COURSE OUTLINE

AVI 251  
Course Number

Airline Transport Pilot (ATP) Prep II  
Course Title

3  
Credits

Hours: 1 / 1
Lecture/Laboratory

Pre-requisite:  AVI 216, AVI 250  
Airplane Multi-Engine Land Commercial  
Pilot Instrument Rating

Co-requisite: none

Catalog description:
An independent study course involving self-study, ground instruction, use of simulation devices, and flight training. Students will develop the proficiency, knowledge and skills to complete the required day and night, VFR and IFR, cross-country hours for graduation of the ATP Prep Certificate Program. This training and assessment consists of 49.5 hours in Single-Engine and Multi-Engine aircraft.

FEE REQUIRED

Required texts/other materials:
- Airman's Information Manual: Department of Transportation, Federal Aviation Administration
- Flight Navigator Handbook: Department of Transportation, Federal Aviation Administration (FAA-H-8083-18)
- Owner's Manual for Aircraft Used or Pilots Information Handbook
- Navigation Logs
- E6B Calculator (electronic or manual)
- Current Sectional Chart and Chart Supplement: Department of Transportation, Federal Aviation Administration
- Current IFR Charts and Approach Procedures

Last revised: Nov 2017

Course coordinator: Judith L. Stillwagon

Information resources:
There are Federal Aviation Administration databases, websites such as www.faa.gov, periodicals such as Space Technology, Aviation Weekly, AOPA Pilot, Flight Training Magazine and manuals such as William K. Kershner, The Advanced Pilot’s Flight Manual which may be utilized as additional information sources.

**Other learning resources:**

One-on-one instruction with students from Flight Instructors. Other resources will include: faculty, staff and the Aviation Flight Department.

**Course Goals:**

The course goals are:

1. Revise and reinforce the skills of VFR Day and Night navigation through dual instruction.
2. Revise and reinforce the skills of IFR Navigation through dual instruction.
3. Practice essential elements of both day and night VFR and IFR navigation through solo consolidation.
4. Introduce the concept of multi-crew cockpit workload and crew cockpit resource management, on multi-sector flights through dual instruction.
5. Practice the essential elements of crew cockpit resource management through mutual student flying.
6. Reinforce the skills of IFR Multi-Engine and IFR Navigation through dual instruction.
7. Introduce and practice the elements of advanced long-range navigation techniques.

*This Block and the course are complete when:*

- The student can demonstrate a complete understanding of all VFR and IFR navigation knowledge, procedures and techniques both day and night, as stipulated in the current FAA Instrument Airman Certification Standards and Airline Transport Pilot Single-Engine and Multi-Engine Land Practical Test Standards,
- The student’s performance meets or exceeds the minimum requirements outlined in the current FAA Instrument Airman Certification Standards and Airline Transport Pilot Single-Engine and Multi-Engine Land Practical Test Standards.

### GENERAL EDUCATION GOALS AND OBJECTIVES

<table>
<thead>
<tr>
<th></th>
<th>MCCC General Education Goals &amp; Objectives</th>
<th>Activities, projects, assignments, and exams that evaluate student learning of the course’s General Education goals and objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>1. Communication -- English Language: Students will communicate effectively in both speech and writing.</td>
<td>Students will comprehend and evaluate their performance, describe in writing the Stage Check requirements and outcomes. By practicing Commercial and Instrument Navigation Procedures the student will refine their kinesthetic and other senses for these maneuvers. Communication with ATC, Flight Service Station Personnel, and their Flight Instructors will formulate ideas necessary for completion of flight.</td>
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<tr>
<td>✓</td>
<td>1.1. Students will comprehend and evaluate what they read, hear and see.</td>
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<tr>
<td>✓</td>
<td>1.2. Students will state and evaluate the views and findings of others.</td>
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<tr>
<td>✓</td>
<td>1.3. Students will write and speak clearly and effectively in standard American English.</td>
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<tr>
<td>✓</td>
<td>1.4. Students will logically and persuasively state and support orally and in writing their points of view or findings.</td>
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<td>1.5. Students will evaluate, revise and edit their communication.</td>
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<td>1.6. Students will develop an understanding of sensory communication and other forms of non-verbal communication.</td>
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<td>2. Communication -- Foreign Language: Students will have the opportunity to develop competence in a Foreign Language.</td>
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<td>2.1 Students will learn basic vocabulary, grammar and everyday conversation in a foreign language.</td>
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<td>2.2 Students will recognize the uniqueness of foreign countries, their people and their cultures.</td>
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<td>2.3 Students will gain a measure of facility at interaction in a foreign language on topics involving that language's history, its cultural and historical context, and current issues of interest to native speakers of the language.</td>
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<td>3. Critical thinking, problem solving and information literacy: Students will use critical thinking and problem solving skills in analyzing information gathered through different media and from a variety of sources.</td>
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<td>3.1. Students will identify a problem and analyze it in terms of its significant parts and the information needed to solve it.</td>
<td>Students will be able to assess and analyze their abilities to complete a flight based upon weather, aircraft, mechanical condition, fuel requirements and their health condition.</td>
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<td>3.2. Students will use appropriate library tools such as cataloging systems to access information in reference publications, periodicals, bibliographies and databases.</td>
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<td>3.3. Students will use computers to access, analyze or present information, solve problems, and communicate with others.</td>
<td>Weather analysis will be facilitated by the use of on-line weather, in addition to weather briefings from other sources, for a go/no-go decision. Students will be able to formulate plans to fly different routes of flight depending upon weather, external factors and flight requirements, and be able to defend their decisions logically.</td>
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<td>3.4. Students will formulate and evaluate possible solutions to problems, and select and defend the chosen solutions.</td>
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<td>3.5. Students will recognize weaknesses in arguments, such as the use of false or disputable premises, suppression of contrary evidence, faulty reasoning, and emotional loading.</td>
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<td>4. Ethical dimension: Students will recognize, analyze and assess ethical issues and situations.</td>
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<td>4.1. Students will identify ethical implications of an issue or a situation.</td>
<td>Based upon the code of Federal Regulations for Aviation, the student will be able to evaluate and formulate protocols that determine whether a flight can be started and completed. They will analyze situations and evaluate different courses of action in order to arrive at ethical, logical and safe decisions.</td>
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<td><strong>✓</strong></td>
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<td>4.2. Students will analyze and evaluate the strengths and weaknesses of different perspectives on an ethical issue or a situation.</td>
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<tr>
<td>4.3. Students will integrate their knowledge, take a position on an ethical issue or a situation, and defend it with logical arguments.</td>
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<td>5. Quantitative skills: Students will apply appropriate mathematical and statistical concepts and operations to interpret data and to solve problems.</td>
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<tr>
<td>5.1. Students will translate quantifiable problems into mathematical terms and solve these problems using mathematical or statistical operations.</td>
<td>Students will be able to interpret and analyze performance characteristics to determine whether or not it would be safe to fly.</td>
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<tr>
<td><strong>✓</strong></td>
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<td>5.2. Students will construct graphs and charts, interpret them, and draw appropriate conclusions.</td>
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<td>6. Science and technology: Students will apply the scientific method of inquiry to draw conclusions based on verifiable evidence, use scientific theories and knowledge to understand the natural world, and explain the impact of scientific theories, discoveries and technological changes on society.</td>
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<tr>
<td>✓ 6.1. Students will identify and recall scientific information and theories, and, integrating and applying this knowledge, will use the scientific method to solve problems and draw conclusions from data. Students will be able to determine various airspeeds, weight and balance solutions, density altitude calculations, and apply them to the safe preparation and execution of the flight.</td>
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<tr>
<td>✓ 6.2. Students will distinguish between scientific theory and scientific discovery, will distinguish between science and its technological application, and will explain the impact of science and technology on society.</td>
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<tr>
<td>6.3. Students will demonstrate a working knowledge of the subject matter of one of the physical or biological sciences.</td>
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<tr>
<td>✓ 6.4. Students will demonstrate a working knowledge of a major domain of technological application.</td>
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</table>

**Flight training course objectives:**

This flight training course will provide the student with the aeronautical skills and increase their experience to allow them to competently, confidently, safely and legally complete cross country flights in a Single-Engine and Multi-Engine aircraft by both day and night, VMC and IMC.

**Hours allocation:**

<table>
<thead>
<tr>
<th>Ground</th>
<th>Flight Instruction*</th>
<th>Solo/PIC Flight</th>
<th>Instrument **</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.0</td>
<td>27.0 Day</td>
<td>15.0 Day</td>
<td>21.0</td>
<td>65.5</td>
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<tr>
<td></td>
<td>2.5 Night</td>
<td>5.0 Night</td>
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<td>49.5 F</td>
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</table>

*This total will include 17.0 Hours of Multi-Engine time.  
*Instrument Flying Totals are included here for reference only, and do not form part of the total hours allocation as they are counted during the Solo and Dual flight sections.

**Course completion standards:**

The course completion standards are based upon the cross-country guidance given in the FAA Instrument Airman Certification Standards and Airline Transport Pilot Single-Engine and Multi-Engine Land Practical Test Standards. To meet the flight training course completion standards, the student must demonstrate, through flight tests and school records, that they meet or exceed these requirements. Periodic progress checks may include material covered in any previous lesson.

**Lesson Progress Checks:**

All Progress Checks will be conducted by the Chief Instructor, Assistant Chief Instructor of Check Instructor.

8. Single-Engine Aircraft: The student will demonstrate a sound knowledge of the planning and execution of day or night VFR and IFR cross-country flights, including flight to unplanned diversion airfields. Appropriate standard operating procedures must be shown and/or recited during this check.
14. Single-Engine Aircraft: The student will demonstrate a sound knowledge of the planning and execution of day or night IFR cross-country flights utilizing multi-crew cockpit concepts and sound Crew Resource Management techniques. Appropriate standard operating procedures must be shown and/or recited during this check.

18. Multi-Engine Aircraft: The student will demonstrate a sound knowledge of the planning and execution of day or night IFR cross-country flights, including flight to unplanned diversion airfields, in a multi-engine aircraft. Appropriate standard operating procedures must be shown and/or recited during this check.

FLIGHT BLOCK 1

BRIEFING LESSON

GROUND INSTRUCTION

3.0 Ground

This briefing lesson will be used to review Aeronautical Decision Making and IFR cross-country skills. Prior to this lesson, the student should review their previous notes and course work covering cross-country planning and operation. They should also be familiar with the owner’s manual of the aircraft to be used.

Prerequisites:
1. Owner’s Manual
2. Weight and Balance Forms
3. Navigation Logs
4. E6B Calculator (electronic or manual)
5. Current Sectional Chart and Chart Supplement

Content:
1. Aeronautical Decision Making

   a. Airspace classification
   b. IFR Enroute Charts
   c. IFR Approach Procedures
   d. Chart Supplement
   e. METARs and TAFS
   f. Weather briefings
   g. Prognostic charts
   h. Air Masses and Fronts
   i. Weather related hazards

4. Aircraft Performance
   a. Airspeed Correction Table
   b. Takeoff and Climb Charts
   c. Cruise Performance Chart
   d. Landing Distance and Glide Charts
   e. Weight and Balance

5. Flight Planning
   a. E6B use
   b. Plotting
c. Fuel Calculations

Completion Standards

The student will show a demonstrated understanding of the technical methodology, planning and execution of a cross-country flight. This lesson will be documented in the comments section on the back of the student's training folder.
FLIGHT LESSON 1 – SINGLE-ENGINE AIRCRAFT

Single-Engine Aircraft

INSTRUCTION

2.5 Instruction

1.0 Ground

Objectives: The student will plan and fly a day VFR cross country flight of not less than 200nm total distance, to include an approach and landing at an airfield other than the point of departure.

Content:

1. Pre-flight Orientation:

There will be a review of the students pre-flight planning, to include route planning, fuel planning and weight and balance calculation.

2. Flight portion:

The flight will be flown according to the student planning, with particular emphasis on correct in-flight diagnosis and correction of required tracks and ETAs, and fuel and system monitoring and management. Emphasis will be placed on the correct use of dead reckoning, pilotage, and the use of electronic aids such as VORs. A diversion will be initiated by the Flight Instructor; the student will be expected to provide accurate course guidance and ETAs.

3. Post-flight Discussion

Completion Standards:

The student will demonstrate a sound understanding of the correct techniques and procedures for the planning and execution of a day VFR cross-country flight. Headings should be flown consistently within 10° of that required. Altitude should be held within 100 feet and airspeed within 10 knots of assigned airspeed. Course and ETAs during the diversion will be within 10° and 2 minutes.
Objectives: The student will plan and fly 2 day VFR cross country flights of not less than 200nm total distance, to include an approach and landing at an airfield other than the point of departure. Approved airports are listed in the TCO other destinations must be approved by the Chief Instructor, his/her Assistant, or Check Instructor, and must include a mixture of towered and non-towered airfields.

Content:

1. Pre-flight Orientation:

   There will be a review of the students pre-flight planning, to include route planning, fuel planning and weight and balance calculation.

2. Flight portion:

   The flight will be flown according to the student planning. Each flight should utilize a combination of Dead Reckoning, VOR tracking, GPS utilization and Pilotage. Students Flight Logs should be completed and must be reviewed post-flight and critiqued by a Flight Instructor; these logs will form part of the students' course records.

Completion Standards:

The student will successfully complete the required flights, demonstrating a sound understanding of the correct techniques and procedures for the planning and execution of day VFR cross-country flights. Fuel planning should be within 2 gallons, headings should be flown consistently within 10° of that required. Altitude should be held within 100 feet and airspeed within 10 knots of assigned airspeed. Their navigation logs will be accurate and detailed enough to allow a reconstruction of the flight.
FLIGHT LESSON 4 – SINGLE-ENGINE AIRCRAFT

Single-Engine Aircraft

Objectives: The student will plan and fly a night VFR cross country flight of not less than 200nm total distance, to include at least one Instrument Approach, and a landing at a airfield other than the point of departure.

Content: 1. Pre-flight Orientation:

There will be a review of the students pre-flight planning, to include route planning, fuel planning and weight and balance calculation. Night preflight preparation, flight procedures and emergency procedures will be reviewed.

2. Flight portion:

The flight will be flown according to the student planning, with particular emphasis on correct in-flight diagnosis and correction of required tracks and ETAs. Fuel and system monitoring and management will also be evaluated. Emphasis will be placed on the correct use of dead reckoning, pilotage, and the use of electronic aids such as VORs.

3. Post-flight Discussion

Completion Standards:

The student will demonstrate a sound understanding of the correct techniques and procedures for the planning and execution of a night VFR cross-country flight. Headings should be flown consistently within 10° of that required. Altitude should be held within 100 feet and airspeed within 10 knots of assigned airspeed. Throughout the flight the student will have demonstrated correct procedures and knowledge of the legalities of night flight.
Objectives: The student will plan and fly 2 night VFR cross country flights of not less than 200nm total distance, to include an approach and landing at an airfield other than the point of departure. All destinations must be approved by the Chief Instructor or Assistant Chief Instructor, and must include a mixture of towered and non-towered airfields.

Content: 1. Pre-flight Orientation:

There will be a review of the students pre-flight planning, to include route planning, fuel planning and weight and balance calculation.

2. Flight portion:

The flight will be flown according to the student planning. Each flight should utilize a combination of Dead Reckoning, VOR tracking, GPS utilization and Pilotage Students Flight Logs should be completed and must be reviewed post-flight and critiqued by a Flight Instructor; these logs will form part of the students’ course records.

Completion Standards:

The student will successfully complete the required flights, demonstrating a sound understanding of the correct techniques and procedures for the planning and execution of night VFR cross-country flights. Fuel planning should be accurate to within 2 Gallons, headings should be flown consistently within 10° of that required. Altitude should be held within 100 feet and airspeed within 10 knots of assigned airspeed. Their navigation logs will be accurate and detailed enough to allow a reconstruction of the flight.
Objectives: The student will plan and fly a day or night (at the discretion of the Flight Instructor) IFR cross country flight of not less than 200nm total distance from the airfield of departure. The flight should include a review of emergency procedures pertinent to IFR flight. An Instrument Approach should be flown at an intermediate and final destination airfield.

Content:

1. Pre-flight Orientation:

There will be a review of the students pre-flight planning, to include route planning, fuel planning and weight and balance calculation. A review of emergency procedures, including the lost communications procedure, will be completed.

2. Flight portion:

The flight will be flown according to the student planning, with particular emphasis on correct identification of in-use navigation aids, accurate tracking of airway centerlines, in-flight diagnosis and correction of required tracks and ETAs, and fuel and system monitoring and management. Simulated emergencies will be initiated by the Flight Instructor, with particular emphasis placed on the safe conduct of the flight throughout, correct diagnosis and subsequent action planning resulting from the simulated emergency. An Instrument Approach should be flown upon completion of the cross-country flight.

3. Post-flight Discussion

Completion Standards:

The student will demonstrate a sound understanding of the correct techniques and procedures for the planning and execution of an IFR cross-country flight. Navigation aids will have been correctly identified and used. Simulated emergencies will be correctly diagnosed and controlled. Headings should be flown consistently within 5° of that required. Altitude should be held within 100 feet and airspeed within 5 knots of assigned airspeed. The Instrument Approach should employ correct techniques throughout, and should comply with the limits as laid down in the FAA Airman Certification Standards for the Instrument Rating.
FLIGHT LESSON 8 – SINGLE-ENGINE AIRCRAFT

Single-Engine Aircraft

Objectives: The student will plan and fly a day or night cross country flight of not less than 200nm total distance, which will consist of both VFR and IFR portions, to include an Instrument Approach and landing. This flight will be conducted by the Chief Instructor, Assistant Chief Instructor of Check Instructor.

Content:

1. Pre-flight Orientation:

There will be a review of the students pre-flight planning, to include route planning, fuel planning and weight and balance calculation. Diversion procedures and techniques will be discussed.

2. Flight portion:

The flight will be flown according to the student planning, with particular emphasis on correct in-flight diagnosis and correction of required tracks and ETAs. Fuel and system monitoring and management will also be evaluated. At least one in-flight diversion will be given to the student, and they should provide estimated headings and ETAs to the Flight Examiner. Once the diversion is completed, the Flight Examiner may require the student to return to the planned route or continue to another checkpoint. Simulated emergencies will be initiated by the Flight Instructor, with particular emphasis placed on the safe conduct of the flight throughout, correct diagnosis and subsequent action planning resulting from the simulated emergency. An Instrument Approach should be flown upon completion of the cross-country flight.

3. Post-flight Discussion

Completion Standards:

The student will demonstrate a sound understanding of the correct techniques and procedures for the planning and execution of a day or night VFR/IFR cross-country flight. Headings should be flown consistently within 10° of that required. Altitude should be held within 100 feet and airspeed within 10 knots of assigned airspeed. Diversion planning should provide an accurate heading to ensure correct identification of the required diversion airfield, with an ETA within 2 minutes of actual arrival. The Instrument Approach should employ correct techniques throughout, and should comply with the limits as laid down in the FAA Airman Certification Standards for the Instrument Rating.
This briefing lesson will be used to review Crew Resource Management (CRM), aeronautical decision making and FAA regulations pertaining to the logging of PIC/SIC. For many pilots, this will be the first time they have had to consider another crew member on the cockpit, and emphasis should be placed on the effective use of all resources, hardware and information. The cross cockpit gradient should be discussed and a case study will be reviewed to emphasize the importance of the breakdown of this bar to coherent CRM.

**Prerequisites:** None

**Content:**

1. Crew Resource Management/Aeronautical Decision Making:
   a. History
   b. Definition
   c. Risks
   d. Requirements (FAA Regulations pertaining to PIC/SIC)

2. Case Study: Lufthansa 747 crash. On March 27, 1977, two Boeing 747s passenger jets collided on the runway at Los Rodeos Airport (now Tenerife North Airport), on the Spanish island of Tenerife, Canary Islands. The crash killed 583 people, making it the deadliest accident in aviation history. The case study will concentrate on:
   a. Circumstance
   b. Personality traits
   c. Breakdown of CRM
   d. Lessons identified

**Completion Standards**

The student will show a demonstrated understanding of the principles behind CRM, and how these may be implemented. This lesson will be documented in the comments section on the back of the student’s training folder.
Objectives: The student will plan and fly a 2 sector IFR cross country flight of not less than 200nm total distance, to include an Instrument Approach at an airfield other than the point of departure, and an Instrument Approach at the destination airfield. The instructor will act as the Pilot Flying (PF) and handling pilot for the first sector, and the student will act as the Pilot Flying (PF) and handling pilot for the second sector.

Content:
1. Pre-flight Orientation:

   There will be a review of the students pre-flight planning, to include route planning, fuel planning and weight and balance calculation. Diversion procedures and techniques will be discussed. The utilization of CRM, to include a definitive statement as to whom the PF is at all times, will be discussed.

2. Flight portion:

   The flight will be flown according to the student planning, with particular emphasis on correct use of task sharing, resource management, information flow and adherence to published Standard Operating Procedures.

3. Post-flight Discussion

Completion Standards:

The student will demonstrate a sound understanding of the correct techniques and procedures for the planning and execution of an IFR cross-country flight in a simulated multi-crew environment. Headings should be flown consistently within 10° of that required. Altitude should be held within 100 feet and airspeed within 10 knots of assigned airspeed.
Objectives: The student will plan and fly 4 separate 2 sector IFR cross country flight of not less than 200nm total distance, to include an Instrument Approach at an airfield other than the point of departure and an Instrument Approach at the destination airfield. A second student will act as the Sic (Pilot Not Flying - PNF) and safety pilot, and the student will act as the PIC (Pilot Flying - PF). These Lessons will be conducted in VMC conditions when operating with two students. If operating in IMC, a Flight Instructor will be second pilot.

Content:

1. Pre-flight Orientation:

   There will be a review of the students pre-flight planning, to include route planning, fuel planning and weight and balance calculation. Diversion procedures and techniques will be discussed. The utilization of CRM, to include a definitive statement as to whom the PIC and acting PIC is at all times, will be discussed.

2. Flight portion:

   The flight will be flown according to the student planning, with particular emphasis on correct use of task sharing, resource management, information flow and adherence to published Standard Operating Procedures.

3. Post-flight Discussion:

   Students are encouraged to use the post-flight discussion to debrief each other on their performance.

Completion Standards:

The student will successfully complete the required flights, demonstrating a sound understanding of the correct techniques and procedures for the planning and execution of IFR cross-country flights in a simulated multi-crew environment. Headings should be flown consistently within 10° of that required. Altitude should be held within 100 feet and airspeed within 10 knots of assigned airspeed. Navigation logs will be accurate and detailed enough to allow a reconstruction of the flight.
FLIGHT LESSON 14 – SINGLE-ENGINE AIRCRAFT

Objectives: The student will plan and fly a 2 sector IFR cross country flight of not less than 200nm total distance, to include an Instrument Approach at an airfield other than the point of departure, and an Instrument Approach at the destination airfield. The instructor will act as the PF and handling pilot for the first sector, and the student will act as the PF and handling pilot for the second sector. The Chief Instructor, Assistant Chief Instructor of Check Instructor, will conduct this flight.

Content: 1. Pre-flight Orientation:

There will be a review of the students pre-flight planning, to include route planning, fuel planning and weight and balance calculation. Diversion procedures and techniques will be discussed. The utilization of CRM, to include a definitive statement as to whom the PIC and acting PIC is at all times, will be discussed.

2. Flight portion:

The flight will be flown according to the student planning, with particular emphasis on correct use of task sharing, resource management, information flow and adherence to published Standard Operating Procedures.

3. Post-flight Discussion

Completion Standards:

The student will demonstrate a sound understanding of the correct techniques and procedures for the planning and execution of an IFR cross-country flight in a simulated multi-crew environment. Headings should be flown consistently within 5° of that required. Altitude should be held within 100 feet and airspeed within 5 knots of assigned airspeed. Standard Operating Procedures will be adhered to, and CRM will be exercised to good effect throughout.
This briefing lesson will be used to introduce students to long-range fuel planning and navigation issues, oceanic operations, and non-US procedures. Students should also be familiar with the owner’s manual of the aircraft to be used.

Prerequisites:
1. Owner's Manual
2. Weight and Balance Forms
3. Navigation Logs
4. E6B Calculator (electronic or manual)
5. Current Sectional Chart and Chart Supplement
6. Plotting tools

Content:
1. Long Range Fuel Planning:
   a. Critical Points
   b. Point of No Return (PNR)
   c. Last Point of Diversion (LPD)

2. Long Range Navigation:
   a. Inertial Navigation Systems
   b. GPS systems
   c. Flight Management Systems
   d. Use of Long Range Navigation Aids

3. Oceanic Operations:
   a. Flight Planning, to include NAT Tracks
   b. Entering and exiting Oceanic Airspace
   c. Communications and Lost-Communications Procedures

4. Non-US Procedures

Completion Standards

The student will show a demonstrated understanding of the advanced navigation methods for long range and oceanic flights. This lesson will be documented in the comments section on the back of the student's training folder.
FLIGHT LESSON 15-17 – MULTI-ENGINE AIRCRAFT

Multi-Engine Aircraft

Objectives: The student will plan and fly a series of day or night (at the discretion of the Flight Instructor) IFR cross country flight of not less than 200nm total distance from the airfield of departure, followed by a full-stop landing, refuel and return to the original airfield. The flights should include a review of emergency procedures pertinent to IFR flight. An Instrument Approach should be flown at each airfield. Correct CRM procedures should be utilized throughout, with the Flight Instructor acting as Pilot Not Flying (PNF) for the duration for the flights. The flights should introduce and allow the student to practice the calculation of PNR, LPD and Critical Points.

Content: 1. Pre-flight Orientation:

There will be a review of the students pre-flight planning, to include route planning, fuel planning, take off and performance, and weight and balance calculations. Diversion procedures and techniques will be discussed. The utilization of CRM, to include a definitive statement as to whom the PF and PNF is at all times, will be discussed. A review of Multi-Engine emergency procedures will be conducted.

2. Flight portion:

The flight will be flown according to the student planning, with particular emphasis on correct use of task sharing, resource management, information flow and adherence to published Standard Operating Procedures. The Flight Instructor will instigate simulated emergencies; the student should be encouraged to use the multi-crew concept in the diagnosis and handling of these simulated emergencies.

3. Post-flight Discussion

Completion Standards:

The student will demonstrate a sound understanding of the correct techniques and procedures for the planning and execution of an IFR cross-country flight in a simulated multi-crew aircraft. Navigation aids will have been correctly identified and used. Simulated emergencies will be correctly diagnosed and controlled. Headings should be flown consistently within 5° of that required. PNR, LPD and Critical Points will have been correctly calculated, and identified in flight. Altitude should be held within 100 feet and airspeed within 5 knots of assigned airspeed. The Instrument Approach should employ correct techniques throughout, and should comply with the limits as laid down in the FAA Airman Certification Standards for the Instrument Rating.
Objectives: The student will plan and fly a day or night (at the discretion of the Flight Examiner) IFR cross country flight of not less than 200nm total distance from the airfield of departure, followed by a full-stop landing, refuel and return to the original airfield. The flight should include a review of emergency procedures pertinent to IFR flight. An Instrument Approach should be flown at each airfield. Correct CRM procedures should be utilized throughout, with the Flight Instructor as Pilot Not Flying (PNF) for the duration for the flight. The flights should introduce and allow the student to practice the calculation of PNR, LPD and Critical Points. The Chief Instructor, Assistant Chief Instructor of Check Instructor, will conduct this flight.

Content:

1. Pre-flight Orientation:

There will be a review of the students pre-flight planning, to include route planning, fuel planning, take off and performance, and weight and balance calculations. Diversion procedures and techniques will be discussed. The utilization of CRM, to include a definitive statement as to whom the PF and PNF is at all times, will be discussed. A review of Multi-Engine emergency procedures will be conducted.

2. Flight portion:

The flight will be flown according to the student planning, with particular emphasis on correct use of task sharing, resource management, information flow and adherence to published Standard Operating Procedures. The Flight Instructor will instigate simulated emergencies; the student should be encouraged to use the multi-crew concept in the diagnosis and handling of these simulated emergencies.

3. Post-flight Discussion

Completion Standards:

The student will demonstrate a sound understanding of the correct techniques and procedures for the planning and execution of an IFR cross-country flight in a simulated multi-crew aircraft. Navigation aids will have been correctly identified and used. Simulated emergencies will be correctly diagnosed and controlled. Headings should be flown consistently within 5° of that required. PNR, LPD and Critical Points will have been correctly calculated, and identified in flight. Altitude should be held within 100 feet and airspeed within 5 knots of assigned airspeed. The Instrument Approach should employ correct techniques throughout, and should comply with the limits as laid down in the FAA Airman Certification Standards for the Instrument Rating. The student should now be flying within the limits laid down in the Airline Transport Pilot (ATP) Practical Test Standards as issued by the FAA. This Course DOES NOT provide the student with the FAA certificate for ATP.
EVALUATION OF STUDENT LEARNING

The grade awarded in AVI 251 will be determined by an Oral and Practical Examination as outlined in both the Airline Transport Pilot Practical Test Standards and Instrument Airman Certification Standards.

Specific Grading:

A = Meets 3 areas and exceeds 8 areas of operation - ATP
    Meets 2 areas and exceeds 6 areas of operation - Instrument
B = Meets 5 areas and exceeds 6 areas of operation - ATP
    Meets 4 areas and exceeds 4 areas of operation - Instrument
D = Meets 7 areas and exceeds 4 areas of operation - ATP
    Meets 6 areas and exceeds 2 areas of operation - Instrument
D = Meets 11 areas of operation - ATP
    Meets 8 areas of operation - Instrument
F = Does not meet Practical Test Standard requirements in any one of the Instrument and ATP Standards

ACADEMIC INTEGRITY STATEMENT OMB 210

Mercer County Community College is committed to Academic Integrity - the honest, fair and continuing pursuit of knowledge, free from fraud or deception. This implies that students are expected to be responsible for their own work and that faculty and academic support services staff members will take reasonable precautions to prevent the opportunity for academic dishonesty. The college recognizes the following general categories of violations of Academic Integrity, with representative examples of each. Academic Integrity is violated whenever a student:

A. Uses or obtains unauthorized assistance in any academic work:
   - copying from another student's exam
   - using notes, books, electronic devices or other aids of any kind during an exam when prohibited
   - stealing an exam or possessing a stolen copy of an exam

B. Gives fraudulent assistance to another student:
   - completing a graded academic activity or taking an exam for someone else
   - giving answers to or sharing answers with another student before, during or after an exam or other graded academic activity
   - sharing answers during an exam by using a system of signals

C. Knowingly represents the work of others as his/her own, or represents previously completed academic work as current.
   - submitting a paper or other academic work for credit which includes words, ideas, data or creative work of others without acknowledging the source
   - using another author's words without enclosing them in quotation marks, without paraphrasing them or without citing the source appropriately
   - presenting another individual's work as one's own
   - submitting the same paper or academic assignment to another class without the permission of the instructor
D. Fabricates data in support of an academic assignment.
   - falsifying bibliographic entries
   - submitting any academic assignment which contains falsified or fabricated data or results

E. Inappropriately or unethically uses technological means to gain academic advantage.
   - inappropriately or unethically acquiring material via the Internet or by any other means
   - using any electronic or hidden devices for communication during an exam

Each instructor and academic support service area is authorized to establish specific guidelines consistent with this policy.

CONSEQUENCES FOR VIOLATIONS OF ACADEMIC INTEGRITY

For a single violation, the faculty member will determine the course of action to be followed. This may include assigning a lower grade on the assignment, assigning a lower final course grade, failing the student in the course, or other penalty appropriate to the violation. In all cases, the instructor shall notify the Chair of the Academic Integrity Committee of the violation and the penalty imposed. When two (or more) violations of academic integrity are reported on a student, the Academic Integrity Committee (AIC) may impose disciplinary penalties beyond those imposed by the course instructors. The student shall have the right to a hearing before the AIC or a designated AIC subcommittee.

APPEALS

The student has a right to appeal the decision of the instructor or the Academic Integrity Committee. Judicial procedures governing violations of Academic Integrity are contained in the Student Handbook.

Approved by the MCCC Board of Trustees March 18, 2004

CLASSROOM CONDUCT STATEMENT

It is the student’s responsibility to attend all of their classes. If they miss a class meeting for any reason, students are responsible for all content that is covered, for announcements made in their absence, and for acquiring any materials that have been distributed in class. If students walk into a class after it has begun, it is expected that they choose a seat close to where they entered the room so that they do not disrupt the class meeting.

Students are expected to follow ordinary rules of courtesy during class sessions. Engaging in private, side conversations during class time is distracting to other students and to the instructor. Leaving class early, without having informed the instructor prior to class, is not appropriate. Unless there is an emergency, leaving class and returning while the class is in session is not acceptable behavior. Disruptive behavior of any type, including sharpening pencils during class while someone is speaking, is not appropriate.

The college welcomes all students into an environment that creates a sense of community, pride and respect; we are all here to work cooperatively and to learn together.
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