

Branch Name:	Transportation Engineering
ProgramCode:	ET211
CourseName:	Airport System Planning and Design
CourseCode:	2ET2110203T
Pre-requisiteCourse:	Airport Engineering

Course Objective:

1. To provides a basic understanding on Airport Systems Planning and Operation
2. To determine the runway orientation, design of runway and airport facilities.
3. To develop scheduling and various models for Airport management.

Credit	Teaching Scheme				Evaluation Scheme (Marks)								
	Hours per week				Theory (Marks)				Practical (Marks)				Total (Marks)
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
5	3	2	-	5	24	60	16	40	-	-	-	-	100

Sr.No.	Topics	Teaching Hrs.	Module Weightage
1	Characteristics of Air Transportation, structure and organization, challenges and the issues, Airport Master Plan,	3	5%
2	Characteristics of the aircraft, Airport Requirements, site selection, layout plan and financial plan,	5	10%
3	Forecasting air travel demand, Air freight demand	5	10%
4	Geometric Design of runway, taxiway, aprons, Design of Passenger Terminal, analysis of flow through terminals,	10	25%
5	Design of air cargo facilities, Airfield pavement and drainage design,	10	25%
6	Environment impact of Airports.	5	10%
7	Air traffic control lighting and signing,	2	5%
8	Airport capacity and configuration, parking configurations and apron facilities	5	10%

References:

1. Khanna S.K., Arora M.G., Jain S.S., Airport Planning & Design, Nemchand Bros., Roorkee
2. Horenjeff Robert, The planning & Design of Airports, McGraw Hill Book Co.

Course Learning Outcomes:

1. Describe the different components of airport and aircrafts.
2. Analyse the requirements of an airport layout with respect to international regulations.
3. Explain the airport runway design.
4. Design Taxiways & Aprons.

List of Experiments:

1. Problems based on forecasting of passenger and freight traffic for airways.
2. Problems based on costing and pricing strategy in airways.
3. Planning and design of airway network, routes and schedules for the actual or hypothetical regional area development.
4. Planning and design of infrastructures required for air ports

Open Ended Problems

Field Visit:

1. Visit to the Airport terminal building, structures of terminal area and management office.

Course Learning Outcomes (CLO):

After successful completion of the course the students shall be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Describe the different components of airport and aircrafts.	L-2, L-4, L-5
CLO2	Analyse the requirements of an airport layout with respect to international regulations.	L-2, L-3, L-4, L-5, L-6
CLO3	Explain the airport runway design.	L-1, L-2, L-3, L-4
CLO4	Design Taxiways & Aprons.	L-1, L-3, L-4

L1- Remember, L2- Understand, L3- Apply, L4- Analyze, L5- Evaluate, L6- Create

Mapping of CLOs with Pos & PSOs

	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
Course Learning Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CLO1	M	H	M	L	M	L	M					M	H	M	M
CLO2	M	H	H	M	M		H					M	H	M	L
CLO3	H	L	M	M	L	M	M					M	M	H	M
CLO4	M	H	H	M	M		H					M	H	M	L

H: High, M: Medium, L: Low