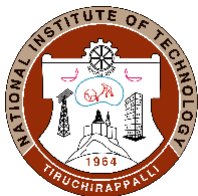




DEPARTMENT OF PRODUCTION ENGINEERING

COURSE PLAN – PART I			
Name of the programme and specialization	B.Tech., Production Engineering		
Course Title	Engineering Graphics		
Course Code	MEIR12	No. of Credits	3
Course Code of Pre-requisite subject(s)	NIL		
Session	July / July 2019	Section (if, applicable)	A
Name of Faculty	S. Dinesh	Department	Production Engineering
Official Email	sdinesh@nitt.edu	Telephone No.	+91-99946 96105
Name of Course Coordinator(s) (if, applicable)			
Official E-mail		Telephone No.	
Course Type (please tick appropriately)	<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>Geometrical constructions Dividing a given straight line into any number of equal parts, bisecting a given angle, drawing a regular polygon given one side, special methods of constructing a pentagon and hexagon – conic sections – ellipse – parabola – hyperbola - cycloid – trochoid.</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, 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 or both planes.</p> <p>Sectioning of solids Section planes perpendicular to one plane and parallel or inclined to other plane.</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>			



Isometric and perspective projection Isometric projection and isometric views of different planes and simple solids, introduction to perspective projection.

Computer aided drafting Introduction to computer aided drafting package to make 2-D drawings.

Text Books & Reference books

1. Bhatt, N. D. and Panchal, V.M., 'Engineering Drawing', Pub.: Charotar Publishing House, 2010.
2. Natarajan, K. V., 'A text book of Engineering Graphics', Pub.: Dhanalakshmi Publishers, Chennai, 2006.
3. Venugopal, K. and Prabhu Raja, V., 'Engineering Drawing and Graphics + AutoCAD', Pub.: New Age International, 2009.
4. Jolhe, D. A., 'Engineering drawing', Pub.: Tata McGraw Hill, 2008

COURSE OBJECTIVES

- 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.
- To practise construction methods of various geometric shapes.
- To understand orthographic projection of engineering components.
- To Construct Isometric views for corresponding orthographic views.
- Provide neat structure of an engineering components and related parts
- Enables the knowledge about position of the component and its forms and Interpretation of technical graphics assemblies.

MAPPING OF COs with POs

Course Outcomes	Programme Outcomes (PO) (Enter Numbers only)
1. Understand and visualize the engineering components	1, 2
2. Understand the construction of chemical engineering components	1, 2, 3
3. Ability of design and problem solving in chemical industries	1, 2, 3, 4,
4. Pre-requisite knowledge of equipment used in chemical industries	1, 2, 3, 4,



COURSE PLAN – PART II			
COURSE OVERVIEW			
<ul style="list-style-type: none"> • Fundamental of Drawings and Standards • Geometrical Constructions basic shapes and conic sections. • Orthographic views and projections of points, lines, planes and solids. • Sections, Intersections and developments of solids. • Isometric and Perspective Projections. 			
COURSE TEACHING AND LEARNING ACTIVITIES			(Add more rows)
S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	Week 1 – 4 hours	Introduction to Engineering graphics, construction of basic geometric shapes, lettering, dimensions	Power point presentation, Chalk & practical
2	Week 2 – 4 hours	Conic sections	
3	Week 3 – 4 hours	Cycloid, trochoid	
4	Week 4 – 4 hours	Introduction orthographic projections, Orthographic views of objects from their isometric views	
5	Week 5 – 4 hours	Orthographic projection of point	
6	Week 6 – 4 hours	Orthographic projection of lines	
7	Week 7 – 4 hours	Orthographic projection of solids	
8	Week 8 – 4 hours	Section of solids – Parallel & perpendicular planes	
9	Week 9 – 4 hours	Section of solids – inclined planes	
10	Week 10 – 4 hours	Intersection of surfaces	
11	Week 11 – 4 hours	Development of surfaces – cylinder	
12	Week 12 – 4 hours	Development of surfaces – pyramid & prism	



13	Week 13 – 4 hours	Isometric projections from orthographic views	Power point presentation, Chalk & practical
14	Week 14 – 4 hours	Isometric projections, Perspective projections	
15	Week 15 – 4 hours	Perspective projections & Revision	
16	3 hours	End Semester Examination	

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Regular practical lab	-	60 hours	50
2				
3				
4				
CPA	Compensation Assessment*			
5				
6	Final Assessment *	Week 16	3 hours	50

*mandatory; refer to guidelines on page 4

COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)

Class committee meetings, periodical interaction with students and the Class Representative, feedback through MIS

COURSE POLICY (including compensation assessment to be specified)

As per NITT rules and regulations

MODE OF CORRESPONDENCE (email/ phone etc)

The Course Coordinator/teacher is available for consultation at times that is displayed on the coordinator's office notice board. Queries may also be emailed to the Course teacher directly at **sdinesh@nitt.edu**



ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

- 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, IF ANY

FOR APPROVAL

Course Faculty _____ **CC- Chairperson** _____ **HOD** _____



Guidelines

- a) The number of assessments for any theory course shall range from 4 to 6.
- b) Every theory 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.