

Lassen Community College Course Outline

FS-26 - Basic Air Operations (S-270)

1.0 Units

I. Catalog Description

This course covers aircraft types and capabilities, aviation management and safety, tactical and logistical uses of aircraft, and requirements for helicopter take-off and landing areas.

Recommended Preparation: Successful completion of ENGL105 or equivalent multiple measures placement.

Transfers to CSU only

17 Hours Lecture, 34 hours outside study: 51 Hours Total Student Learning

Scheduled: Spring (Even), Or upon agency request

II. Coding Information

Repeatability: Not Repeatable, Take 1 Time

Grading Option: Graded only

Credit Type: Credit - Degree Applicable

TOP Code: 213300

III. Course Objectives

A. Course Student Learning Outcomes

1. Describe the ICS criteria for typing aircraft.
2. Describe safety procedures to be followed while flying in or working with agency aircraft.
3. Describe correct procedures related to aircraft operations.
4. Describe tactical and logistical uses of aircraft.

B. Course Objectives

1. Describe the ICS criteria for typing aircraft.
2. Describe safety procedures to be followed while flying in or working with agency aircraft.
3. Describe how density altitude, ground effect, and translational lift affect aircraft performance.
4. Describe pilot and aircraft certification procedures.
5. Describe the importance of flight planning and flight following.
6. Describe correct procedures for loading cargo, transporting passengers, and emergency landing.
7. Describe correct procedures for reporting aviation mishaps.
8. Describe tactical and logistical uses of aircraft.
9. Describe safety procedures to be followed by ground personnel during water and retardant drops.

IV. Course Content

A. Aircraft Types and Capabilities

- A. Define general categories of aircraft used in fire suppression.
- B. List the four (4) types of helicopters and the criteria that make up each type.
- C. List the four (4) types of air tankers and the criteria that make up each type.

- D. Define density altitude, ground effect, translational lift, and describe how these factors affect aircraft performance.
- E. Calculate density altitude from density altitude chart when given elevation and temperature.
- B. Aviation Management and Safety
 - 1. Describe federal agency pilot and aircraft certification procedures.
 - 2. Describe the importance of flight planning in flight following for aircraft missions.
 - 3. Specify correct aircraft loading and offloading procedures for personnel and cargo.
 - 4. List ten (10) hazardous situations involving aircraft and describe collective action for each.
 - 5. Describe the procedure for reporting aviation mishaps.
- C. Aircraft Missions
 - 1. Define and describe tactical and logistical aircraft use.
 - 2. Describe safety procedures to be observed during water, foam or retardant dropping operations.
 - 3. Describe the proper procedure to follow if caught by surprise in a fire retardant drop zone.
 - 4. List six (6) factors that must be considered by fire management personnel prior to the use of retardant aircraft.
 - 5. Describe six (6) indicators of effective retardant drops.
 - 6. List six items of information needed prior to contacting an aircraft for water or retardant drops.
 - 7. List three basic target references and three stages of pilot target orientation.
 - 8. List three instances when radio silence with aircraft is maintained.
- D. Helicopter Take-Off and Landing Areas
 - 1. Define the four (4) types of landing areas used in helicopter operations.
 - 2. Identify the critical elements of helicopter landing area locations
 - 3. Identify the major components and approximate dimensions of a Heli-spot.
 - 4. When shown slides of helicopter landing areas during a class discussion, demonstrate the ability to recognize good and bad areas according to standards for planning, location, and construction.

V. Assignments

A. Appropriate Readings

“Basic Aviation Safety” publication (NFES 2097)

B. Writing Assignments

Handouts

C. Expected Outside Assignments

(Required for all degree-applicable courses; need two hours outside for every one hour in class, none required for all lab classes): Read “Basic Aviation Safety” and other class related material.

D. Specific Assignments that Demonstrate Critical Thinking (required for all degree applicable courses):

Evaluate scenarios and determine the best course of action.

Analysis of information to determine safety procedures are followed for load calculations.

VI. Methods of Evaluation

Traditional Evaluation

Unit tests and final exam

VII. Methods of Delivery

Check those delivery methods for which, this course has been separately approved by the Curriculum/Academic Standards Committee.

Traditional Classroom Delivery Correspondence Delivery

Hybrid Delivery

Online Delivery

Traditional Classroom Delivery

Lecture, discussion, audio/visual aids, demonstration, group exercises, guest speakers, lab, individualized programs and other as needed.

VIII. Representative Texts and Supplies

Basic Air Operations S-270, Student Workbook and Handbook, 2011, NFES 2034.
Incident Response Pocket Guide (IRPG), PMS 461 2022 edition

IX. Discipline/s Assignment

Fire Technology

X. Course Status

Current Status: Active

Original Approval Date: 5/21/1996

Revised By: Dan Weaver

Latest Curriculum/Academic Standards Committee Revision Date: 10/04/2022