

DEPARTMENT OF MECHANICAL ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE PLAN – PART I			
Name of the programme and specialization	B.TECH. MECHANICAL ENGINEERING		
Course Title	ENGINEERING GRAPHICS		
Course Code	MEIR12	No. of Credits	03
Course Code of Pre-requisite subject(s)	NIL		
Session	July 2022	Section (If applicable)	B
Name of Faculty	T. RAMESH	Department	MECHANICAL ENGINEERING
Email	tramesh@nitt.edu	Telephone No.	9994339803
Course Type	<input checked="" type="checkbox"/> Core course <input type="checkbox"/> Elective course		
Syllabus (approved in BoS)			
<p>Fundamentals Drawing standard - BIS, dimensioning, lettering, type of lines, scaling-conventions.</p> <p>Orthographic projection Introduction to orthographic projection, drawing orthographic views of objects from their isometric views - Orthographic projections of points lying in four quadrants.</p> <p>Orthographic projection of lines parallel and inclined to one or both planes Orthographic projection of planes inclined to one or both planes. Projections of simple solids - axis perpendicular to HP, axis perpendicular to VP and axis inclined to one and both planes.</p> <p>Sectioning of solids Section planes perpendicular to one plane and parallel or inclined to other planes.</p> <p>Intersection of surfaces Intersection of cylinder & cylinder, intersection of cylinder & cone and intersection of prisms.</p> <p>Development of surfaces Development of prisms, pyramids, and cylindrical & conical surfaces.</p> <p>Isometric and perspective projection Isometric projection and isometric views of different planes and simple solids, introduction to perspective projection.</p>			

COURSE OBJECTIVES	
<ol style="list-style-type: none"> 1. Irrespective of engineering discipline, it has become mandatory to know the basics of Engineering Graphics. The student is expected to possess the efficient drafting skill depending on the operational function in order to perform day to day activity. 2. Provide neat structure of industrial drawing. 3. Enables the knowledge about position of the component and its forms Interpretation of technical graphics assemblies. 4. Preparation of machine components and related parts. 	
COURSE OUTCOMES (CO)	
Course Outcomes	Aligned Programme Outcomes (PO)
<p>At the end of the course student will be able to visualize the engineering components.</p> <p>A number of chosen problems will be solved to illustrate the concepts clearly.</p>	<p>1, 2, 3, 4, 5</p>

COURSE PLAN - PART II			
COURSE OVERVIEW			
COURSE TEACHING AND LEARNING ACTIVITIES			
Topic No.	Week / Contact Hours	Topic	Mode of Delivery
1	4	Introduction to Engineering Graphics, Drawing Instruments, Drawing Sheets, Lettering, Dimensioning, Geometrical Construction	Offline
2	4	Orthographic Projection, Projection of Points	Offline
3	12	Projection of Straight Lines	Offline
4	8	Projection of Planes	Offline
5	12	Projection of Solids	Offline
6	8	Section of Solids	Offline
7	8	Development of Surfaces	Offline
8	8	Isometric Projection	Offline
9	8	Perspective Projection	Offline

COURSE ASSESSMENT METHODS (shall range from 4 to 6)				
S.No.	Mode of Assessment	Week / Date of assignment	Duration / Last date for submission	% Weightage
1	Assignment 1 (Topics 1 – 3)	19.12.2022	26.12.2022	10
2	Cycle Test 1	20 – 22.12.2022		20
3	Assignment 2 (Topics 4 - 6)	23.01.2023	27.01.2023	10
4	Cycle Test 2	18 – 20.01.2023		20
5	Assignment 3 (Topics 7 - 9)	06.02.2023	10.02.2023	10
CPA	Compensation Assessment*	February 15 – 17, 2023		20
6	Final Assessment *	March 24 – 28, 2023	3 Hours	30
*mandatory; refer to guidelines on page 6				
COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)				
<ul style="list-style-type: none"> • Feedback shall be collected from the students during class committee meetings • Feedback on course outcomes during the last week of February 2021 				
COURSE POLICY (preferred mode of correspondence with students, compensation assessment policy to be specified)				
<u>MODE OF CORRESPONDENCE (email/ phone etc.)</u>				
Email: tramesh@nitt.edu ,			Mobile: 9994339803	
WhatsApp Group: MEIR12 @ 2022				
<u>ATTENDANCE POLICY</u> (A uniform attendance policy as specified below shall be followed)				
<ul style="list-style-type: none"> ➤ At least 75% attendance in each course is mandatory. ➤ A maximum of 10% shall be allowed under On Duty (OD) category. ➤ Students with less than 65% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade. 				

ACADEMIC DISHONESTY & PLAGIARISM

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.

The above policy against academic dishonesty shall be applicable for all the programmes.

ADDITIONAL INFORMATION

Textbook Reference:

1. Bhatt, N. D. and Panchal, V.M, *Engineering Drawing*, Charotar Publishing House, 2010.
2. Ken Morling, *Geometric and Engineering Drawing*, 3rd Edition, Elsevier, 2010
3. Jolhe, D. A., *Engineering drawing*, Tata McGraw Hill, 2008
4. Shah, M. B. and Rana, B. C., *Engineering Drawing*, Pearson Education, 2009
5. K.V. Natarajan, *A textbook of Engineering Graphics*, Dhanalakshmi Publishers, Chennai, 2006.

FOR APPROVAL

C.T. 122
19/11/2022
Dr. T. RAMESH
Course Faculty


CC-Chairperson


15/12/2022
Dr. AR VEERAPPAN
HOD

Guidelines:

- a) The number of assessments for a course shall range from 4 to 6.
- b) Every course shall have a final assessment on the entire syllabus with at least 30% weightage.
- c) One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered.
- d) The passing minimum shall be as per the regulations.

B.Tech. Admitted in				P.G.
2018	2017	2016	2015	
35% or class average/2 whichever is greater.		Peak/3 or class average/2 whichever is lower		40%

- e) Attendance policy and the policy on academic dishonesty & plagiarism by students are uniform for all the courses.
- f) Absolute grading policy shall be incorporated if the number of students per course is less than 10.
- g) Necessary care shall be taken to ensure that the course plan is reasonable and is objective.