MECH 220 ENGINEERING GRAPHICS 1 CR.

The course aims at preparing the future engineer to be able to understand and create technical drawings. The course seeks to develop the student effective utilization of computer-aided drafting (CAD) skills in order to create engineering drawings. Orthogonal projection, exploded and auxiliary views, sectioning and sectional views, dimensioning and tolerance schemes, standard drawing formats, and detailing. Introduction to the use of CAD packages (AutoCAD).

Required for all ME students.

Prerequisite: None

Prerequisite by Topic: Mathematics: trigonometry, geometry, and elementary calculus; Computer Literacy.

Topics:
- Drawing formats/layouts
- Multi-view orthogonal projection
- Exploded and auxiliary views
- Sectioning and sectional views
- Dimensioning & tolerancing
- Technical symbols (welding, fasteners, etc.)
- Component (part) detail drawings
- Assembly drawings


Contribution of Course to Meeting the Professional Component
Objectives 1-7 cater to professional development of students by introducing future engineering student to technical drafting technique as well to the CADD software (AUTOCAD).

Computer usage
Use of computer-aided design software packages, h.k. AUTOCAD.
## Course Outcomes

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<tr>
<th>At the end of the course, students will have the ability to</th>
<th>Correlation to program outcomes*</th>
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<tbody>
<tr>
<td>Produce orthographic and auxiliary views of solid, multidimensional objects; be able to apply these views on properly formatted drawings</td>
<td>a, b, k, j, i e, d, g c,</td>
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<tr>
<td>Dimension views recognizing and applying the different dimensions and tolerancing schemes</td>
<td>a, b, k, j, i e, d, g c,</td>
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<td>The students should be able to understand and develop proper sections views of parts and assemblies</td>
<td>a, b, k, j, i e, d, g c,</td>
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<td>Use correct engineering symbols, as well as using proper cosmetic aids to finish a drawing</td>
<td>a, b, j, k, i e, d, g c,</td>
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<tr>
<td>Recognize and utilize several internationally-recognized formats of a technical drawing, ie AISI, ISO, etc,</td>
<td>a, b, k, j, i e, d, g c,</td>
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<td>Fill in the proper information in the drawing's title and revision block</td>
<td>a, c, b, k, j, i e, g d</td>
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<td>Interact and communicate effectively with their peers in group projects</td>
<td>a, c, b, k, j, i e, g d</td>
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<tr>
<td>Produce an end of semester CAD project with all the relevant drawings</td>
<td>a, b, k, j, i e, d, g c,</td>
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* H: High correlation, M: Medium correlation, L: Low correlation.

### Class schedule
One fifty minute lecture and one fifty minute Lab per week.

### Credits
1 (one lecture and one lab)

### Person who prepared this description and date of preparation
Department of Mechanical Engineering: Charbel Seif
Date: March 16, 2009

### Date of last revision
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