

COURSE OUTLINE

Aviation and Transportation 115 Commercial Flight Training

I. Catalog Statement

Aviation and Transportation 115 is a flight training laboratory course preparing the student for the Federal Aviation Administration Commercial Pilot Practical Examination. Topics addressed include: operation of complex and high-performance aircraft including the use of constant-speed propellers and retractable landing gear, maximum performance takeoffs and landings, steep turns, chandelles, lazy eights, and eights on pylons. Students will log fifteen hours of complex aircraft time.

Units: 4.0

Lecture Hours: 2.0

Lab Hours: 6.0 (Faculty Laboratory Hours: 4.0 + Student Laboratory Hours: 2.0 =
6.0 Total Laboratory Hours)

Prerequisites:

1. AT 114 or possession of Federal Aviation Administration Private Pilot Certificate (airplane, single-engine land) with instrument rating, and;
2. Minimum of 200 hours of total flight time, and;
3. AT 135 or proof of satisfactory completion of the Federal Aviation Administration Commercial Pilot Knowledge Examination (AT 135 may be taken concurrently).

II. Course Entry Expectations

Skill Level Ranges: Reading 5; Writing 5; Listening/Speaking 5; Mathematics 3.

Prior to enrolling in the course, the student should be able to:

1. pilot a single engine and land airplane solely by instrument reference;
2. maintain slow flight and be able to recover from stalls solely by instrument reference;
3. conduct precision and non-precision instrument approaches;
4. recover from unusual attitudes by reference to instruments;
5. enter and maintain holds and Distance Measuring Equipment (DME) arcs;
6. recognize and adapt to instrument failures;
7. plan and execute Instrument Flight Rule (IFR) cross-country flights;
8. recognize the development of visual flight concepts in comparison to those of instrument flight.

III. Course Exit Standards

Upon successful completion of the required coursework, the student will be able to:

1. operate a complex single engine airplane;
2. operate constant speed propeller systems;
3. operate retractable landing gear systems;
4. perform maximum performance takeoffs and landings in complex aircraft;
5. perform steep turns in complex aircraft;
6. perform chandelles;
7. perform lazy eights;
8. perform eights on pylons.

IV. Course Content**Total Faculty Contact Hours:**

A. Complex aircraft systems	2 hours
1. Constant speed propellers	
2. Retractable landing gear	
B. Review of four fundamentals	2 hours
1. Climbs	
2. Descents	
3. Straight and level	
4. Turns	
C. Steep turns	2 hours
D. Chandelles	2 hours
E. Lazy eights	2 hours
F. Eights on pylons	2 hours
G. Short field takeoffs and landings	2 hours
H. Soft field takeoffs and landings	2 hours
I. Federal Aviation Administration oral examination preparation	5 hours
1. Airspace system	
2. Airplane weight and balance	
3. Airplane performance	
4. Complex airplane systems	
a. constant-speed propellers	
b. retractable landing gear	
5. Flight planning	
J. Cross-country and emergency procedures	4 hours
K. Individualized practice as needed	4 hours
L. Simulated FAA checkride	3 hours

M. Assigned laboratory hours

64 hours

V. Method of Instruction

The following instructional methodologies may be used in the course:

1. classroom lecture and demonstration;
2. flight lessons in airplane;
3. student observation of flight lesson in airplane;
4. student practice in airplane.

VI. Out of Class Assignments

The following out of class assignments may be used in this course:

1. written examinations following each module;
2. successful completion of FAA private pilot certificate examination;
3. take off and landings utilizing area airports.

VII. Methods of Evaluation

The following methods of evaluation may be used in this course:

1. daily verbal evaluation by instructor;
2. three phase checks during semester;
3. FAA 60 question computer-generated examination.

All maneuvers will be completed within the acceptable parameters dictated by the Federal Aviation Administration Commercial Pilot Practical Test Standards.

VIII. Textbooks:

No text required.

IX. Student Learning Outcomes:

1. Student will operate a complex single engine airplane with constant speed propeller systems.
2. Student will perform maximum performance takeoffs and landings in complex aircraft.
3. Student will demonstrate lazy eights, chandelles, eights on pylons, steep turns.