

## AIRPORT OPERATION

<b>VII Semester: AE</b>								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
AAE530	Elective	L	T	P	C	CIA	SEE	Total
		3	-	-	3	30	70	100
<b>Contact Classes: 45</b>		<b>Tutorial Classes: 15</b>		<b>Practical Classes: Nil</b>			<b>Total Classes: 60</b>	

### **COURSE OBJECTIVES:**

**The course should enable the students to:**

- I. Understand about the commercial airport operations, functions, planning and facilities needed.
- II. Describe about the procedure of ground handling of baggage and also to know about handling process, equipments, and technologies used.
- III. Explain about airport operation management, pavement management, rescue and safety hazards management..
- IV. Impart knowledge on basics of airport terminals, ATC, and control access in different airport areas.
- V. Apply the administrative and performance processes to get efficient output.

### **COURSE OUTCOMES (COs):**

- CO 1: Understand about the commercial airport operations, functions , planning and facilities needed
- CO 2: Describe about the procedure of ground handling of baggage and also to know about handling process, equipment's, and technologies used.
- CO 3: Explain about airport operation management, pavement management, resource, fire fighting, safety, hazardous materials handling managements.
- CO 4: Explore the airport terminal services, Air traffic control system, access system, Tele-communication, Meteorology, Aeronautical information system.
- CO 5: Outline the operational administration and performance related to airport monitoring, equipment's and human resource considerations.

### **COURSE LEARNING OUTCOMES (CLOs):**

1. Remember about the difference between general aviation and commercial airports.
2. Understand the hub and its types used in airport system.
3. D Describe airport planning and master plan.
4. Explain about forecasting, design alternatives and land use for the airport operations.
5. Remember ground, passenger and ramp handling procedure.
6. Understand departure, control methods and divisions of responsibilities.
7. Describe baggage handling process and equipment's requires for this purpose.
8. Explain about organization management and performance matrices
9. Remember airport operations and pavement management
10. Understand the aircraft rescue and firefighting system
11. Understand safety aspects like bird and wild life hazards management..
12. Remember the factors affecting the security at commercial and general aviation airport
13. Remember the airport technical services available in any airport.
14. Understand the Tele-communication, meteorology and airport access.
15. Remember the factors affecting airport access and its modes during airport operations.

<p>16. Understand the safety management system and Air Traffic control procedure.</p> <p>17. Understand the strategic and tactical administration of an airport.</p> <p>18. Remember the managing operations performance and its key factors.</p> <p>19. Understanding the factors of airport operations and control centers..</p> <p>20. Remember the best practices used for any commercial airport operations and future needs</p>		
<b>UNIT-I</b>	<b>THE AIRPORT AS AN OPERATIONAL SYSTEM</b>	<b>Classes: 10</b>
<p>Private airports and public use airports, commercial service airports and primary commercial service airports, general aviation airports, reliever airports; Hub classification, large hubs, medium hubs, small hubs, non-hubs; Components of an airport, airside, landside; Airport as a system, function of the airport complexity of airport operation; Airport planning: Airport system planning, airport master plan, airport layout plan- forecasting, facilities requirements, design alternatives. Financial plans, land use planning, environmental planning.</p>		
<b>UNIT-II</b>	<b>GROUND HANDLING AND BAGGAGE HANDLING</b>	<b>Classes: 10</b>
<p>Ground handling: Passenger handling; Ramp handling; Aircraft ramp servicing; Ramp layout; Departure control; Division of ground handling responsibilities; Control of ground handling efficiency; Baggage handling: Context, history and trends; Baggage handling processes; Equipment, systems and technologies, process and system design drivers; Organization; Management and performance metrics.</p>		
<b>UNIT-III</b>	<b>PASSENGER TERMINAL AND CARGO OPERATIONS</b>	<b>Classes: 9</b>
<p>Airport operations management: Introduction, pavement management, aircraft rescue and fire fighting (ARFF); Snow and ice control, safety inspection programs. Bird and wildlife hazard management; Airport security: Security at commercial service airports, security at general aviation airports; The future of airport security.</p>		
<b>UNIT-IV</b>	<b>AIRPORT TECHNICAL SERVICES AND ACCESS</b>	<b>Classes: 8</b>
<p>Airport technical services, The scope of technical services; Safety management system; Air traffic control. Tele-communications; Meteorology; Aeronautical information; Airport access. Access as part of the airport system, Access users and modal choice, Access interaction with passenger, Access modes, In town and other off; Airport terminals, Factors affecting access; Mode choice.</p>		
<b>UNIT-V</b>	<b>OPERATIONAL ADMINISTRATION AND PERFORMANCE</b>	<b>Classes: 8</b>
<p>Operational administration and performance: Strategic context; Tactical approach to administration of airport operations; Managing operational performance; Key success factors for high; Performance; Airport operations control centers: The concept of airport operations; airport operations control system; The airport operations consideration; Airport performance monitoring; Design and equipment considerations; Organizational and human resources considerations; Leading AOCCSs; Best practices in airport operations.</p>		
<b>Text Books:</b>		
<p>1. Norman J. Ashford, H. P. Martin Stanton, Clifton A. Moore, Pierre Coutu, —Airport Operations, McGraw Hill, 3<sup>rd</sup> Edition, 2013.</p> <p>2. R. Horonjeff, F. X. McKelvey, W. J. Sproule, S. B. Young, —Planning and Design of Airports, McGraw Hill, 5<sup>th</sup> Edition, 2010.</p>		

**Reference Books:**

1. A. Kazda, R. E. Caves, —Airport Design and Operationl, Elsevier, 2<sup>nd</sup> Edition, 2007.
2. A. T. Wells, S. B. Young, —Airport Planning and Managementl, McGraw Hill, 6<sup>th</sup> Edition, 2011.

**Web References:**

1. <https://memberfiles.freewebs.com/94/47/55224794/documents/airport%20planning%20and%20management.pdf>
2. <https://books.google.co.in/books?id=RZR6cu4YSBcC&dq=Planning%20and%20Design%20of%200%20Airports&source=gbssimilarbooks>