APT A145: AIRLINE TRANSPORT PILOT GROUND

Item	Value
Curriculum Committee Approval Date	12/09/2020
Top Code	302020 - Piloting
Units	3 Total Units
Hours	54 Total Hours (Lecture Hours 54)
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

Advanced course which prepares pilots or aircraft dispatchers for the Airline Transport Pilot FAA knowledge test. Course covers those areas of aeronautical knowledge defined under Federal Aviation Regulation Part 61.155 with an emphasis on aircraft loading, weight and balance, use of charts, graphs, tables, formulas and computations, and their effect on aircraft performance. PREREQUISITE: APT A130. ADVISORY: APT A139. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Explain the operation of turbine aircraft systems.
2. Explain balanced field length and the use of V speeds in turbine aircraft performance planning.
3. Complete the FAA knowledge test for Airline Transport Pilot.

Course Objectives

- 1. Describe high speed aircraft control theory
- 2. Compute aircraft loading and weight and balance through the use of charts, tables, graphs and formulas and determine the affect on aircraft performance.
- 3. Describe applicable Federal Aviation Regulations as they apply to airline transport pilot privileges, limitations and flight operations.
- 4. Explain the effects of frontal weather, icing and upper air data.
- 5. Explain the general system of NOTAM collection, dissemination, interpretation and use.
- 6. Interpret weather charts, maps, forecasts, sequence reports, abbreviations and symbols.
- 7. Explain National Weather Service functions as they pertain to operations in the National Airspace System.
- 8. Describe wind shear and microburst identification and avoidance.
- 9. Demonstrate principles of air navigation under instrument flight rules in the National Airspace System.
- 10. Explain air traffic control procedures and pilot responsibilities as they relate to enroute operations, terminal area and radar operations, and instrument departure and approach procedures.
- 11. Explain the affects of human factors and physiology, aeronautical decision making and Crew Resource Management in the flight environment.

Lecture Content

Transport Category Aircraft Systems Anti-ice and rain - window, wing, engine APUs Flight Controls High Lift Devices Landing Gear Propellor systems Miscellaneous - door, lights, cargo compartments, water, lavs Transport Category Aircraft Aerodynamics Swept wing aerodynamics Effects of gross weight on maneuverability Flight in the region of reverse command Angle of attack Trannsport Category Aircraft Performance Takeoff Performance Critical field length Climb Performance Category I, II and II takeoff operations Effect of gross weight on range and cruise performance Landing performance Category I, II, IIIa, IIIb ILS approaches Brake energy limits Transport Category Aircraft Weight and Balance Federal Aviation Regulations that relate to Airline Transport Pilot privileges, limitations and flight operations High altitude operations

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)

Instructional Techniques

Lecture and application of ideas, slide and multimedia presentations, equipment demonstrations

Reading Assignments

Textbook reading and information supplements on Blackboard/Canvas will apply as required reading assignments.

Writing Assignments

Short answer written homework assignments will be used to demonstrate writing proficiency. As a final examination the student will be required to take a written test representative of the actual FAA Private Pilot written examination.

Out-of-class Assignments

Weekly take-home projects, homework, and flight planning assignments will apply as required out-of-class assignments.

Demonstration of Critical Thinking

Written examinations Homework. Problem solving exercises

Required Writing, Problem Solving, Skills Demonstration

Short answer written homework assignments will be used to demonstrate writing proficiency. As a final examination the student will be required to take a written test representative of the actual FAA Private Pilot written examination.

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. 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 Federal Aviation Administration. FAR/AIM, Current ed. Newcastle, WA: ASA Publications, 2014 2. Required Federal Aviation

Administration. Test Prep 2014: Airline Transport Pilot, Current ed. Newcastle, WA: ASA Publications, 2014