**MME 2121 ENGINEERING DRAWING II**

**Prerequisites:** MME 2112 Engineering Drawing I

**Purpose** To enable the student to draw curves of interpenetration and develop shapes of objects, make assembly drawings, sectioning, dimensioning and detailing of engineering drawings.

**Learning outcomes** At the end of this course, the student should be able to;

1. Develop shapes based on interpenetration of solids or hollow sections

2. Draw sectional views and explain their importance.

3. Make and prepare assembly drawings given various components.

 4. Apply dimensioning, tolerances, surface quality and machining symbols in engineering drawing.

**Course description**

**Intersections and development:** Drawing lines and Curves of interpenetration of two bodies. Development of shapes and objects of interpenetration. Development of planes and solids: Prisms, cylinders, pyramids and cones.

**Sectional views:** intersections in sectioning, conventional breaks, sections of simple solids cut by vertical and horizontal planes.

 **Threads, fasteners and springs**.

**Assembly drawing**. Detailed drawing of machine parts. Dimensioning of drawings.

**Tolerances; limits and fits**, methods of indicating tolerance, accumulation of tolerance. Geometrical and positional tolerances.

**Surface quality:** surface roughness, lay, surface treatment. Machining symbols and instructions on drawing. Working drawings.

**Teaching methodology:** Lectures, tutorials and practice

**Assessment** Continuous Assessment Tests End of Semester Examination 50% , 50%

**Course text books**

1. Morling K. (2010) Geometric and Engineering Drawing, Butterworth-Heinemann, 3rd Edition

2. Green P. (2005) The Geometrical Tolerancing Desk Reference: Creating and Interpreting ISO Standard Technical Drawings, Newnes.

3. Cecil J., Jay H., and Dennis S.,(2007) Engineering Drawing And Design, McGraw-Hill 7th Edition

**Course Journals**

1. Engineering Design Graphics Journal, American Society for Engineering Education

2. Journal of mechanical design, American Society of Mechanical Engineers

3. Journal of Engineering Design and Automation, Wiley Publishers

**Reference text books**

1. Colin S., Dennis M. and Neil P. (2009) Manual of Engineering Drawing, Butterworth- Heinemann, 3rd Edition.

2. Kevin S. (2006), Engineering Drawing and Design (Drafting and Design), Delmar Pub; Workbook edition.

3. David A. M. (2006) Engineering drawing and design, Delmar Cengage Learning 4th edition

**Reference Journals**

1. International journal of design, Chinese Institute of Design

2. Journal of Engineering Design, Taylor & Francis Publishers

3. Engineering design for Industry, American Society of Mechanical Engineers