APT A150: AIRCRAFT DISPATCHER

Item	Value
Curriculum Committee Approval Date	12/08/2021
Top Code	302020 - Piloting
Units	5 Total Units
Hours	90 Total Hours (Lecture Hours 90)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S)

Course Description

This course covers air transport topics assessed in the FAA Aircraft Dispatcher Knowledge examinations. It includes a detailed review and practical applications of the skills and knowledge required for Aircraft Dispatcher certification. Topics covered in this course will be Federal Aviation Regulations on airline operations, airline communications and meteorology, analyzing and/or calculating various flight factors such as weather reports and NOTAMs, aircraft/runway performance, weight and balance, ATC preferred routes, and distance and fuel needs to create and/or update flight plans. Meets requirements of 14 CFR 65.53. PREREQUISITE: APT A133, APT A134, and APT A139. COREQUISITE: APT A132 and APT A145. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. A student who successfully completes this class will be prepared to take the Federal Aviation Administration (FAA) Knowledge Test for Aircraft Dispatching.

Course Objectives

- 1. Exhibits adequate knowledge of the elements of flight planning and dispatch release(s) by preparing a flight plan, load manifest, take off data information, and dispatch release for a flight between designated points.
- 2. Understands and can explain elements of basic weather studies and weather theory, such as the Earths motion and its effects on weather
- 3. Demonstrates adequate knowledge of regional and local weather types, structures and characteristics of the atmosphere, application and briefing of the flight plan/dispatch release exercise, including— a. pressure. b. wind. c. clouds. d. fog. e. ice. f. airmasses. g. fronts.
- 4. Exhibits adequate knowledge of the elements of aviation weather information by obtaining, reading, and analyzing the applicable items, such as— a. Aviation weather reports and forecasts (ATIS, METAR, SPECI, TAF, FA, FD, CWSU, MIS, CWA, WH, AC, WW, AWW). b. Pilot and radar reports (PIREPS, SD, satellite weather imagery, RADATs). c. Surface analysis charts. d. Significant weather prognostic charts (SIG WX). e. Winds and temperatures aloft (FD). f. Freezing level charts (FD, RADATS, FA, surface analysis chart, constant pressure charts). g. Composite moisture stability charts. h. Weather depiction charts. i. Constant pressure analysis charts. j. Tables and conversion graphs. k. SIGMETs and AIRMETs (WS, WA, WST). l. NOTAMs/NOTAM systems.
- 5. Correctly analyzes the assembled weather information pertaining to the proposed route of flight and destination airport, and determines whether an alternate airport is required.
- 6. Demonstrates adequate knowledge of the elements of weather hazards by applying any appropriate performance penalties and corrections on the practice flight plan/dispatch release forms.
- 7. Exhibits adequate knowledge of the principles of flight for group one and group two aircraft, and the elements of performance limitations, including thorough knowledge of the adverse effects of exceeding any limitation.
- 8. Demonstrates proficient use and knowledge of appropriate aircraft performance charts, tables, graphs, or other data relating to aircraft performance.
- 9. Demonstrates adequate knowledge of navigation and aircraft navigation equipment and procedures.
- 10. Exhibits adequate knowledge, judgment, and authority to influence and prevent aircraft accidents/incidents through knowledge of the following elements: 1. DRM (dispatcher resource management) procedures. 2. Human factors, teamwork, communications, and information exchange. 3. Aeronautical decision-making. 4. Situational awareness, assessment, and problem solving. 5. Generation and evaluation of alternatives. 6. Contingency planning. 7. Human error and technology-induced error. 8. Support tools and technologies. 9. Tradeoffs and prioritization. 10. Individual and organizational factors. 11. Prevention, detection, and recovery from errors. 12. Company risk management procedures, as appropriate.
- 11. Demonstrates adequate knowledge of and can effectively locate the appropriate manuals, handbooks, and other resource materials required for dispatching aircraft.
- 12. Exhibits adequate knowledge of the elements of air traffic control, including: 1. ATC responsibilities. 2. ATC facilities and equipment. 3. Airspace classification and route structure. 4. Domestic flight plans. 5. International flight plans. 6. ATC separation minimums. 7. ATC flow control. 8. ATC traffic management. 9. ATC communications, protocol, and regulations. 10. Voice and data link communications. 11. DP/SID/ODP (Departure procedure, standard instrument departure, obstacle departure procedure). 12. Area Departures. 13. Terminal area charts, en route low/high charts. 14. Approved departure procedures and takeoff minimums. 15. Abnormal procedures.
- 13. Demonstrates adequate knowledge in the elements of airport operations, crew requirements and company procedures.
- 14. Demonstrates adequate knowledge of and skill to apply the following elements: 1. ATC routing. 2. ATC re-routing and company and crew communication requirements. 3. Re-filing of ATC Flight Plan. 4. Amended release procedures. 5. Inflight diversions. 6. Intermediate stops. 7. Alternate procedures. 8. Refueling and provisional airports. 9. Weather requirements for airports.
- 15. Demonstrates adequate knowledge of the elements and method of inflight communications.
- 16. Exhibits adequate knowledge of: 1. Area arrivals. 2. Transition routes and procedures. 3. Standard terminal arrival routes (STARs). 4. Instrument approach procedures (IAPs) and charts. 5. Precision approach procedures. a. CAT I ILS. b. CAT II ILS. c. CAT III ILS. d. ILS PRM (Precision Runway Monitor). e. PAR approach (Precision Approach Radar). 6. Non-precision approach procedures. 7. ATC separation minimums. 8. ATC priority handling.

- 17. Exhibits adequate knowledge of the elements of regulatory and company post-flight communication procedures and required company documents.
- 18. Demonstrates adequate knowledge of the elements of regulatory requirements and post flight disposition of the flight release, weight and balance, load manifest, weather documents, communications records, and other trip documents and reports.
- 19. Exhibits adequate knowledge and proficiency in the elements abnormal and emergency procedures.

Lecture Content

I. Flight Planning/Dispatch Release Task A: Regulatory Requirements Task B: Meteorology Task C: Weather Observations, Analysis, and Forecasts Task D: Weather-Related Hazards Task E: Aircraft Systems, Performance, and Limitations Task F: Navigation and Aircraft Navigation Systems Task G: Practical Dispatch Applications Task H: Manuals, Handbooks, and Other Written Guidance II. Preflight, Takeoff, and Departure Task A: Air Traffic Control Procedures Task B: Airports, Crew, and Company Procedures III. Inflight Procedures Task A: Routing, Re-Routing, and Flight Plan Filing Task B: En Route Communication Procedures and Requirements IV. Arrival, Approach, and Landing Procedures Task: ATC and Air Navigation Procedures V. Post-Flight Procedures Task A: Communication Procedures and Requirements Task B: Flight Documentation VI. Abnormal and Emergency Procedures Task: Abnormal and Emergency Procedures

Method(s) of Instruction

- Lecture (02)

Instructional Techniques

Lecture and application of ideas, slide and multimedia presentations, equipment and performance calculation demonstrations.

Reading Assignments

Reading assignments from course text books are required for each class period. (3 hours per week)

Writing Assignments

Short answer written homework assignments and navigational exercises. (3 hours per week)

Out-of-class Assignments

Written homework and reading assignments. (3 hours per week)

Demonstration of Critical Thinking

A. Written examinations based on FAA Aircraft Dispatcher Knowledge Exam B. Homework (aircraft performance, regulations, and weather) C. Problem solving exercises (navigation calculations) D. Verbal quizzing

Required Writing, Problem Solving, Skills Demonstration

Short answer written homework assignments and examinations throughout the course.

Eligible Disciplines

Aviation (flight, navigation, ground school, air traffic control): Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience.

Textbooks Resources

1. Required Flannery, P., S.. Aircraft Dispatcher: Book of Knowledge, Vol 1 ed. CreateSpace Independent Publishing Platform, 2014