Course Syllabi: UTA001 Engineering Graphics (L : T : P :: 2 : 4 : 0)

1. **Course number and name:** UTA001; Engineering Graphics

2. **Credits and contact hours:** Credits: 4.0; Hours: 6

3. **Text book, title, author, and year**

   - *Gill, P.S., Engineering Drawing - Geometrical Drawings, S.K. Kataria (2008).*
   - *Mohan, K.R., Engineering Graphics, DhanpatRai Publishing Company (P) Ltd (2002).*
   - *French, Thomas E., Vierck, C. J. and Foster, R. J., Fundamental of Engineering Drawing & Graphics Technology, McGraw Hill Book Company (2005).*
   - *Bhatt, N.D. and Panchal, V.M., Engineering Drawing: Plane and Solid Geometry, Charotar Publishing House (2006) 49th ed.*

   a. Other supplemental materials
      - Nil

4. **Specific course information**

   a. Brief description of the content of the course (catalog description)

   Introduction: Use of drafting tools, Lettering, Dimensions and Standards, Line Conventions.
   Projection Systems: Projection Planes, Projection systems, Orthographic projections of points in first angle projection system and third angle projection system, Orthographic projections of lines on reference planes, True length of line using rotation of view method, Traces of lines, Auxiliary planes and their applications, Projections of Lamina parallel/inclined to reference planes, Projection of solids- Polyhedra, Solids of revolution, Sections of solids- Section plane parallel / inclined to reference planes, Intersection of solids.
   Development of Surfaces: Development of surfaces like Prism, Pyramid, Cylinder, Cone, Sphere etc. using Parallel Line Method, Radial Line Method, Triangulation method.
   Orthographic Projections: Extracting Orthographic projections from given pictorial views.
   Isometric Views: Extracting Isometric projections from given Orthographic views using box method, Offset method.
   Missing Lines and Missing Views: Evaluating missing lines and missing views from given orthographic views.
   Computer Aided Drafting: Introduction to computer drafting tools like AutoCAD. Demonstration of commands like Line, Circle, Arc, Rectangle, MText and Dimensioning etc.

5. **Specific goals for the course**

   After the completion of the course, the students will be able to:
   - Imagine and visualize the geometric details of engineering objects.
   - Translate the geometric information of engineering objects into engineering drawings.
   - Use computer aided drafting in their respective engineering field.

6. **Brief list of topics to be covered**
   - Projection Systems
   - Development of surfaces
   - Orthographic Projections
   - Isometric views
   - Missing Lines and Missing Views

- Computer Aided Drafting