



COURSE OUTLINE : AT 128
D Credit – Degree Applicable
COURSE ID 001342
Cyclical Review: September 2020

COURSE DISCIPLINE : AT
COURSE NUMBER : 128
COURSE TITLE (FULL) : Airport Operations
COURSE TITLE (SHORT) : Airport Operations

CATALOG DESCRIPTION

AT 128 is an analytical lecture course which acquaints the student with practical airport administration problems that exist today. Completion of this course enables the student to perform and function effectively in any of the many diversified airport operations. Course coverage includes airport development, site selection, local advertising, financial considerations and benefits to the community. Aviation safety within the confines of the airport and airport maintenance are addressed. Students will become familiar with the Federal Aviation Administration and Federal Air Regulations governing airports as well as the National Transportation Safety Board.

Total Lecture Units: 3.00

Total Laboratory Units: 0.00

Total Course Units: 3.00

Total Lecture Hours: 54.00

Total Laboratory Hours: 0.00

Total Laboratory Hours To Be Arranged:0.00

Total Contact Hours: 54.00

Total Out-of-Class Hours: 108.00

Recommended Preparation: AT 120 or AT 130.



ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				None	No
2	AT	120	Private Pilot Ground School	Apply Federal Aviation Regulations to flight;	Yes
3	AT	120	Private Pilot Ground School	Express an understanding of aerodynamics and the science of flight;	No
4	AT	120	Private Pilot Ground School	Demonstrating basic engine operating principles;	No
5	AT	120	Private Pilot Ground School	Performing tasks of enroute communication procedures;	Yes
6	AT	120	Private Pilot Ground School	Demonstrating knowledge of weather theory;	Yes
7	AT	120	Private Pilot Ground School	Evaluating aviation weather information;	No
8	AT	120	Private Pilot Ground School	Developing the skills of navigation, including, radio, pilotage, and dead-reckoning.	Yes
9	AT	130	Air Transportation	Outline the history of air transportation.	Yes
10	AT	130	Air Transportation	Describe the federal interest in the development of airlines and the federal aid.	Yes
11	AT	130	Air Transportation	Define differences between scheduled, non-scheduled, and supplemental air carriers	Yes
12	AT	130	Air Transportation	Discuss equipment requirements.	Yes
13	AT	130	Air Transportation	State methods and sources from which income is derived.	Yes

EXIT STANDARDS

- 1 Identify an airport's classification in the FAA's National Plan of Integrated Airport Systems (NPIAS);
- 2 List the main forms of airport ownership;
- 3 Identify the primary airside and groundside components of an airport, describe how they impact the operation of the overall airport and interact with the national airspace system;
- 4 Explain when FAA Part 139 applies to airport operation and how it impacts the Airport Operating Plan;
- 5 Outline the purpose and elements of an airport master plan;
- 6 Describe the major environmental considerations related to airports;
- 7 Describe, in broad terms, how the history of aviation and aviation regulation impacts the industry's regulation in the current environment;
- 8 Relate current airport security practices and why they were implemented;
- 9 Identify typical airport tenants and describe how airports are often in the real estate property management business;



- 10 Articulate the importance of community engagement and customer service with all airport constituencies;
- 11 Detail routine maintenance issues & procedures.

STUDENT LEARNING OUTCOMES

- 1 Explain why airports are designed the way they are;
- 2 Discuss key airport regulations;
- 3 List primary airport operations, inspections, and maintenance.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Airport Classification <ul style="list-style-type: none"> • FAA National Plan of Integrated Airport Systems (NPIAS) <ul style="list-style-type: none"> ◦ Number of various types of airports ◦ Categories ◦ NPIAS Guiding Principles ◦ Legal & Organizational Structure ◦ Privatization 	4	0	4
2	Components of Airports and the Air Traffic System <ul style="list-style-type: none"> • Airports: Runways, taxiways, signs & lighting. • Airspace: Airspace classes, SUA, navigation aids & air routes • Air Traffic Control: Towers, TRACON, ARTCC, flight service. • Airport capacity, delay & demand management 	8	0	8
3	Airport Planning <ul style="list-style-type: none"> • National, Regional, State & Metropolitan Level Planning • Airport Master Plans <ul style="list-style-type: none"> ◦ General Aviation Airports ◦ Air Carrier Airports • Strategic Planning • Aviation Activity Forecasts 	4	0	4
4	Operations <ul style="list-style-type: none"> • Scheduled vs. unscheduled operations • FAA Part 139 Certification 	4	0	4



5	<p>Airport Design & Construction</p> <ul style="list-style-type: none"> • Construction Project Steps & Standards • "Design Aircraft" and Its Impact on Airport Design • Airport Design Standards • Terminal Layout Types • Airspace Imaginary Surfaces 	6	0	6
6	<p>Environmental & Maintenance Considerations</p> <ul style="list-style-type: none"> • Environmental <ul style="list-style-type: none"> ◦ Regulations ◦ Environmental Management System ◦ Noise Impacts ◦ Zoning & Easements ◦ Water Quality ◦ Air Quality • Maintenance <ul style="list-style-type: none"> ◦ Airside ◦ Landside ◦ Recordkeeping 	4	0	4
7	<p>Historical Overview of Aviation, Airports & Regulation</p> <ul style="list-style-type: none"> • How Far Aviation Has Come Since 1903 • Five Eras of Aviation <ul style="list-style-type: none"> ◦ Formative Period ◦ World War II & Postwar ◦ The Jet Age ◦ Deregulation ◦ Security 	4	0	4
8	<p>Safety & Security</p> <ul style="list-style-type: none"> • Safety <ul style="list-style-type: none"> ◦ Safety Considerations ◦ Public Protection ◦ Tenant, contractor & employee protection ◦ Aircraft fueling ◦ Driving on the movement area ◦ Safety Management System ◦ Emergency preparedness ◦ Lightning warning system • Security <ul style="list-style-type: none"> ◦ History of Aviation Security Incidents ◦ September 11, 2001 & its Impacts ◦ Transportation Security Administration ◦ Department of Homeland Security ◦ Security at Air Carrier Airports ◦ Security at General Aviation Airports 	4	0	4



9	<p>Marketing</p> <ul style="list-style-type: none"> • What is Marketing? • The 3 C's & 4 P's of Marketing • Key Marketing & Public Relations Goals of Airports • Airport Stakeholders - Internal & External 	2	0	2
10	<p>Government, Legal & Public Relations</p> <ul style="list-style-type: none"> • Governmental Relations • Industry Relations • Public Relations 	2	0	2
11	<p>Airport Real Estate Development & Leasing</p> <ul style="list-style-type: none"> • Airports as Landowners • Property Management • Commercial Development • Disadvantaged Business Enterprise Programs 	4	0	4
12	<p>Financial Management & Financing Methods</p> <ul style="list-style-type: none"> • Historical <ul style="list-style-type: none"> ◦ Income Statement ◦ Balance Sheet ◦ Statement of Cash Flows • Future <ul style="list-style-type: none"> ◦ Budget • Risk Management • Sources of Capital Development Funding • Economic Impact of Airports • Performance Management & Benchmarking 	4	0	4
13	<p>Future Challenges & Opportunities</p> <ul style="list-style-type: none"> • Airline Bankruptcies & Mergers • New, Large Aircraft • Capital Development Funding • Unfunded Federal Mandates • Passenger Leakage • Customer Service • Sustainability Initiatives • Airside Congestion • Unmanned Aircraft Systems 	4	0	4
				54



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OUT OF CLASS ASSIGNMENTS

- 1 trips to local airports;
- 2 tours of air traffic control centers;
- 3 tour of an airport fire department;
- 4 research projects (e.g. airport design and layout).

METHODS OF EVALUATION

- 1 midterm examination;
- 2 presentations (e.g. airport model);
- 3 final examination.

METHODS OF INSTRUCTION

- Lecture
- Laboratory
- Studio
- Discussion
- Multimedia
- Tutorial
- Independent Study
- Collaboratory Learning
- Demonstration
- Field Activities (Trips)
- Guest Speakers
- Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	ISBN	Date
Airport Management	Required	Aviation Supplies & Academics, Inc.	1	print	Prather, Daniel C.	978-1-61954-209-9	2015