Arapahoe Flight Club

Colorado Springs, CO.

Airplane Multi Engine Rating, Additional Category/Class,

Commercial Multi Engine Land

COURSE SYLLABUS

Revision 1

30 January, 2020

COURSE DESCRIPTION

This training syllabus is designed to meet all the curriculum requirements for Airplane Multi Engine Land rating and Commercial Multi Engine Land per Part 61.127. Rating Requirements. The flight lessons are designed to Airman Certification Standards and cover 15.4 hours in 8 lessons to include 20 hours of ground training. The flight lesson plan is summarized below:

FLIGHT / GROUND LESSON HOUR SUMMARY		
Flight/Ground Lesson	**Dual**	**Dual Cross Country**
G 1	2.0	
F 1	1.5	
G 2	1.5	
F 2	1.5	
F 3	1.5	
F 4	1.5	
F 5	2.0	2.0
F 6	2.0	
F 7	2.0	2.0
F 8	3.0	
F 9	2.0	
F 10	2.0	
F 11	1.5	
Total	**Flight =20.5** **Ground =3.5**	**Dual Cross country=4.0**

OBJECTIVE

The lesson plans are designed to quickly and efficiently prepare the student for an Airplane Multi Engine Rating / Commercial Multi Engine Land. The Completion standards will be to ACS standards and by the end of the course, the student will have completed the following requirements by the FAA in the Commercial ACS standards

COURSE ELIGIBILITY

To be eligible for enrollment the student must hold a current Commercial Pilot certificate with a minimum of Airplane Single Engine land and or a Rotorcraft Helicopter certificate. Additionally, the student must already have an instrument rating. Lastly, the pilot must have at least a current Third Class medical certificate within the first two weeks of training.

For an airplane multiengine rating. Except as provided in paragraph (i) of this section, a person who applies for a commercial pilot certificate with an airplane category and multiengine class rating must log at least 250 hours of flight time as a pilot that consists of at least:

(1) 100 hours in powered aircraft, of which 50 hours must be in airplanes.

(2) 100 hours of pilot-in-command flight time, which includes at least—

(i) 50 hours in airplanes; and

(ii) 50 hours in cross-country flight of which at least 10 hours must be in airplanes.

(3) 20 hours of training on the areas of operation listed in §61.127(b)(2) of this part that includes at least—

(i) Ten hours of instrument training using a view-limiting device including attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, and intercepting and tracking navigational systems. Five hours of the 10 hours required on instrument training must be in a multiengine airplane;

(ii) 10 hours of training in a multiengine complex or turbine-powered airplane; or for an applicant seeking a multiengine seaplane rating, 10 hours of training in a multiengine seaplane that has flaps and a controllable pitch propeller, including seaplanes equipped with an engine control system consisting of a digital computer and associated accessories for controlling the engine and propeller, such as a full authority digital engine control;

(iii) One 2-hour cross country flight in a multiengine airplane in daytime conditions that consists of a total straight-line distance of more than 100 nautical miles from the original point of departure;

(iv) One 2-hour cross country flight in a multiengine airplane in nighttime conditions that consists of a total straight-line distance of more than 100 nautical miles from the original point of departure; and

(v) Three hours in a multiengine airplane with an authorized instructor in preparation for the practical test within the preceding 2 calendar months from the month of the test.

(4) 10 hours of solo flight time in a multiengine airplane or 10 hours of flight time performing the duties of pilot in command in a multiengine airplane with an authorized instructor (either of which may be credited towards the flight time requirement in paragraph (b)(2) of this section), on the areas of operation listed in §61.127(b)(2) of this part that includes at least—

(i) One cross-country flight of not less than 300 nautical miles total distance with landings at a minimum of three points, one of which is a straight-line distance of at least 250 nautical miles from the original departure point. However, if this requirement is being met in Hawaii, the longest segment need only have a straight-line distance of at least 150 nautical miles; and

(ii) 5 hours in night VFR conditions with 10 takeoffs and 10 landings (with each landing involving a flight with a traffic pattern) at an airport with an operating control tower.

61.127(b)(2)

(2) For an airplane category rating with a multiengine class rating:

(i) Preflight preparation;

(ii) Preflight procedures;

(iii) Airport and seaplane base operations;

(iv) Takeoffs, landings, and go-arounds;

(v) Performance maneuvers;

(vi) Navigation;

(vii) Slow flight and stalls;

(viii) Emergency operations;

(ix) Multiengine operations;

(x) High-altitude operations; and

(xi) Post flight procedures.

Comm MEL training Plan

GL 1- Intro to ME aircraft (new terms (Vmc, Vyse etc), systems, critical engine) pre-flight (2.0)
Objective: To become familiar with the new terms, systems and procedures for operation of a multi engine aircraft.

Task: Learn and review the terms and procedures required for operation of a multi engine aircraft. Conduct an instructor familiarization and pre-flight of a multi engine aircraft in order to determine if the aircraft is safe for operation.

Conditions: In a classroom and hangar environment given the proper materials and a multi engine aircraft.

Standards: The student will display the initial ability to associate the new terms and systems with operational phases of flight in a multi engine aircraft as well as the conduct a guided pre-flight of a multi engine aircraft with an instructor.

FL 1- Pre-flight, start/before taxi and take off checks, asymmetric thrust maneuvering, runway directional control, normal T/O and climb, maneuvering familiarity, steep turns, slow flight, stalls, at least 2 normal landings (1.5)

Objective: Application of the knowledge gained in GL 1 in preparation for flight and conduct a familiarization flight in a multi engine aircraft.

Task: Conduct a supervised pre-flight of a multi engine aircraft in preparation for flight operations and a familiarization flight while displaying the use of, and understanding of the knowledge acquired in GL 1.

Conditions: In suitable weather for VFR flight and a multi engine aircraft suitable for flight operations.

Standards: Conduct a supervised pre-flight and familiarization flight with satisfactory knowledge and application of the associated terms and systems associated with multi engine aircraft.

GL 2- Calculate rotation, accelerate stop/go, Vmc, single engine performance, weight and balance for twins, emergency operations (single engine) (1.0)

Objective: To become familiar with and able to determine performance characteristics associated with multi engine aircraft.

Task: Determine performance characteristics required for safe operation of a multi engine aircraft

Conditions: In a classroom environment given the proper materials and instruction.

Standards: The student will display the ability to calculate the performance of a multi engine aircraft as it pertains to take offs, en-route and landings required to conduct a safe flight operations

FL 2- pre-flight, start/before taxi and take off checks, T/O roll emergencies, normal T/O and climb, steep turns, slow flight, stalls, Intro to single engine ops (immediate actions), normal/short field landings x 2 (1.5)

Objective: Application of the knowledge gained in GL 1/2 and FL 1 in preparation for and conduct of flight in a multi engine aircraft.

Task: Display knowledge of planned performance and conduct a supervised pre-flight of a multi engine aircraft in preparation for flight operations by demonstrating understanding of the knowledge acquired in GL 1/2 and FL 1.

Conditions: In suitable weather for VFR flight and a multi engine aircraft suitable for flight operations.

Standards: Conduct a supervised pre-flight and flight lesson with satisfactory knowledge of the associated terms, systems and performance characteristics associated with multi engine aircraft.

FL 3- Pre-flight, start/before taxi and take off checks, T/O roll emergencies, normal T/O and climb, steep turns, single engine ops (immediate actions), drag demo, Vmc, Instrument approach, normal/short field landings x 2, Single engine from downwind (1.5)

Objective: Application of the knowledge gained in previous flight and ground lessons in preparation for and conduct of flight in a multi engine aircraft.

Task: Display knowledge of planned performance and conduct a supervised pre-flight, apply the proper procedures IAW the aircraft quick reference checklist of a multi engine aircraft in preparation for flight operations by demonstrating understanding of the knowledge acquired in previous flight and ground lessons.

Conditions: In suitable weather for VFR flight and a multi engine aircraft suitable for flight operations.

Standards: Conduct a supervised pre-flight and flight lesson with satisfactory knowledge of the associated terms, systems and performance characteristics and procedures associated with multi engine aircraft.

FL 4- Pre-flight, start/before taxi and take off checks, T/O roll emergencies, normal T/O and climb, steep turns, single engine ops (immediate actions), Vmc, single engine instrument approach, normal/short field t/o and landings x 2 (1.5)

Objective: Application of the knowledge gained in previous flight and ground lessons in preparation for and conduct of flight in a multi engine aircraft.

Task: Display knowledge of planned performance and conduct a supervised pre-flight, apply the proper procedures IAW the aircraft quick reference checklist of a multi engine aircraft in preparation for flight operations by demonstrating understanding of the knowledge acquired in previous flight and ground lessons.

Conditions: In suitable weather for VFR flight and a multi engine aircraft suitable for flight operations.

Standards: Conduct an unsupervised pre-flight followed by a flight lesson with satisfactory knowledge of the associated terms, systems and performance characteristics and procedures associated with multi engine aircraft.

FL 5- day X/C 100nm (2.0) single engine instrument approach

Objective: Cross country planning and application of the knowledge gained in previous flight and ground lessons for flight operations in a multi engine aircraft during daylight.

Task: Conduct a day cross country flight in a multi engine aircraft to an airport not less than 100 nm from the departure airport and conduct a visual/instrument single engine approach and landing.

Conditions: In suitable weather for VFR flight and a multi engine aircraft suitable for flight operations.

Standards: Conduct cross country flight planning and associated performance calculations for the instructor designated destination airport and suitable en-route alternate airports. Perform an unsupervised pre-flight followed by a VFR day flight with satisfactory knowledge of the associated terms, systems and performance characteristics and procedures associated with multi engine aircraft flight operations.

FL 6- pre-flight, start/before taxi and take off checks, T/O roll emergencies, normal T/O and climb, steep turns, Vmc, single engine ops (immediate actions and shut down/restart, sim 0 thrust), single engine instrument approach, normal/short field t/o and landings x 2, Single engine from downwind (2.0)

Objective: Application of the knowledge gained in previous flight and ground lessons in preparation for and conduct of flight in a multi engine aircraft.

Task: Display knowledge of planned performance and conduct a supervised pre-flight, apply the proper procedures IAW the aircraft quick reference checklist of a multi engine aircraft in preparation for flight operations by demonstrating understanding of the knowledge acquired in previous flight and ground lessons.

Conditions: In suitable weather for VFR flight and a multi engine aircraft suitable for flight operations.

Standards: Conduct an unsupervised pre-flight followed by a flight lesson with satisfactory knowledge of the associated terms, systems and performance characteristics and procedures associated with multi engine aircraft.

FL 7- night X/C 100nm (2.0)

Objective: Cross country planning and application of the knowledge gained in previous flight and ground lessons for flight operations in a multi engine aircraft during the period of darkness.

Task: Conduct a night cross country flight in a multi engine aircraft to an airport not less than 100 nm from the departure airport and conduct a visual approach and landing.

Conditions: In suitable weather for night VFR flight and a multi engine aircraft suitable for flight operations.

Standards: Conduct cross country flight planning and associated performance calculations for the instructor designated destination airport and suitable en-route alternate airports. Perform an unsupervised pre-flight followed by a VFR night flight with satisfactory knowledge of the associated terms, systems and performance characteristics and procedures associated with multi engine aircraft and night flying operations.

FL 8- night 10 takeoffs and landings at a tower controlled field (3.0)

Objective: Application of the knowledge gained in previous flight and ground lessons for flight operations in a multi engine aircraft during the period of darkness while gaining proficiency in night time take-off and landing operations at a towered airport.

Task: Conduct a night flight with 10 take offs and landings at a towered airport in a multi engine aircraft.

Conditions: In suitable weather for night VFR flight, a multi engine aircraft suitable for flight operations and an airport/s with an operating control tower.

Standards: Conduct night flight planning and associated performance calculations for the airport/s to be used. Perform an unsupervised pre-flight followed by a VFR night flight with satisfactory completion of 10 take offs and landing at an airport with an operating control tower while demonstrating the knowledge of the associated terms, systems and performance characteristics and procedures associated with multi engine aircraft and night flying operations.

FL 9- Pre-flight, start/before taxi and take off checks, T/O roll emergencies, normal T/O and climb, steep turns, accelerated stall, Vmc, single engine ops (immediate actions and sim 0 thrust), single engine instrument approach, normal/short field t/o and landings x 2 (2.0)

Objective: Application of the knowledge gained in previous flight and ground lessons in preparation for and conduct of flight in a multi engine aircraft.

Task: Display knowledge of planned performance and conduct a supervised pre-flight, apply the proper procedures IAW the aircraft quick reference checklist of a multi engine aircraft in preparation for flight operations by demonstrating understanding of the knowledge acquired in previous flight and ground lessons.

Conditions: In suitable weather for VFR flight and a multi engine aircraft suitable for flight operations.

Standards: Conduct an unsupervised pre-flight followed by a flight lesson with satisfactory knowledge of the associated terms, systems and performance characteristics and procedures associated with multi engine aircraft.

FL 10- Pre-flight, start/before taxi and take off checks, T/O roll emergencies, normal T/O and climb, steep turns, accelerated stall, Vmc, single engine ops (immediate actions and shut down/restart, sim 0 thrust), single engine instrument approach, normal/short field t/o and landings x 2, Single engine from downwind (2.0)

Objective: Application of the knowledge gained in previous flight and ground lessons in preparation for and conduct of flight in a multi engine aircraft.

Task: Display knowledge of planned performance and conduct a supervised pre-flight, apply the proper procedures IAW the aircraft quick reference checklist of a multi engine aircraft in preparation for flight operations by demonstrating understanding of the knowledge acquired in previous flight and ground lessons.

Conditions: In suitable weather for VFR flight and a multi engine aircraft suitable for flight operations.

Standards: Conduct an unsupervised pre-flight followed by a flight lesson with satisfactory knowledge of the associated terms, systems and performance characteristics and procedures associated with multi engine aircraft.

FL 11- Chief Pilot check (1.5)

      Objective: Application of the knowledge gained in previous flight and ground lessons for conduct of flight in a multi engine aircraft in preparation for and recommendation to take the Commercial Airplane Multi Engine Land Practical Test.

      Task: Display knowledge of planned performance and conduct a unsupervised pre-flight, apply the proper procedures IAW the aircraft quick reference checklist of a multi engine aircraft in preparation for flight operations by demonstrating understanding of the knowledge acquired in previous flight and ground lessons within the parameters described in the Multi Engine Airman's Certification Standards.

      Conditions: In suitable weather for VFR flight and a multi engine aircraft suitable for flight operations.

      Standards: Conduct an unsupervised pre-flight followed by a flight check with satisfactory knowledge of the associated terms, systems and performance characteristics and procedures associated with multi engine aircraft. Perform all assigned maneuvers and procedures within the parameters described in the Multi Engine Airman's Certification Standards.