TERM 1 UNIT PLAN GRADE 10 TECHNICAL DRAWING						PETER JOHNSON	
Weeks	Subtopics	Specific objectives	Contents	Methodology	Procedures/ Activities	Materials	Assessments
1 **Relevance of the course** **Basic concepts in Technical Drafting** **Career opportunities**	Introduction and discussion of course outline	To familiarize students with the expectations and course requirements Students should be able to: 1. discuss the importance of Technical Drawing to industry; 2. discuss standards relating to technical drawings	The students will be exposed to basic concepts and theories in Technical Drafting	Question and answer	Discuss the relevance of the course 2. Explain basic concepts in Technical Drafting 3. Explore opportunities for a career in Technical Drafting	Syllabus, books ,pens ,pencilsComputer /internet	Homework on Occupations in TD
2-3 Use of tools of equipment	Instrumentation and lines	Identify and state the use of common drawing tools and equipment used in TD Functions of drawing equipment and materials (a) Equipment and tools: (i) drawing boards; (ii) T-squares; (iii) drafting machines; (iv) computers, plotters and printers; (v) cameras; (vi) scanners; (vii) multimedia devices. (b) Drawing instruments: (i) compasses; (ii) triangles; (iii) protractors (iv) dividers (v) French curves outline the functions of equipment and materials used in technical drawing; 4. demonstrate the use of tools and equipment; 5. classify the various types of lines used in Technical Drawing; 6. construct the various types of lines; 7. apply basic lettering and dimensioning techniques; 8. read and convert measures using various scales; 9. apply the principles of	Students will understand concepts and principles in maintaining hand tools, drawing instruments, and equipment,	Class discussion, Demonstration, Explanation of the content/activity Question & answer Note taking	Video presentation of the use of drawing tools ppt on classification of drawing tools and types of lines Identify tools used in technical drawing Analyze data indicated in the technical drawing Prepare tools, materials, and equipment in technical drawing Select drawing tools, materials, and equipment	Use online sources ppt presentation	Research project on instrumentation and lines Quizziz worksheets/ online Teacher prepared class quiz

		freehand sketches Plane Geometry (a) Lines: (i) drawing perpendicular to a given line, at a point on the line and from a point outside the line; (ii) drawing a line parallel to a given line; (iii) bisecting a given line; (iv) dividing straight lines geometrically (parts of equal lengths and the use of proportion and ratio). (b) Angles: (i) definition; (ii) types; (iii) properties; (iv) copying or transferring any given angle; (v) bisecting given angles; (vi) bisecting angles formed by two lines; (vii) constructing angles (90, 75, 60, 45, 30, 15 degrees and others); (viii) replicating geometrical shapes using angle vertices, a					
4-5 Geometry	**Plane and solid geometry**	differentiate between "plane geometry" and "solid geometry"; 2. apply plane geometrical construction principles using manual and computer-aided methods; 3. construct tangents to given specification; 4. apply the basic principles of analytic geometry to Loci; 5. illustrate the path of points in simple mechanisms;	Definitions of plane and solid geometry Examples of plane geometry	Viewing and discussing videos, images and working drawings Guided practice/ modeling	Students will watch videos relating to materials production and uses Draw and label geometric shapes Introduction to brainstorming principles and practices	Geometric shapes Online resources Drawing instruments	Research Projects on types of geometric shapes Worksheet on shapes Geometric construction of shapes Design and draw sketches Read and Interpret

6-7 **Geometry(Continue)**		6. contrast between mathematical and graphical representations of areas of figures. 7. construct plane geometric figures equal in areas to other figures; 8. divide triangles and polygons into a number of equal and proportional parts;					Drawings Students observed individ or in groups executing design and drafting exercises
8/9 **GEOEMRTY** **SOLIDS**	DEVELOPMENTS OF SOLIDS	1. compare the various types of pictorial drawings; 2. prepare pictorial drawings; 3. discuss the principles of First and Third angle projections; 4. prepare orthographic drawings of geometrical solids;	Definitions: (i) solid geometry; (ii) plane geometry. (b) Differences: (i) functions and features of plane and solid geometry	Demonstration of the SAFE use of hand tools. Class discussion Guided practice/ Modeling on the use of the tools Independent practice by students/Learningby doing	Guided practice Demonstration Construction of geometric solids	Computer Internet Drawing tools Examples of solids	Research on geometric shapes Online quiz Shapes Make geometric solids fro available materials

10-12 **SOLID** **GEOMETRY** (continue)	DEVELOPMENTS OF SOLIDS	Determine the true shapes of sectioned surfaces of geometric solids. explain the importance of surface development; 11. construct surface development of oblique and frustum solids;		Demonstration Explanation of concepts/ application of concepts discussion guided practice independent work		Examples of geometric solids Computer with internet Images of geometric solids Drawing equipment	