Year Summer School

Instructor:
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Course Schedule:

<table>
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<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<tr>
<td>08:00 - 09:30</td>
<td>MECH 113 (S1) [1-104]</td>
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<td>MECH 113 (Lab1) [1-104]</td>
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<td>09:00 - 10:30</td>
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<td>MECH 113 (Lab1) [1-104]</td>
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<td>10:40 - 11:30</td>
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<td>11:40 - 12:30</td>
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<td>12:40 - 13:30</td>
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<td>MECH 113 (Lab1) [1-104]</td>
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Reference Books:
* “Tools for Design using AutoCAD 2015 and Autodesk Inventor 2015” by Randy H. Shih, SDC.
* “Autodesk Inventor 2009 Getting Started”, Autodesk Inc., USA.
* “Autodesk Inventor Simulation 2009, Getting Started”, Autodesk Inc., USA.
* “AutoCad Mechanical 2010, Getting Started”, Autodesk Inc., USA.

Grading:
MidTerm Exam: 40%
Quizzes & Pop Quizzes: 20%
Final Exam: 40%

Important Note for Attendance: 80% attendance is mandatory. If your attendance is below 80%, you will not be allowed to take the midterm and the final exams.
(Attendance is optional for the ones who repeat the course for increasing the grade from BB if they accept that PQ grade will be substituted by the previous PQ grade)
Catalog Description


Course Learning Outcomes

Having successfully completed this course, the student will be able to:

(1) Draw two-dimensional sketches, views in CAD environment (particularly in AutoCAD and Autodesk Inventor)
(2) Create solid models of objects; objects in basic shapes, composite bodies, custom built machine parts, building modules etc.
(3) Draw the orthographic views of an object in CAD environment (particularly in Autodesk AutoCAD environment).
(4) Create the orthographic views of an object from the solid model (particularly in Autodesk Inventor environment).
(5) Dimension the views, show some annotations, provide the size tolerance of functional features, and general tolerances
(6) Explain and interpret the dimensions and the associated tolerances, some annotations
(7) Read the given orthographic views; i.e. visualize the 3-dimensional model of the object shown to its orthographic views and create its CAD model.
(8) Create auxiliary views, revolved views, sectional views.

In short, having successfully completed this course, the student will be able to write and read the language of industry, “Engineering Drawing”

Teaching Format

Two 50 minute lectures, two 50 minutes applications, one 50 minutes tutorial per week.

Weekly Class and Tutorial Schedule

Week 2& 3    : Drawing Tools and Instruments, Corresponding CAD facilities, Scaling, Types of Lines, Lettering, Drawing Paper/Screen
Week 4& 5    : Geometrical Constructions, 2-Dimensional Sketching, Layer creation in AutoCAD, Sketching in AutoCAD and in Inventor, Drawing and Editing Commands, Solid Models;
Week 5       : Transferring a dwg file to Inventor environment and applying Extrude, Hole, Filleting, and Chamfering Processes. Introduction to Part Assembly.
Week 8       : Sculpt, Split processes, Editing solid models.
Week 9       : Revolve, Loft, Sweep, Rib, and Shell Process.
Week 10- 11 : Dimensioning, Size Tolerances
Week 12      : Auxiliary Views, Revolution Convention, Assembly Drawing, Schematic Drawing in AutoCAD.
Week 13      : Method of View Reading, Reading Details, Exercises, Isometric Drawing, Oblique Drawing.
Week 14      : Reading Exercises, Sectioning, Sectional Views.