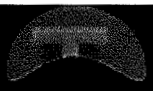
TCO Binder



LOUISIANA TECH UNIVERSITY
Department of Professional Aviation

14 CFR 141 PILOT SCHOOL

COMMERCIAL PILOT ADDITIONAL AIRPLANE CATEGORY AND SINGLE-ENGINE LAND CLASS (FIXED WING TRANSITION) TRAINING COURSE OUTLINE

June 3, 2014

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Future revisions may be posted by pen-and-ink in the space provided.

DATE	REVISION #	PAGES AFFECTED

LIST OF EFFECTIVE PAGES

COMMERCIAL PILOT ADDITIONAL AIRPLANE CATEGORY AND SINGLE-ENGINE LAND CLASS (FIXED WING TRANSITION) TRAINING COURSE OUTLINE

Pages	Revision
1 through 78	0

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6-23-2014 George Waddell
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Summary of changes: N/A

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DATE SIGNATURE

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PREFACE

Standardization of pilot training within the Louisiana Tech University Department of Professional Aviation is achieved by the use of the Private, Instrument, and Commercial Training Course Outlines (TCOs). This TCO outlines the training required by 14 CFR 141 to achieve the proficiency specified in the FAA Practical Test Standards (PTS). It prescribes the course content, instructions to conduct the training, and the approximate time necessary to successfully complete all requirements. Each Louisiana Tech University TCO is divided into a Ground Training Syllabus and a Flight Training Syllabus. Ground training lesson times will be divided as appropriate to fit a normal college class schedule. Flight times indicated in the Flight Training Syllabus are planned times. Individual lesson times may be reduced or increased. Cross-country times will be, at minimum, those specified in 14 CFR 141. The final totals (dual and solo) will be no lower than those listed in Appendix I to 14 CFR 141:

Commercial Pilot, Airplane Category and Single-engine Class Rating: 20 hours ground instruction, 55 hours flight training, four dual hours cross-country (two hours day, two hours night, 100 nautical miles), five hours instrument training, 10 hours complex, and three hours in the 60 days preceding the practical test.

Students enrolled in Louisiana Tech Professional Aviation flight courses will have access to the TCO appropriate to their course. TCOs may be viewed as a PDF files on the Louisiana Tech University Aviation website or by viewing the Talon Systems' Education & Training Administration (ETA) website, by selecting Home/Reports/ETA Core Reports/Course Specifications With Comments. Instructors are required to use the TCO as a guide for their ground and flight instruction. This assures that all required items are covered and that the training program has continuity based upon a building block approach. The Chief Instructor ensures that the TCOs are relevant, current, and comply with the Federal Aviation Administration requirements.

The TCOs are augmented by FLIGHT OPERATIONS SAFETY PROCEDURES AND PRACTICES, POLICIES, AND STANDARD OPERATING PROCEDURES, which is published as a separate document, available on the Louisiana Tech University Aviation website.

This Training Course Outline (TCO) is published solely for the use of The Department of Professional Aviation, Louisiana Tech University. The Department of Professional Aviation is owned and operated in the name of:

Louisiana Tech University, Department of Professional Aviation
P.O. Box 3181, Ruston, Louisiana 71272

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COMMERCIAL PILOT ADDITIONAL AIRPLANE CATEGORY AND SINGLE-ENGINE LAND CLASS (FIXED WING TRANSITION) TRAINING COURSE OUTLINE

COURSE OBJECTIVES

The student will obtain the aeronautical knowledge, skill, and experience to meet the requirements for a Commercial Pilot Certificate, Airplane Single-engine Land (ASEL).

COURSEWARE AND REFERENCES

Guided Flight Discovery Instrument Commercial Pilot Manual, Jeppesen Sanderson, Inc.
Commercial Pilot Practical Test Standards
AC 00-6A Aviation Weather
AC 00-45F Aviation Weather Services
AC 60-22 Aeronautical Decision Making
AC 61-65E Certification: Pilots and Flight Instructors
AC 61-67C Stall and Spin Awareness Training
AC 61-84B Role of Preflight Preparation
AC 90-48C Pilots' Role in Collision Avoidance
AC 90-66A Recommended Standard Traffic Patterns and Practices for Aeronautical Operations at Airports Without Operating Control Towers
AC 120-51E Crew Resource Management Training
FAA-H-8083-1 Aircraft Weight and Balance Handbook
FAA-H-8083-3A Airplane Flying Handbook
FAA-H-8083-25A Pilot's Handbook of Aeronautical Knowledge
Federal Aviation Regulations/Aeronautical Information Manual
Notices to Airmen
Louisiana Tech University Department of Professional Aviation Flight Operations Safety Procedures and Practices, Policies, and Standard Operating Procedures
Cessna 172 Pilot's Operating Handbook and Airplane Flight Manual
Applicable Navigation Charts and Airport/Facility Directory

COMMERCIAL PILOT COURSE PLANNED TRAINING TIMES

TRAINING STAGE	GROUND	DU*	SO	FTD*	ORL	INST	XC
GROUND COURSE	40.0						
FLIGHT STAGE ONE		13.5	2.5	2.0	7.0		
FLIGHT STAGE TWO		14.0	3.0	5.0	5.5	15.0	10.0
FLIGHT STAGE THREE		15.0			9.5		
TOTALS	**40.0**	**42.5***	**5.5**	**7.0**	**22.0**	**15.0**	

Key: GROUND: formal ground school (aeronautical knowledge); DU: dual instruction in aircraft; SO: solo in aircraft; XC: cross-country; INST: instrument time; FTD*: Flight Training Device (simulator); ORL: oral instruction associated with flight training;

*NOTE: When necessary due to maintenance reasons, FTD events may be completed in the aircraft. Dual flight instruction, solo flights, and instruction in the FTD combine to meet the 55 total training hours required by 14 CFR 141, Appendix I.

COURSE COMPLETION STANDARDS

The student must demonstrate to a suitable authority through flight tests and school records that the aeronautical knowledge, skill, and experience requirements necessary to obtain a Commercial Pilot Certificate (ASEL) are accomplished.

Louisiana Tech University
TRAINING FACILITIES

TRAINING FACILITIES AND LOCATIONS

1. Louisiana Tech University (LTU) trains pilots at both the main campus in Ruston, LA, and at Louisiana Tech Flight Operations, Ruston Regional Airport. For description of rooms (size and maximum number of students), refer to pages 14-15.
2. Type training aids: Refer to page 11.
3. Flight Training Devices (FTDs):
    a. Frasca Level 6 (Cessna 172) located in Davison Hall, room 110. This device is preferred for instrument training. (Statement of qualification renewed annually.)
    b. Fidelity MOTUS AATD (Cessna 172) located at Louisiana Tech Flight Operations. Available for use if needed.
4. Airports at which training flights originate: Ruston Regional Airport, which meets the requirements of 14 CFR 141.38.
    a. Description of facilities: Louisiana Tech Flight Operations is located at Ruston Regional Airport; the building contains suitable offices, a dispatch area, and numerous training rooms.
    b. Pilot briefing areas: Located in Louisiana Tech Flight Operations building and consist of planning area, cubicles, and a large class room.
5. Aircraft: Cessna 172R/172S/172RG airplanes will be used for all flight training in this course.
6. Minimum qualifications and ratings for each instructor assigned: FAA Ground Instructor Certificate or FAA Flight Instructor Certificate.
7. This course is listed in the Louisiana Tech University catalog as Commercial Pilot Ground (PRAV 340), Commercial Pilot Flight I (PRAV 342), and Commercial Pilot Flight II (PRAV 343), Commercial Pilot Flight III (PRAV 344).
8. Chief Instructor for the course: James Zachry Staten.

TRAINING RECORDS:

Louisiana Tech University maintains flight training records in accordance with 14 CFR 141.101. Academic records are maintained per University policy.

TALON: Talon-Systems' Education and Training Administration (ETA) and Resource Management System (RMS) are web-based programs that assist in training management and record keeping. Talon/ETA supports all facets of LTU's training operations including curriculum management, instructor currencies, student training records, student accounting, resource management, resource planning, and scheduling and operations. This TCO and ETA will mirror each other. ETA typically refers to individual lesson activities as "Units", so that convention is used in the flight syllabus portion of the TCO.

While printing gradesheets can be done from Talon/ETA, only stage checks will be printed. Daily flight training course lessons will be input and maintained online, in Talon. Upon request

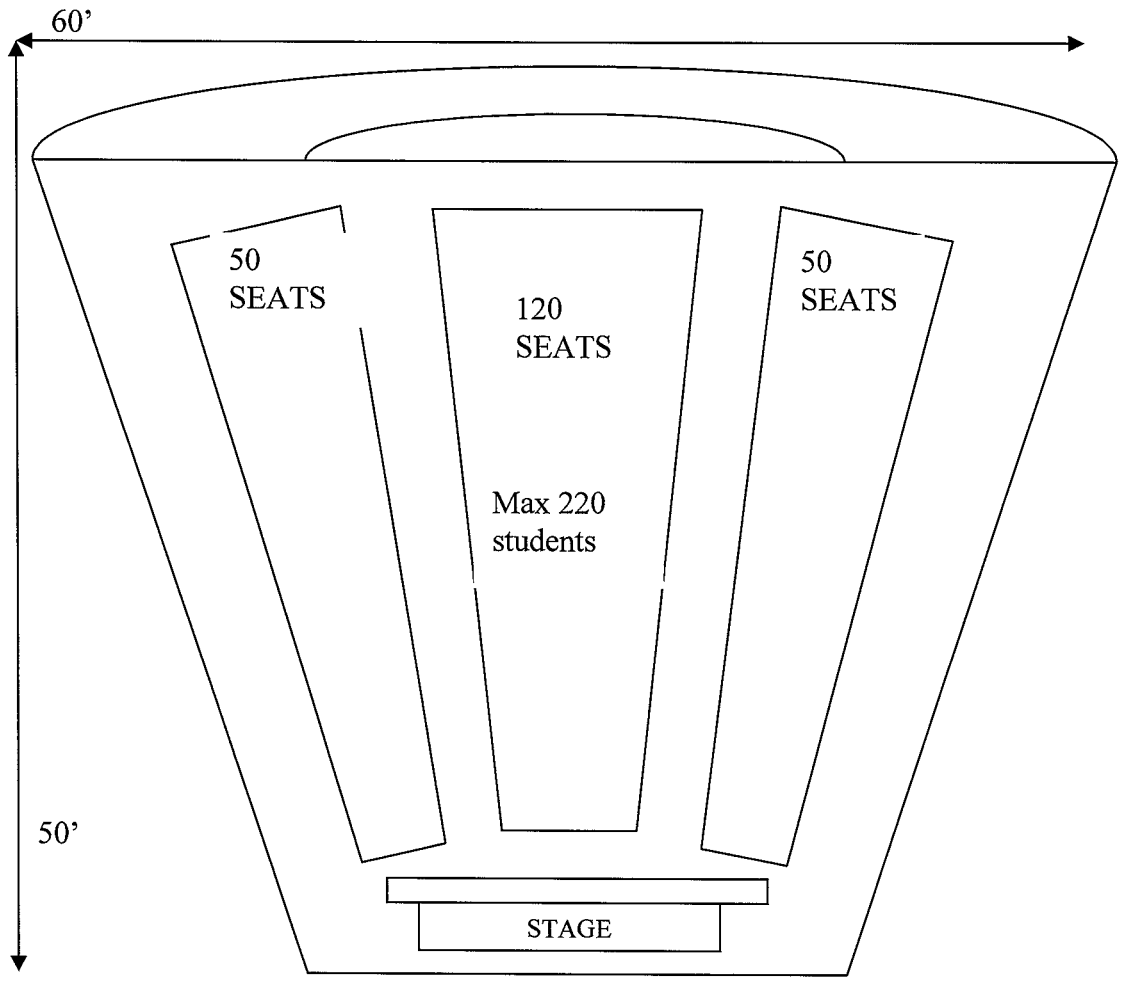
from the FAA or the student, a full set of paper daily training lesson gradesheets will be provided for any student.

The Talon/ETA system will accept scanned copies of documents, as part of the student's record. The following required documents may be scanned and stored online: Trainee's Medical Certificate, Trainee's Pilot Certificate, Passport or Picture ID, Birth Certificate.

In the event of local Internet outage, instructors will print and use the applicable TCO page as a manual gradesheet (with subsequent input to Talon.)

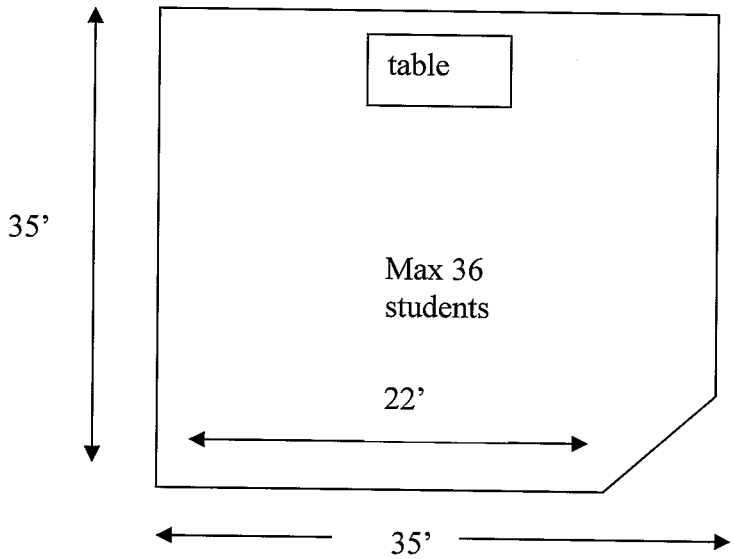
BUILDINGS/ROOMS

Main LTU Campus, Davison Hall, Room 113



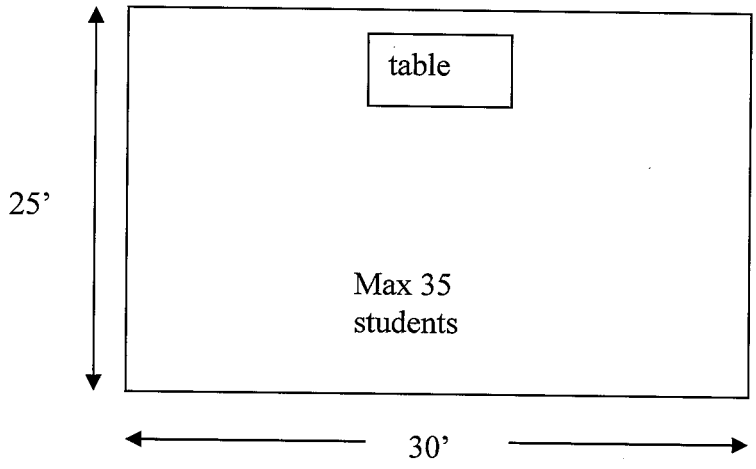
This room is used for safety meetings and other events of the Aviation Department. It is equipped with overhead projector, white board, computer, and TV/DVD/VCR player.

Main LTU Campus, Davison Hall, Room 310



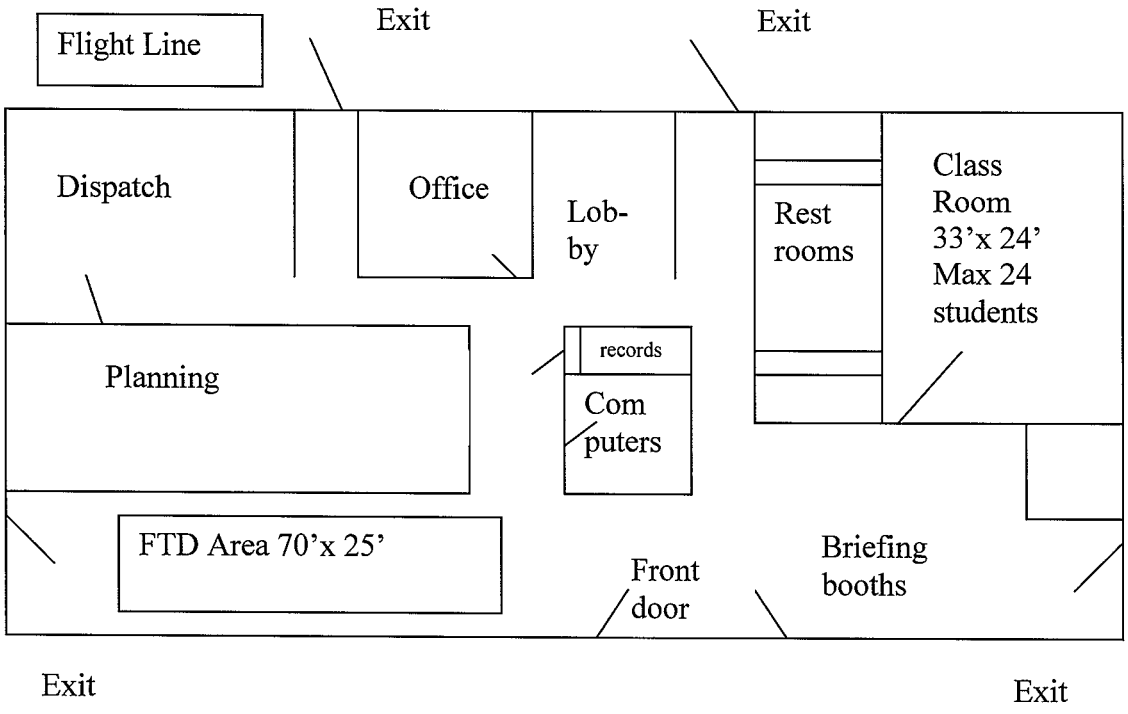
This room is used for larger classes and other events of the Aviation Department. It is equipped with blackboard, overhead projector, white board, computer, and TV/DVD/VCR player.

Main LTU Campus, Davison Hall, Room 305



This room is used for smaller classes and other events of the Aviation Department. It is equipped with blackboard and TV/DVD/VCR player.

Louisiana Tech University Flight Operations building, Ruston Regional Airport



INSTRUCTOR QUALIFICATIONS

CHIEF INSTRUCTOR:

1. Is responsible for all instructor, dispatcher, and student training.
2. Will have and maintain the qualifications identified in Part 141.35.
3. Will accomplish a flight instructor refresher course annually.
4. Will be qualified as a Check Instructor.
5. Will conduct stage checks, end-of-course tests, and instructor proficiency checks.
6. Will supervise all Assistant Chief Instructor(s), Check Instructors, Flight Instructors, Ground Instructors, and Dispatchers.
7. Is titled by the University as Director of Flight Education.

ASSISTANT CHIEF INSTRUCTOR(S):

1. Will have and maintain the qualifications identified in Part 141.36.
2. Will conduct stage checks, end-of-course tests, and instructor proficiency checks.
3. Will be qualified as a Check Instructor.
4. Will perform other duties as directed by the Chief Instructor.
5. Is empowered to sign or certify students' training records, graduation certificates, stage check/test reports, and course completions.

CHECK INSTRUCTORS:

1. Will conduct stage checks, end-of-course tests, and instructor proficiency checks.
2. Will have and maintain the qualifications indentified in Part 141.37.
3. Will maintain all the qualifications of Flight Instructor.
4. Will perform other duties as directed by the Chief Instructor.

FLIGHT INSTRUCTORS:

1. Take initial and recurrent proficiency checks with the Chief Instructor or Assistant
2. Will be FAA-certificated flight instructors.
3. Will maintain a current Airman Medical Certificate.
4. Will conduct student flight training as authorized.
5. Will perform other duties as directed by the Chief Instructor.
6. Will be instrument-rated instructors, if performing the instrument instruction required by 14 CFR 141, Appendix D.

GROUND INSTRUCTORS:

1. Will maintain the qualifications identified in Part 141.33 and 141.81.

DISPATCHERS:

1. Will hold a Private Pilot certificate.
2. Will be trained by the Chief Instructor or his Assistant in accordance with Part 141.33.

PROFESSIONAL AVIATION 340
COMMERCIAL PILOT GROUND
TRAINING SYLLABUS
COURSE REQUIREMENTS AND OBJECTIVES

ENROLLMENT PREREQUISITES: Pilots enrolling in the Commercial Pilot ground course must enroll as a student at Louisiana Tech University. The student must have completed PRAV 111 or hold at least a Private Pilot certificate. The student must hold an Instrument rating or be concurrently enrolled in the Instrument Rating course.

GROUND TRAINING COURSE OBJECTIVE: The student will develop aeronautical knowledge in the areas specified by 14 CFR 141, Appendix I, with continuous emphasis on safe and efficient operation of aircraft. Graduates of the ground course should have a sound acquaintance with the principles of flight, the flight environment, meteorology, aircraft performance, and planning and navigation.

GROUND TRAINING CURRICULUM: Ground school for the Commercial Pilot student (PRAV 340) consists of 40 classroom hours. Completion of this course will result in three college credit hours and a ground school graduation certificate. An outline for each lesson is provided below.

GROUND TRAINING TEXTBOOK: The ground-training course is structured by the *Guided Flight Discovery* Instrument Commercial Pilot Manual, Jeppesen Sanderson, Inc. Ground training lessons generally follow the sequence and content of this textbook. Additional lessons will come from Advisory Circulars, *The Airplane Flying Handbook,* and other reference materials deemed required by the instructor.

GROUND TRAINING COURSE COMPLETION STANDARDS: The student's understanding will be determined by multiple intermediate written examinations given during the course. Course completion is signified by the student earning a minimum score of 70% on the final test and earning at least a 70% average overall.

GROUND COURSE TRAINING SUMMARY

	HOURS
LESSON 1 UNITS	
1 HIGH PERFORMANCE POWERPLANTS	2
2 ENVIRONMENTAL AND ICE CONTROL SYSTEMS	2
3 RETRACTABLE LANDING GEAR	2
4 REVIEW AND TEST 1	2
LESSON 2 UNITS	
1 BASIC AERODYNAMICS AND PRINCIPLES OF FLIGHT	2
2 PERFORMANCE CHARTS AND PERFORMANCE LIMITATIONS	2
3 WEIGHT AND BALANCE	2
4 REVIEW AND TEST 2	2
LESSON 3 UNITS	
1 EMERGENCY PROCEDURES AND ACCIDENT REPORTING	2
2 AERONAUTICAL DECISION MAKING AND JUDGMENT	2
3 COMMERCIAL MANEUVERS	2
4 METEOROLOGY	2
5 REVIEW AND TEST 3	2
LESSON 4 UNITS	
1 COMMERCIAL PRIVILEGES, LIMITATIONS, & FLT OPS	2
2 NAVIGATION AND AIRSPACE	2
3 NIGHT AND HIGH ALTITUDE OPERATIONS	2
4 REVIEW AND TEST 4	2
LESSON 5 UNITS	
1 COMPREHENSIVE REVIEW	3
2 FINAL (FAA KNOWLEDGE TEST)	3
TOTAL HOURS PRAV 340	**40**

GROUND LESSON 1, UNIT 1: (2 HOURS) HIGH PERFORMANCE POWERPLANTS

OBJECTIVES: The objective of this lesson is to provide the student with knowledge of high performance powerplants.

CONTENT:

1. Fuel Injection Systems
2. Operating Procedures
3. Engine Monitoring
4. Turbocharging Systems
5. Constant Speed Propellers
6. Safe and Efficient Operation of Aircraft

COMPLETION STANDARDS: This lesson will be completed when the student has an understanding of high performance powerplants.

GROUND LESSON 1, UNIT 2: (2 HOURS) ENVIRONMENTAL AND ICE CONTROL SYSTEMS

OBJECTIVES: The objective of this lesson is to brief the student on environmental and ice control systems.

CONTENT:

1. Oxygen Systems
2. Cabin Pressurization
3. Ice Control Systems
4. Aircraft Systems

COMPLETION STANDARDS: This lesson will be completed when the student has an understanding of environmental and ice control systems.

GROUND LESSON 1, UNIT 3: (2 HOURS) RETRACTABLE LANDING GEAR

OBJECTIVES: The objective of this lesson is to brief the student on retractable landing gear.

CONTENT:

1. Landing Gear Systems
2. Gear System Safety
3. Operating Procedures

COMPLETION STANDARDS: This lesson will be completed when the student has an understanding of retractable landing gear.

GROUND LESSON 1, UNIT 4: (2 HOURS) REVIEW AND TEST 1

OBJECTIVES: The objective of this lesson is to review aircraft systems and assess the student's learning.

CONTENT: Summary of Units 1, 2, and 3, and a traditional written assessment.

COMPLETION STANDARDS: This lesson will be complete when the student displays knowledge of complex aircraft systems.

GROUND LESSON 2, UNIT 1: (2 HOURS) BASIC AERODYNAMICS AND PRINCIPLES OF FLIGHT

OBJECTIVES: The study of aerodynamics is structured for students commencing the commercial level of training. The objective is to provide a pragmatic approach to aerodynamics that will help the student transition from the novice to a professional level.

CONTENT:

1. Basic aerodynamics and the principles of flight
2. Lift
3. Drag
4. Thrust
5. Weight and Load Factor
6. Aircraft Stability
7. Aerodynamics and Flight Maneuvers
8. Stall and Spin Awareness

COMPLETION STANDARDS: Students completing this unit will have a functional knowledge of aerodynamics.

GROUND LESSON 2, UNIT 2: (2 HOURS) PERFORMANCE CHARTS AND LIMITATIONS

OBJECTIVES: This unit is intended to build upon previous lessons by reviewing airplane performance factors. It is intended to be a comprehensive discussion of airplane performance characteristics and limitations at the level appropriate for a commercial pilot.

CONTENT:

1. Factors Affecting Performance
2. The Pilot's Operating Handbook/Performance Charts
    a. Takeoff Charts
    b. Climb Performance Charts
    c. Cruise Performance Charts
    d. Descent Charts
    e. Landing Distance Charts
    f. Glide Distance
    g. Stall Speeds
3. Significance of exceeding performance limitations

COMPLETION STANDARDS: Students completing this unit will have a functional knowledge of airplane performance characteristics. They will understand how to calculate airplane performance using the operator handbook information.

GROUND LESSON 2, UNIT 3: (2 HOURS) WEIGHT AND BALANCE

OBJECTIVES: The objective is for the pilot to thoroughly understand the effects of weight and balance conditions, principles, and limitations.

CONTENT:

1. Weight and Balance Limitations
2. Weight and Balance Documents
3. Weight and Balance Computations
4. Weight and Balance Condition Checks
5. Weight Shift Computations

COMPLETION STANDARDS: Students completing this lesson will have a functional knowledge of airplane weight and balance.

GROUND LESSON 2, UNIT 4: (2 HOURS) REVIEW AND TEST 2

OBJECTIVES: The objective of this lesson is to review aircraft performance and limitations and assess the student's learning.

CONTENT: Summary of Units 1, 2, and 3, and a traditional written assessment.

COMPLETION STANDARDS: This lesson will be complete when the student displays knowledge of aerodynamics, weight and balance, and aircraft performance.

GROUND LESSON 3, UNIT 1: (2 HOURS) EMERGENCY PROCEDURES AND ACCIDENT REPORTING

OBJECTIVES: The objective is to study potential emergencies and accidents, to include case studies of the ramifications thereof, as well as reporting requirements.

CONTENT: Textbook review of emergency procedures, to include Emergency Descent, Emergency Approach and Landing, Systems and Equipment Malfunctions, Emergency Equipment and Survival Gear. A review of NTSB Part 830 is also done.

COMPLETION STANDARDS: This lesson will be complete when the student displays knowledge of emergencies, accidents, and required reports.

GROUND LESSON 3, UNIT 2: (2 HOURS) AERONAUTICAL DECISION MAKING AND JUDGMENT

OBJECTIVES: This lesson advances the student to a higher awareness of the concepts of aeronautical decision-making. The objective is to enforce the student's understanding of the decision-making processes, crew resource management, and crew communication, while emphasizing judgment.

CONTENT:

1. Aeronautical decision making and judgment
2. Applying the Decision-Making Process
3. Crew Resource Management
4. Pilot-In-Command Responsibility
5. Crew Relationships
6. Communication
7. Barriers to Effective Communication
8. Resource Use
9. Workload Management
10. Situational Awareness
11. Application of Aeronautical Decision Making

COMPLETION STANDARDS: This lesson will be complete when the student demonstrates an awareness of the basic concepts of Aeronautical Decision Making covered in this lesson.

GROUND LESSON 3, UNIT 3: (2 HOURS) COMMERCIAL MANEUVERS

OBJECTIVES: The objective of this lesson is to brief the student on commercial maneuvers.

CONTENT:

1. Maximum Performance Takeoffs and Landings
2. Steep Turns
3. Chandelles
4. Lazy Eights
5. Eights on Pylons
6. Steep Spirals
7. Power Off 180-Degree Accuracy Approaches and Landings

COMPLETION STANDARDS: This lesson will be completed when the student can describe commercial maneuvers, along with their purpose, and the PTS to meet.

GROUND LESSON 3, UNIT 4: (2 HOURS) METEOROLOGY

OBJECTIVES: The objective is to review weather as it impacts commercial operations.

CONTENTS:

1. Recognition of critical weather situations
2. Windshear recognition and avoidance
3. Use of aeronautical reports and forecasts

COMPLETION STANDARDS: This lesson is completed when the student demonstrates an appropriate understanding of weather threats.

GROUND LESSON 3, UNIT 5: (2 HOURS) REVIEW AND TEST 3

OBJECTIVES: The objective of this lesson is to review Commercial pilot knowledge areas and assess the student's learning.

CONTENT: Summary of Units 1, 2, 3 and 4, and a traditional written assessment.

COMPLETION STANDARDS: This lesson will be complete when the student displays knowledge of emergency and accident procedures, ADM, Commercial maneuvers, and meteorology.

GROUND LESSON 4, UNIT 1: (2 HOURS) COMMERCIAL PRIVILEGES, LIMITATIONS, AND FLIGHT OPERATIONS

OBJECTIVES: The objective is study the CFR as it relates to Commercial pilots.

CONTENT: CFR will be read and discussed, with an eye towards aircraft and pilot records, certificates and documents, airworthiness, and currency.

COMPLETION STANDARDS: This lesson will be complete when the student displays knowledge of the content.

GROUND LESSON 4, UNIT 2: (2 HOURS) NAVIGATION AND AIRSPACE

OBJECTIVES: The objective is to review aeronautical charts, dead reckoning, pilotage, radio aids to navigation, flight planning, and airspace rules and requirements.

CONTENT:

1. AIM
2. Chart review
3. Planning a flight
4. Navigation

COMPLETION STANDARDS: This lesson will be complete when the student can flight plan in detail and draw correct conclusions about airspace and route decisions.

GROUND LESSON 4, UNIT 3: (2 HOURS) NIGHT AND HIGH ALTITUDE OPERATIONS

OBJECTIVES: The objective is to night and high altitude risks, rules, requirements, and benefits.

CONTENT:

1. Oxygen rules
2. Aircraft pressurization
3. Hypoxia and other aeromedical concerns
4. Night operations
5. Lighting systems

COMPLETION STANDARDS: This lesson will be complete when the student displays knowledge of the elements related to safe flight at high altitude and at night.

GROUND LESSON 4, UNIT 4: (2 HOURS) REVIEW AND TEST 4

OBJECTIVES: The objective of this lesson is to review Commercial pilot knowledge areas and assess the student's learning.

CONTENT: Summary of Units 1, 2, and 3, and a traditional written assessment.

COMPLETION STANDARDS: This lesson will be complete when the student displays knowledge of Commercial pilot privileges, limitations, flight operations, navigation, airspace, and night and high altitude operations.

GROUND LESSON 5, UNIT 1: (3 HOURS) COMPREHENSIVE REVIEW

OBJECTIVES: This lesson is an opportunity for the student to recap and assimilate the information covered during the Commercial ground-training phase. The objective is to accomplish a comprehensive review of all of the material covered in the Commercial Pilot Ground Training Course in preparation for the FAA Commercial Pilot Knowledge Test.

CONTENT: The instructor will walk the student through the Commercial Pilot Training Course Outline by covering the high points and answering student questions. Practice testing will be conducted using appropriate books and/or software.

COMPLETION STANDARDS: The student should complete this lesson prepared for the FAA Commercial Pilot Knowledge Test.

GROUND LESSON 5, UNIT 2: (3 HOURS) FINAL EXAMINATION

OBJECTIVES: The Commercial Pilot Ground School, for the ADDITIONAL AIRPLANE CATEGORY AND SINGLE-ENGINE LAND student, does not require an FAA Knowledge Test for completion.

CONTENT:
The course instructor will administer a comprehensive examination using suitable FAA knowledge test bank questions. The examination consists of multiple-choice type questions with three choices.

COMPLETION STANDARDS: For class purposes, grading for the test is based on the traditional scale where 90% to 100% equals an "A", 80% to 89% equals a "B", 70% to 79% equals a "C", 60% to 69% equals a "D" and below 60% is a failure.

COMMERCIAL PILOT ADDITIONAL AIRPLANE CATEGORY AND SINGLE-ENGINE LAND CLASS (FIXED WING TRANSITION) FLIGHT TRAINING SYLLABUS: PRAV 342A, 343A, AND 344A

REQUIREMENTS AND OBJECTIVES

FLIGHT TRAINING COURSE OBJECTIVE: The student will obtain the aeronautical knowledge, skill, and experience necessary to be awarded a Commercial Pilot Certificate, Airplane Single-Engine Land (ASEL.) The intent of Louisiana Tech University flight training is to produce a pilot who displays airmanship, to include competence, precision, and judgment.

ENROLLMENT PREREQUISITES: Students must enroll as a student at Louisiana Tech University, and satisfy the requirements of 49 CFR 1552. Students enrolling in this course need an Airman Medical Certificate, a Commercial Pilot (Rotorcraft) Certificate with Instrument Rating, and completion of or concurrent enrollment in Commercial Pilot ground school.

FLIGHT TRAINING CURRICULUM: Flight school for the Commercial Pilot student is divided into three stages. Each stage is a Professional Aviation course at Louisiana Tech University. Stage One correlates to PRAV 342, Stage Two correlates to PRAV 343, Stage Three correlates to PRAV 344. Completion of these courses will result in three college semester credit hours. The stages will be abbreviated to total 55 hours of flight training. Students will accomplish all syllabus-directed training unless omission is approved by the Chief Instructor.

COURSE COMPLETION STANDARDS: Completion standards equate to "desired learning outcome(s)." The student must demonstrate through flight tests and school records that the aeronautical knowledge, skill, and experience requirements necessary to obtain a Commercial Pilot Certificate (ASEL) are attained.

BRIEFING/DEBRIEFING: A standard briefing and debriefing time of one-half hour (total) is assumed to be associated with each flight training device (FTD) sortie and each dual sortie. This is charged to the student as Oral, but is not listed on the lesson outline pages. If Oral is specifically listed with a given unit, the time is intended as one-on-one ground instruction, over and above normal brief/debrief time.

SYLLABUS LAYOUT: The syllabus is divided into three Stages. The flight syllabus differs from the ground syllabus. Each Stage is divided into Lessons, which are then subdivided into individual activities, referred to as Units. Since all of a given lesson should support the objectives and standards, they are listed under the lesson, not the unit.

NOTE: The lessons in the Commercial flight syllabus are formed as set numbers of hours (of FTD, dual, solo, oral, etc.) The number of units needed to achieve the required aeronautical skill and experience will vary. Instructors are offered flexibility to vary the number of units, as long as the standards are met, and the required minimum flight hours are accomplished. If this is the case, instructor will complete the remaining units with zero time.

SPECIAL SYLLABUS ITEMS: Discussion items or maneuvers that fall outside of the areas of operation listed on the gradesheet are called "special syllabus." Refer to the lesson.

AREAS OF OPERATION / UNIT CONTENTS: Items listed on the gradesheets with a "+" are those items intended to be emphasized in a given unit. Items for which a standard must be met will appear on the gradesheet. If the "plus-items" of a unit are not covered (and not marked on the gradesheet), Talon/ETA will not allow lesson completion. (See "Incomplete" below.)

Situational awareness, basic aircraft control, and general knowledge. Airmanship is key to pilot competency, and will be graded on each sortie. Airmanship encompasses situational awareness and judgment. Likewise, instructors will continuously sample the student's general knowledge, which will also be graded. These will appear on every flight and FTD gradesheet. Basic aircraft control refers to general holding of altitude, airspeed, and heading.

AREAS OF OPERATION: The following areas of operation will be graded. Every item will appear on every Unit page in the flight syllabus. There are two methods of directing Unit contents: "special syllabus" and "plus-items". Special syllabus requirements will require reference to the TCO, and usually will be graded NG upon completion. Items which must be covered on a given unit will have a minimum grade and "+", e.g. U+, F+, G+. (Grading scales are defined above.) Plus-items must be graded "Fair" prior to solo. All items must be graded "Good" prior to course graduation. Items required will be reflected in Talon/ETA.

Preflight Preparation
Ground Operations
Normal Takeoff
Short-field Takeoff
Soft-field Takeoff
Departure
Steep Turns
Slow Flight
Power-off Stalls
Power-on Stalls
Ground Reference Maneuvers
Performance Maneuvers
Enroute Descent
Straight-In Approach
Traffic Pattern
Normal Landing
Short-field Landing
Soft-field Landing
Slip to Land / No-Flap Land
180° Accuracy Landing
Night Operations
Engine-out Procedures
Engine-out Landing
Basic Instrument Maneuvers

Touch-and-Go
Go-around / Missed approach
Communication
Pilotage/Dead Reckoning
Use of Navigation Systems
Diversion
Checklist Procedures
Risk Management / Decision Making
Task Management
Situational Awareness
Emergency Procedures
General Knowledge
Basic Aircraft Control
Vertical 'S' Series
Instrument Unusual Attitudes
Holding
ILS
VOR Approach
NDB Approach
GPS Approach
Circling Approach
Special Syllabus Requirements

GRADING INSTRUCTIONAL LESSONS:

There are two methods of grading student performance: an absolute grading scale for rating individual maneuver items, and a relative grading scale for assessing overall sortie performance.

Absolute Grading Scale
Instructors judge the student's maneuver performance against the Pilot Training Standards. Grades are based on the student's characteristic performance. This grade does not consider the student's type and amount of training.

Maneuver Grades Description
No Grade (NG) Enter NG on the record of training when the maneuver is demonstrated by an flight instructor on a dual sortie, but not performed by the student. NG is also used to indicate on the gradesheet that a Unit Contents / Special Syllabus briefing item was covered. Additionally, NG is the grade for individual maneuvers on solo sorties, unless the student does something recognizable from the ground as unsafe.
Unsatisfactory (U) The student is unsafe or unable because of lack of sufficient knowledge, skill, or ability to perform the operation, maneuver, or task. Note that 'U' may completely normal at a given point in training. For instance, maneuvers newly introduced will typically be Unsatisfactory. Post-solo students receiving a 'U' on any safety of flight item will receive a 'U' overall, and will not fly solo again until the 'U' is cleared.
Fair (F) The student performs the operation, maneuver, or task safely but has limited proficiency. Deviations occur that detract from performance and/or verbal prompting was

required from the instructor. Typically, Fair indicates the instructor's belief that the student can or could safely accomplish the item while solo in the aircraft.
Good (G) The student performs the operation, maneuver, or task satisfactorily. Deviations occur that are recognized and corrected in a timely manner without verbal prompting from the instructor. Good equates to the PTS, and indicates sufficient mastery of the subject or maneuver.
Excellent (E) The student performs the operation, maneuver, or task correctly, efficiently, and skillfully. Minor deviations occur that do not detract from the overall performance.
Not Applicable (NA) Talon/ETA requires a grade on every item on its Unit gradesheet. A sortie may be complete, even though a particular non-plus-item was not accomplished. If this is the case, then that item is marked NA.

Overall Sortie Grades/Relative Grading Scale
The instructor applies relative grading criteria to assess overall sortie performance with grades of Excellent (E), Good (G), Fair (F), or Unsatisfactory (U). "Good" is the norm for daily sorties. Students are expected to progress as they advance in training. Students may receive grades of 'F' or 'U' on individual maneuvers new to them, but still receive a grade of 'G' or 'E' for overall sortie performance. A student's continued lack of progress should be reflected with an overall sortie performance grade of 'F' or 'U'. 'F' will not be given as overall grade on consecutive sorties. 'U' as an overall grade means the student does not demonstrate satisfactory proficiency or progression for his/her level of training. This may represent lack of preparation or effort on the student's part, lack of recency of experience, lack of skill, or simply a temporary learning plateau (student needs to repeat the lesson.)

For flights preceding stage checks, 'U' overall represents the instructor's judgment that the student cannot pass the applicable stage check. Except for lessons immediately preceding stage checks, a sortie graded 'U' overall does not absolutely preclude progress to the subsequent syllabus sortie. However, remediation or additional training may be directed, if necessary. Additionally, 'U' is the overall grade assigned in the event of active airsickness. A student achieving three overall 'U' grades consecutively will be brought to the attention of the Chief Instructor, who will review the student's training record, and, if needed, direct a progress check lesson with a check instructor (ground and/or flight evaluation.)

Incomplete (I) 'I' is assigned as an overall sortie grade if, due to conditions beyond the student's control (weather, maintenance, illness, etc.), insufficient time was available for the student to meet standards in a particular maneuver. Amplifying information is required. If in doubt, flight instructors will consult the Chief Instructor or Assistant Chief as to the appropriateness of an Incomplete versus an Unsatisfactory grade. Additionally, an 'I' is appropriate if time is insufficient for a given oral or flight lesson, but some training was accomplished.

Solo sorties: Solo sorties are graded NG overall, unless the student commits a patently unsafe act which is observable from the ground or by an airborne flight instructor, in which case the sortie would be graded 'U', and the student counseled.

STAGE CHECKS: Stage checks are integral to Part 141 pilot schools. They measure the student's accomplishment during each stage of training. They allow close supervision of training and a second opinion on the student's progress. Specific chief instructor approval is required to begin the next stage without completing the current stage, including its associated stage check. Students failing stage checks will not proceed to the next stage.

COURSE GRADES: Because stage check grades normally serve as overall flight course grades for the University, the "A-B-C" grading system must be used. If a stage has more than one check, the Final stage check will be weighted. 'I' for a course grade is in accordance with University policy.

GRADING STAGE CHECKS: After each stage check, the check instructor will assign maneuver grades using the preceding scale (U-F-G-E.) When any grade below a plus-item standard is assigned, the check instructor must include amplifying comments on the grade form. The "A-B-C-D-F" scale is relative, with the check instructor using his judgment.

(A) Meets or Exceeds Standards without check instructor input. Each stage check begins with the assumption that the student is at the 'A' level.

(B) Meets Standards with little check instructor input.

(C) Below Standards. The student is not unsafe but proficiency is limited or excessive instruction is required. To receive a 'C', a maximum of three plus-items may be graded Fair when Good is the standard. NOTE: 'C' cannot be used as an overall grade if Fair is the maneuver standard, and an item is graded 'U'. 'C' cannot be used on Final stage checks, since all items must meet standards (Good). 'C' is also a usable overall course grade.

(D) 'D' is not a usable stage check grade. Students may, in theory, receive a 'D' as an overall course grade.

(F) Failure. Safety of the flight is in question, and/or instructor intervention is required. Grading any item 'Unsatisfactory' results in an 'F'.

Students achieving an 'F' will normally be required to repeat the stage check. The check instructor will direct or conduct remediation as required. Repeated stage checks are still graded as listed above. However, the University course grade will be lowered one letter. The flight profile of repeated stage checks is at check instructor discretion, but will include all items graded below standard. Original failed maneuver grades are not accounted for in scoring the retake.

PRACTICAL TESTS: Practical tests are conducted by the FAA or their designated representative. Practical test completion is required to complete the training course. Practical test failure will result in lowering the overall grade by one letter (assuming a successful re-take).

STAGE 1 FLIGHT TRAINING SUMMARY

	DU	SO	FTD	ORL	INST
LESSON 1: LESSON 1: COMMERCIAL MANEUVERS TRAINING					
1. COMMERCIAL MANEUVERS PROCEDURES				2.0	
2. COMMERCIAL MANEUVERS TRAINING	12.5			5.0	
LESSON 2: COMMERCIAL MANEUVERS PRACTICE					
1. COMMERCIAL MANEUVERS PRACTICE		2.5			
LESSON 3: EMERGENCY PROCEDURES TRAINING					
1. EMERGENCY PROCEDURES TRAINING			2.0		
LESSON 4: COMMERCIAL MANEUVERS STAGE CHECK					
1. COMMERCIAL MANEUVERS STAGE CHECK				1.0	
2. COMMERCIAL MANEUVERS STAGE CHECK	1.0				
TOTAL STAGE 1 (17.0 FLIGHT TRAINING)	**13.5**	**2.5**	**2.0**	**7.0**	

Note: DU—dual (in airplane), SO—solo (in airplane), FTD—flight training device (either AATD (Cessna 172) or Level 6 FTD (Cessna 172). ORL—oral, INST—instrument

STAGE 2 FLIGHT TRAINING SUMMARY

	DU	SO	FTD	ORL	INST
LESSON 1: COMMERCIAL INTRO AND DUAL CROSS-COUNTRY NAVIGATION					
1. VFR NAV PROCEDURESS				1.0	
2. PART 141 REQUIRED DUAL CROSS-COUNTRY	4.0			1.0	
3. SOLO VFR CROSS-COUNTRY		2.0			
LESSON 2: ADVANCED INSTRUMENT INSTRUCTION					
1. INSRUMENT REVIEW				2.0	
2. ADVANCED INSTRUMENT INSTRUCTION (FTD)			6.0	2.5	5.0
3. ADVANCED INSTRUMENT INSTRUCTION	5.0			2.5	5.0
LESSON 3: INSTRUMENT CROSS-COUNTRY					
1. IFR CROSS-COUNTRY PROCEDURES				1.0	
2. DUAL IFR CROSS-COUNTRY	5.0			2.5	5.0
LESSON 4: NAVIGATION STAGE CHECK					
1. NAVIGATION STAGE CHECK				1.0	
2. NAVIGATION STAGE CHECK			2.0		
TOTAL STAGE 2 (24.0 FLIGHT TRAINING)	**14.0**	**2.0**	**8.0**	**9.0**	**15.0**

Note: DU—dual (in airplane), SO—solo (in airplane), FTD—flight training device (either AATD (Cessna 172) or Level 6 FTD (Cessna 172). ORL—oral, INST—instrument

STAGE 3 FLIGHT TRAINING SUMMARY

	DU	SO	FTD	ORL	INST
LESSON 1: COMMERCIAL MANEUVERS IN COMPLEX AIRCRAFT					
1. COMM. KNOWLEDGE/COMPLEX SYSTEM				2.0	
2. COMPLEX AIRCRAFT OPERATIONS	12.5			5.0	
LESSON 2: COMMERCIAL FINAL STAGE CHECK					
1. COMMERCIAL FINAL STAGE CHECK				1.5	
2. COMMERCIAL FINAL STAGE CHECK	1.5				
TOTAL STAGE 3 (14.0 FLIGHT TRAINING)	**14.0**			**8.5**	

Note: DU—dual (in airplane), SO—solo (in airplane), FTD—flight training device (either AATD (Cessna 172) or Level 6 FTD (Cessna 172). ORL—oral, INST—instrument

COURSE TOTALS (55.0 HOURS FLIGHT TRAINING)

DUAL	SOLO	FTD	ORA L	INST
41.5	**4.5**	**10.0**	**24.5**	**15.0**

PROFESSIONAL AVIATION 342A: COMMERCIAL PILOT FLIGHT I
FLIGHT TRAINING STAGE 1
COMMERCIAL MANEUVERS

OBJECTIVES: The focus of this stage is for the student to master the airplane in the maneuvering environment.

INSTRUCTOR ACTIONS: Instructors use the lessons and units as guide for planning their instructional activities. They discuss, demonstrate, and critique, while monitoring student actions for safety of flight.

STUDENT ACTIONS: Students prepare for lessons and units, and ask pertinent questions. They learn to act as pilot in command, by practicing and performing to the given standards.

REQUIRED STUDY: Following each lesson, the instructor will look forward to the next planned lesson, and assign the student the listed maneuver items for book review from the Airplane Flying Handbook or suitable text.

COMPLETION STANDARDS: This stage is complete when the student demonstrates competence in the advanced Commercial maneuvers, to the standards listed in the Commercial PTS in a fixed-gear airplane.

FLIGHT STAGE 1, LESSON 1: INTRODUCTION TO TECH FLIGHT OPS AND COMMERCIAL MANEUVERS TRAINING

OBJECTIVES: The objective of this lesson is to introduce Commercial pilot maneuvers in a fixed-gear airplane, and offer sufficient instruction for the student to achieve mastery of the aircraft.

SPECIAL SYLLABUS:

1. Create student records
    a. Verify citizenship; accomplish TSA endorsement
    b. Input student information to Talon/ETA, including emergency contact info
    c. Observe balance of student's debit account
2. Review of ETA Ops Check In
3. Introduce Flight Information File
4. Orientation to Flight Operations
    a. Emergency Exits/Fire Extinguishers
    b. Flight line safety
5. Completion of Flight Release Form, weight and balance and takeoff/landing performance
6. Aircraft dispatch procedures
7. Procedures Training
    a. Aircraft preflight and postflight procedures
    b. Positive exchange of flight controls (discuss in Unit 1, accomplish in Unit 2)
8. Emergency equipment use (ELT, fire extinguisher)
9. Assign home review of Louisiana Tech University Safety Procedures and Practices and Standard Operating Procedures
10. Written test on Louisiana Tech University Safety Procedures and Practices and Standard Operating Procedures
11. Aircraft Documents review
    a. Airworthiness, Registration, Type Certificate, and Operational Limitations
12. Review maintenance requirements
    a. 100 hour inspections/annual inspections/Airworthiness Directives
    b. Equipment inspections
        i. Emergency Locator Transmitter/Transponder/Static system/altimeter inspections
13. Weight and balance and Equipment List
14. Assign student to practice checklist usage ("chairfly").
15. Observe student's Airman Medical Certificate and Student Pilot Certificate. This lesson will not be graded "Complete" until the student possesses one.
16. The Commercial Maneuvers worksheet will be issued to the student during the Unit 1 oral. It will be completed and reviewed by the assigned instructor prior to the Stage 1 stage check.
17. Students will demonstrate proficiency in spin recovery.
18. Students will demonstrate proficiency in emergency descent.

COMPLETION STANDARDS: In a fixed-gear airplane, the student achieves Commercial PTS in all areas of operation excluding Navigation.

FS1, L1, U1: (2.0 HOUR ORAL) COMMERCIAL MANEUVERS PROCEDURES

Preflight Preparation	G+
Ground Operations	
Normal Takeoff	
Short-field Takeoff	
Soft-field Takeoff	
Departure	
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Accelerated Stall	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	
Straight-In Approach	
Traffic Pattern	
Normal Landing	
Short-field Landing	
Soft-field Landing	
180° Accuracy Landing	
Night Operations	
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	
Touch-and-Go	
Go-around / Missed approach	
Communication	
Pilotage/Dead Reckoning	
Use of Navigation Systems	
Diversion	
Checklist Procedures	
Risk Management / Decision Making	
Task Management	
Situational Awareness	
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	NG+

FS1, L1, U2-11: (12.5 HOURS DUAL) COMMERCIAL MANEUVERS

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	G+
Soft-field Takeoff	G+
Departure	G+
Slow Flight	G+
Power-off Stalls	G+
Power-on Stalls	G+
Accelerated Stall	G+
Ground Reference Maneuvers	G+
Performance Maneuvers	G+
Enroute Descent	G+
Straight-In Approach	G+
Traffic Pattern	G+
Normal Landing	G+
Short-field Landing	G+
Soft-field Landing	G+
180° Accuracy Landing	G+
Night Operations	
Engine-out Procedures	G+
Engine-out Landing	G+
Basic Instrument Maneuvers	
Touch-and-Go	G+
Go-around / Missed approach	G+
Communication	G+
Pilotage/Dead Reckoning	
Use of Navigation Systems	
Diversion	
Checklist Procedures	G+
Risk Management / Decision Making	G+
Task Management	G+
Situational Awareness	G+
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	G+
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	NG+

FLIGHT STAGE 1, LESSON 2: COMMERCIAL MANEUVERS PRACTICE

OBJECTIVES: The objective of this lesson is for the student to practice advanced Commercial pilot maneuvers, building confidence while practicing positive aircraft control.

SPECIAL SYLLABUS:

1. Students may only accomplish those maneuvers for which they have received a 'Fair' or better on a dual sortie.
2. Spins are not authorized on solo sorties.
3. Timing of the solo units is at flight instructor discretion.

COMPLETION STANDARDS: Students should realistically assess their performance while they gain solo aeronautical experience.

FS1, L2, U1-2: (2.5 HOURS SOLO) COMMERCIAL MANEUVERS PRACTICE

Preflight Preparation	NG+
Ground Operations	NG+
Normal Takeoff	NG+
Short-field Takeoff	NG+
Soft-field Takeoff	NG+
Departure	NG+
Slow Flight	NG+
Power-off Stalls	NG+
Power-on Stalls	NG+
Accelerated Stall	
Ground Reference Maneuvers	NG+
Performance Maneuvers	NG+
Enroute Descent	NG+
Straight-In Approach	NG
Traffic Pattern	NG+
Normal Landing	NG+
Short-field Landing	NG+
Soft-field Landing	NG+
180° Accuracy Landing	NG+
Night Operations	
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	
Touch-and-Go	NG
Go-around / Missed approach	NG
Communication	NG+
Pilotage/Dead Reckoning	NG+
Use of Navigation Systems	NG+
Diversion	
Checklist Procedures	NG+
Risk Management / Decision Making	NG+
Task Management	NG+
Situational Awareness	NG+
Emergency Procedures	
General Knowledge	NG+
Basic Aircraft Control	NG+
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	NG+

FLIGHT STAGE 1, LESSON 3: EMERGENCY PROCEDURES TRAINING

OBJECTIVES: The objective of this lesson is for the student to experience and react to emergencies in the training aircraft.

SPECIAL SYLLABUS:

1. The instructor will cover every emergency procedure listed in the POH/AFM.
2. Diversion to an alternate airport will be practiced.
3. Landing with a 15-knot direct crosswind will be practiced.

COMPLETION STANDARDS: The student should maintain aircraft control, analyze the situation, take appropriate action, and land as soon as conditions permit.

FS1, L3, U1: (2.0 HOUR FTD) EMERGENCY PROCEDURES TRAINING

Preflight Preparation	
Ground Operations	
Normal Takeoff	
Short-field Takeoff	
Soft-field Takeoff	
Departure	
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Accelerated Stall	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	
Straight-In Approach	
Traffic Pattern	
Normal Landing	
Short-field Landing	
Soft-field Landing	
180° Accuracy Landing	
Night Operations	
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	
Touch-and-Go	
Go-around / Missed approach	
Communication	
Pilotage/Dead Reckoning	
Use of Navigation Systems	
Diversion	G+
Checklist Procedures	
Risk Management / Decision Making	
Task Management	
Situational Awareness	
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	NG+

FLIGHT STAGE 1, LESSON 4: COMMERCIAL MANEUVERS STAGE CHECK

OBJECTIVES: The objective of this check is to verify the student demonstrates knowledge of aircraft limitations and mastery of the aircraft, with a successful outcome of any maneuver never seriously in doubt.

COMPLETION STANDARDS: The student will conform to Commercial PTS in maneuvering the fixed-gear training airplane.

FS1, L4, U1: (1.0 HOUR ORAL) COMMERCIAL MANEUVERS STAGE CHECK

Preflight Preparation
Ground Operations
Normal Takeoff
Short-field Takeoff
Soft-field Takeoff
Departure
Slow Flight
Power-off Stalls
Power-on Stalls
Accelerated Stall
Ground Reference Maneuvers
Performance Maneuvers
Enroute Descent
Straight-In Approach
Traffic Pattern
Normal Landing
Short-field Landing
Soft-field Landing
180° Accuracy Landing
Night Operations
Engine-out Procedures
Engine-out Landing
Basic Instrument Maneuvers
Touch-and-Go
Go-around / Missed approach
Communication
Pilotage/Dead Reckoning
Use of Navigation Systems
Diversion
Checklist Procedures
Risk Management / Decision Making
Task Management
Situational Awareness
Emergency Procedures G+
General Knowledge G+
Basic Aircraft Control
Vertical 'S' Series
Instrument Unusual Attitudes
Holding
ILS
VOR Approach
NDB Approach
GPS Approach
Circling Approach
Special Syllabus Requirements

FS1, L4, U2: (1.0 HOUR DUAL) COMMERCIAL MANEUVERS STAGE CHECK

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	G+
Soft-field Takeoff	G+
Departure	G+
Slow Flight	G+
Power-off Stalls	G+
Power-on Stalls	G+
Accelerated Stall	G+
Ground Reference Maneuvers	G+
Performance Maneuvers	G+
Enroute Descent	G+
Straight-In Approach	G
Traffic Pattern	G+
Normal Landing	G+
Short-field Landing	G+
Soft-field Landing	G+
180° Accuracy Landing	G+
Night Operations	
Engine-out Procedures	G+
Engine-out Landing	G
Basic Instrument Maneuvers	
Touch-and-Go	G
Go-around / Missed approach	G
Communication	G+
Pilotage/Dead Reckoning	
Use of Navigation Systems	
Diversion	
Checklist Procedures	G+
Risk Management / Decision Making	G+
Task Management	G+
Situational Awareness	G+
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	G+
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	

PROFESSIONAL AVIATION 343A: COMMERCIAL PILOT FLIGHT II
FLIGHT TRAINING STAGE 2
CROSS-COUNTRY OPERATIONS

OBJECTIVES: The focus of this stage is for the student to become very familiar with fixed-wing cross-country navigation, both VFR and IFR. The student will receive 10 hours of advanced instrument training, to include attitude instrument flying, partial panel skills, recovery from unusual flight attitudes, intercepting and tracking navigational systems, holding, and instrument departures and approaches.

INSTRUCTOR ACTIONS: Instructors use the lessons and units as guide for planning their instructional activities. They discuss, demonstrate, and critique, while monitoring student actions for safety of flight. The instructor provides opportunities for the student to practice decision-making.

STUDENT ACTIONS: Students prepare for lessons and units, and ask pertinent questions. They learn to act as pilot in command, by practicing and performing to the given standards.

REQUIRED STUDY: Following each lesson, the instructor will look forward to the next planned lesson, and assign the student the listed maneuver items for book review from the Airplane Flying Handbook or suitable text.

COMPLETION STANDARDS: This stage is complete when the student demonstrates competence in navigation and decision making. The stage culminates with a challenging IFR flight profile in a simulated busy airspace environment.

FLIGHT STAGE 2, LESSON 1: VFR CROSS-COUNTRY NAVIGATION

OBJECTIVES: The objective is to introduce fixed-wing VFR cross-country procedures and to comply with 14 CFR141, Appendix I.

SPECIAL SYLLABUS:

1. Unit 1 is a review of airspace rules, weather, pre- and post-flight procedures, airport operations, and flight planning.
2. Conduct navigation training to suitable airports VFR. There is no minimum duration for these cross-country sorties. This lesson requires a dual cross-country flight of at least 2 hours duration, a total straight-line distance of more than 100 NM from the original point of departure, and occurring in day VFR conditions. Additionally, this lesson requires a dual cross-country flight of at least 2 hours duration, a total straight-line distance of more than 100 NM from the original point of departure, and occurring in night VFR conditions.
    a. The student will accomplish at least three night landings on the night cross-country.
3. The student will log advanced instrument instruction from a CFII using a view-limiting device. Advanced instrument instruction consists of attitude instrument flying, partial panel skills, recovery from unusual attitudes, intercepting and tracking navigational systems, holding, and instrument departures and approaches.
4. Cessna 172RG aircraft are authorized, but not preferred for these sorties.

COMPLETION STANDARDS: The student should complete this lesson with advanced knowledge and proficiency in cross-country operations.

FS2, L1, U1: (1.0 HOUR ORAL) VFR NAVIGATION PROCEDURES

Preflight Preparation	
Ground Operations	
Normal Takeoff	
Short-field Takeoff	
Soft-field Takeoff	
Departure	
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Accelerated Stall	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	
Straight-In Approach	
Traffic Pattern	
Normal Landing	
Short-field Landing	
Soft-field Landing	
180° Accuracy Landing	
Night Operations	
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	
Touch-and-Go	
Go-around / Missed approach	
Communication	
Pilotage/Dead Reckoning	
Use of Navigation Systems	
Diversion	
Checklist Procedures	
Risk Management / Decision Making	
Task Management	
Situational Awareness	
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	NG+

FS2, L1, U2: (4.0 HOURS DUAL) DUAL CROSS-COUNTRY NAVIGATION

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	F
Soft-field Takeoff	F
Departure	G+
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Accelerated Stall	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	G+
Straight-In Approach	G
Traffic Pattern	G+
Normal Landing	G+
Short-field Landing	F
Soft-field Landing	F
180° Accuracy Landing	
Engine-out Procedures	F
Engine-out Landing	F
Basic Instrument Maneuvers	G+
Touch-and-Go	G
Go-around / Missed approach	G
Communication	G+
Pilotage/Dead Reckoning	G+
Use of Navigation Systems	G+
Diversion	G+
Checklist Procedures	G+
Risk Management / Decision Making	G+
Task Management	G+
Situational Awareness	G+
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	G+
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	NG+

FS2, L1, U3: (2.0 HOURS SOLO) SOLO CROSS-COUNTRY

Preflight Preparation	NG+
Ground Operations	NG+
Normal Takeoff	NG+
Short-field Takeoff	NG
Soft-field Takeoff	NG
Departure	NG+
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Accelerated Stall	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	NG+
Straight-In Approach	NG
Traffic Pattern	NG+
Normal Landing	NG+
Short-field Landing	NG
Soft-field Landing	NG
180° Accuracy Landing	
Night Operations	
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	
Touch-and-Go	NG
Go-around / Missed approach	NG
Communication	NG+
Pilotage/Dead Reckoning	NG+
Use of Navigation Systems	NG+
Diversion	
Checklist Procedures	NG+
Risk Management / Decision Making	NG+
Task Management	NG+
Situational Awareness	NG+
Emergency Procedures	
General Knowledge	NG+
Basic Aircraft Control	NG+
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	

FLIGHT STAGE 2, LESSON 2: ADVANCED INSTRUMENT INSTRUCTION

OBJECTIVE: The objective is to introduce fixed-wing instrument flight, with a goal of creating a pilot who is confident in flying to unfamiliar fields under IFR using SIDs, STARs, and IAPs.

SPECIAL SYLLABUS:

1. Units 1 and 2 will be used to check the student's present knowledge of IFR procedures and to review IFR procedures in the AIM, FAR, and the Instrument Flying Handbook. Unit 2 will be repeated until the instructor is satisfied that the student's instrument knowledge is at the level of a Louisiana Tech University Instrument course graduate.
2. The instructor will conduct a review of 14 CFR 91.175.
3. The student will log at least 10 hours of advanced instrument instruction from a CFII without the AATD/FTD's visual presentation or with a view-limiting device, as applicable. Advanced instrument instruction consists of attitude instrument flying, partial panel skills, recovery from unusual attitudes, and intercepting and tracking navigational systems, holding, and instrument departures and approaches.
4. Every FTD flight will include an ODP, or a SID or STAR, as well as an instrument approach and published missed approach.
5. The units in this lesson should total 10 hours (AATD, FTD, and flight), at which time Special Syllabus will be graded NG. If units remain in this lesson after 10 hours is achieved, CFIs will use the "Omit, retain course minimums" feature of Talon/ETA. If 10 hours are not achieved by the end of the units, then grade Unit 10 Incomplete, and repeat as needed.
6. The intent of the FTD sorties is to practice at unfamiliar airports while flying complex published procedures.

COMPLETION STANDARDS: The student should demonstrate competence in instrument navigation. Instrument PTS apply.

FS2, L2, U1-2: (4.0 HOURS ORAL) INSTRUMENT GROUND INSTRUCTION

Preflight Preparation	G+
Ground Operations	
Normal Takeoff	
Short-field Takeoff	
Soft-field Takeoff	
Departure	
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	
Straight-In Approach	
Traffic Pattern	
Normal Landing	
Short-field Landing	
Soft-field Landing	
180° Accuracy Landing	
Night Operations	
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	
Touch-and-Go	
Go-around / Missed approach	
Communication	
Pilotage/Dead Reckoning	
Use of Navigation Systems	
Diversion	
Checklist Procedures	
Risk Management / Decision Making	
Task Management	
Situational Awareness	
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	NG+

FS2, L2, U3-5: (5.0 HOURS AATD/FTD) ADVANCED INSTRUMENT INSTRUCTION

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	F
Soft-field Takeoff	F
Departure	G+
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	G+
Straight-In Approach	G
Traffic Pattern	G+
Normal Landing	G+
Short-field Landing	F
Soft-field Landing	F
180° Accuracy Landing	
Night Operations	F
Engine-out Procedures	F
Engine-out Landing	F
Basic Instrument Maneuvers	G+
Touch-and-Go	G
Go-around / Missed approach	G
Communication	G+
Pilotage/Dead Reckoning	G+
Use of Navigation Systems	G+
Diversion	G+
Checklist Procedures	G+
Risk Management / Decision Making	G+
Task Management	G+
Situational Awareness	G+
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	G+
Vertical 'S' Series	G+
Instrument Unusual Attitudes	G+
Holding	G+
ILS	G+
VOR Approach	G+
NDB Approach	G+
GPS Approach	G+
Circling Approach	
Special Syllabus Requirements	NG+

FS2, L2, U6-8: (5.0 HOURS DUAL) ADVANCED INSTRUMENT INSTRUCTION

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	F
Soft-field Takeoff	F
Departure	G+
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	G+
Straight-In Approach	G
Traffic Pattern	G+
Normal Landing	G+
Short-field Landing	F
Soft-field Landing	F
180° Accuracy Landing	
Night Operations	F
Engine-out Procedures	F
Engine-out Landing	F
Basic Instrument Maneuvers	G+
Touch-and-Go	G
Go-around / Missed approach	G
Communication	G+
Pilotage/Dead Reckoning	G+
Use of Navigation Systems	G+
Diversion	G+
Checklist Procedures	G+
Risk Management / Decision Making	G+
Task Management	G+
Situational Awareness	G+
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	G+
Vertical 'S' Series	G+
Instrument Unusual Attitudes	G+
Holding	G+
ILS	G+
VOR Approach	G+
NDB Approach	G+
GPS Approach	G+
Circling Approach	G+
Special Syllabus Requirements	NG+

FLIGHT STAGE 2, LESSON 3: IFR CROSS-COUNTRY INSTRUCTION

OBJECTIVE: The objective is for the student to apply skill learned previously and act as PIC under IFR.

COMPLETION STANDARDS: The student should demonstrate the skills needed to act as PIC during single-pilot airplane instrument flight.. Instrument PTS apply.

FS2, L3, U1: (1.0 HOURS ORAL) IFR CROSS-COUNTRY PLANNING

Preflight Preparation	G+
Ground Operations	
Normal Takeoff	
Short-field Takeoff	
Soft-field Takeoff	
Departure	
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	
Straight-In Approach	
Traffic Pattern	
Normal Landing	
Short-field Landing	
Soft-field Landing	
180° Accuracy Landing	
Night Operations	
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	
Touch-and-Go	
Go-around / Missed approach	
Communication	
Pilotage/Dead Reckoning	
Use of Navigation Systems	
Diversion	
Checklist Procedures	
Risk Management / Decision Making	
Task Management	
Situational Awareness	
Emergency Procedures	
General Knowledge	G+
Basic Aircraft Control	
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	

FS2, L3, U1-2: (5.0 HOURS DUAL) IFR CROSS-COUNTRY FLIGHT

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	F
Soft-field Takeoff	F
Departure	G+
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	G+
Straight-In Approach	G
Traffic Pattern	G
Normal Landing	G+
Short-field Landing	F
Soft-field Landing	F
180° Accuracy Landing	
Night Operations	F
Engine-out Procedures	F
Engine-out Landing	F
Basic Instrument Maneuvers	G+
Touch-and-Go	G
Go-around / Missed approach	G+
Communication	G+
Pilotage/Dead Reckoning	G+
Use of Navigation Systems	G+
Diversion	G
Checklist Procedures	G+
Risk Management / Decision Making	G+
Task Management	G+
Situational Awareness	G+
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	G+
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	G+
ILS	G+
VOR Approach	G+
NDB Approach	G+
GPS Approach	G+
Circling Approach	G+
Special Syllabus Requirements	

FLIGHT STAGE 2, LESSON 4: NAVIGATION STAGE CHECK

OBJECTIVES: The objective of this check is to verify the student's ability to operate efficiently under IFR in busy airspace.

SPECIAL SYLLABUS:

1. Review of IFR flight planning.
2. The check instructor will create a situation in the FTD that tests the student's decision-making.
3. At least one non-precision approach will be tested. Which type is at check instructor discretion.

COMPLETION STANDARDS: The student should display competence in navigation and make correct decisions. Instrument PTS apply.

FS2, L4, U1: (1.0 HOUR ORAL) NAVIGATION STAGE CHECK

Preflight Preparation	
Ground Operations	
Normal Takeoff	
Short-field Takeoff	
Soft-field Takeoff	
Departure	
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	
Straight-In Approach	
Traffic Pattern	
Normal Landing	
Short-field Landing	
Soft-field Landing	
180° Accuracy Landing	
Night Operations	
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	
Touch-and-Go	
Go-around / Missed approach	
Communication	
Pilotage/Dead Reckoning	
Use of Navigation Systems	
Diversion	
Checklist Procedures	
Risk Management / Decision Making	
Task Management	
Situational Awareness	
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	NG+

FS2, L4, U2: (2.0 HOURS FTD) NAVIGATION STAGE CHECK

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	
Soft-field Takeoff	
Departure	G+
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	G+
Straight-In Approach	G
Traffic Pattern	G+
Normal Landing	G+
Short-field Landing	
Soft-field Landing	
180° Accuracy Landing	
Night Operations	
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	G+
Touch-and-Go	G
Go-around / Missed approach	G
Communication	G+
Pilotage/Dead Reckoning	G+
Use of Navigation Systems	G+
Diversion	G+
Checklist Procedures	G+
Risk Management / Decision Making	G+
Task Management	G+
Situational Awareness	G+
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	G+
Vertical 'S' Series	G+
Instrument Unusual Attitudes	G+
Holding	G+
ILS	G+
VOR Approach	G
NDB Approach	G
GPS Approach	G
Circling Approach	
Special Syllabus Requirements	NG+

PROFESSIONAL AVIATION 344A, COMMERCIAL PILOT FLIGHT III
FLIGHT TRAINING STAGE 3
CROSS-COUNTRY AND COMPLEX AIRPLANE PROCEDURES

OBJECTIVES: The focus of this stage is the transition to complex airplanes. The student should apply previously knowledge and skills to a complex airplane, in preparation for the Commercial pilot practical test.

INSTRUCTOR ACTIONS: Instructors use the lessons and units as guide for planning their instructional activities. They discuss, demonstrate, and critique, while monitoring student actions for safety of flight.

STUDENT ACTIONS: Students prepare for lessons and units, and ask pertinent questions. They learn to act as pilot in command, by practicing and performing to the given standards.

REQUIRED STUDY: Following each lesson, the instructor will look forward to the next planned lesson, and assign the student the listed maneuver items for book review from the Airplane Flying Handbook or suitable text.

COMPLETION STANDARDS: This stage is complete when the student demonstrates competence in the advanced Commercial maneuvers, to the standards listed in the Commercial PTS, while acting as PIC of a complex aircraft.

FLIGHT STAGE 3, LESSON 1: COMMERCIAL MANEUVERS IN COMPLEX AIRPLANES

OBJECTIVES: The objective of this lesson is for the student to achieve mastery of the Commercial pilot maneuvers in a complex airplane. The student will attain the appropriate aeronautical knowledge through briefings and directed study.

SPECIAL SYLLABUS:

1. This lesson requires not less than 10 hours complex aircraft flight time.
2. Unit 1 consists of an oral review of the following
    a. Federal Aviation Regulations that apply to commercial pilot privileges, limitations, and flight operations;
    b. Accident reporting requirements of the National Transportation Safety Board;
    c. Basic aerodynamics and the principles of flight;
    d. Meteorology, to include recognition of critical weather situations, windshear recognition and avoidance, and the use of aeronautical weather reports and forecasts;
    e. Safe and efficient operation of aircraft;
    f. Weight and balance computations;
    g. Use of performance charts;
    h. Significance and effects of exceeding aircraft performance limitations;
    i. Use of aeronautical charts and a magnetic compass for pilotage and dead reckoning;
    j. Use of air navigation facilities;
    k. Aeronautical decision making and judgment;
    l. Principles and functions of aircraft systems;
    m. Maneuvers, procedures, and emergency operations appropriate to the aircraft;
    n. Night and high-altitude operations;
    o. Descriptions of and procedures for operating within the National Airspace System
3. Instructor will demonstrate accelerated stall and recovery during first sortie. Student will perform accelerated stall and recovery on each subsequent sortie.
4. Instructor will demonstrate emergency descent during first sortie. Student will perform emergency descent on each subsequent sortie.

COMPLETION STANDARDS: This lesson is when the instructor judges the student competent to act as a Commercial airplane pilot. Commercial PTS apply to maneuvers.

FS3, L1, U1: (2.0 HR ORAL) ORAL REVIEW AND COMPLEX AIRPLANE SYSTEMS

Preflight Preparation	
Ground Operations	
Normal Takeoff	
Short-field Takeoff	
Soft-field Takeoff	
Departure	
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Accelerated Stall	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	
Straight-In Approach	
Traffic Pattern	
Normal Landing	
Short-field Landing	
Soft-field Landing	
180° Accuracy Landing	
Night Operations	
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	
Touch-and-Go	
Go-around / Missed approach	
Communication	
Pilotage/Dead Reckoning	
Use of Navigation Systems	
Diversion	
Checklist Procedures	
Risk Management / Decision Making	
Task Management	
Situational Awareness	
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	NG+

FS3, L1, U2 THROUGH 11: (12.5 HR DUAL) COMPLEX AIRPLANE OPERATIONS

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	G+
Soft-field Takeoff	G+
Departure	G+
Slow Flight	G+
Power-off Stalls	G+
Power-on Stalls	G+
Accelerated Stall	G+
Ground Reference Maneuvers	G+
Performance Maneuvers	G+
Enroute Descent	G+
Straight-In Approach	G
Traffic Pattern	G+
Normal Landing	G+
Short-field Landing	G+
Soft-field Landing	G+
180° Accuracy Landing	G+
Night Operations	
Engine-out Procedures	G+
Engine-out Landing	G
Basic Instrument Maneuvers	G
Touch-and-Go	G
Go-around / Missed approach	G+
Communication	G+
Pilotage/Dead Reckoning	G+
Use of Navigation Systems	G+
Diversion	G+
Checklist Procedures	G+
Risk Management / Decision Making	G+
Task Management	G+
Situational Awareness	G+
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	G+
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	NG+

FLIGHT STAGE 3, LESSON 2: COMMERCIAL FINAL STAGE CHECK

OBJECTIVES: This is the final check for the Commercial Pilot Certificate Training Course. Students who successfully complete this stage check will be awarded a course graduation certificate.

SPECIAL SYLLABUS:

1. The check instructor will direct the student to pre-plan a VFR cross-country to an airport within Class B airspace.

COMPLETION STANDARDS: The check instructor must be confident that the student has the maturity, skills, judgment, and knowledge required of a Commercial pilot. The student's performance will be evaluated by the standards prescribed by the Commercial Pilot practical test standards. Upon successful completion of this stage, the student will be graduated from the Commercial Pilot Additional Airplane Category, Single-engine Land Class course and will receive school affiliation and course association in the Integrated Airman Certification and Rating Application (IACRA) system.

FS3, L2, U1: (1.5 HR ORAL) COMMERCIAL FINAL STAGE CHECK

Preflight Preparation	G+
Ground Operations	
Normal Takeoff	
Short-field Takeoff	
Soft-field Takeoff	
Departure	
Slow Flight	
Power-off Stalls	
Power-on Stalls	
Accelerated Stall	
Ground Reference Maneuvers	
Performance Maneuvers	
Enroute Descent	
Straight-In Approach	
Traffic Pattern	
Normal Landing	
Short-field Landing	
Soft-field Landing	
180° Accuracy Landing	
Night Operations	
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	
Touch-and-Go	
Go-around / Missed approach	
Communication	
Pilotage/Dead Reckoning	
Use of Navigation Systems	
Diversion	
Checklist Procedures	
Risk Management / Decision Making	
Task Management	
Situational Awareness	
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	NG+

FS3, L2, U2: (1.5 HR DUAL) COMMERCIAL FINAL STAGE CHECK

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	G+
Soft-field Takeoff	G+
Departure	G+
Slow Flight	G+
Power-off Stalls	G+
Power-on Stalls	G+
Accelerated Stall	G+
Ground Reference Maneuvers	G+
Performance Maneuvers	G+
Enroute Descent	G+
Straight-In Approach	G
Traffic Pattern	G+
Normal Landing	G+
Short-field Landing	G+
Soft-field Landing	G+
180° Accuracy Landing	G+
Night Operations	
Engine-out Procedures	G+
Engine-out Landing	G
Basic Instrument Maneuvers	G
Touch-and-Go	G
Go-around / Missed approach	G+
Communication	G+
Pilotage/Dead Reckoning	G+
Use of Navigation Systems	G+
Diversion	G+
Checklist Procedures	G+
Risk Management / Decision Making	G+
Task Management	G+
Situational Awareness	G+
Emergency Procedures	G+
General Knowledge	G+
Basic Aircraft Control	G+
Vertical 'S' Series	
Instrument Unusual Attitudes	
Holding	
ILS	
VOR Approach	
NDB Approach	
GPS Approach	
Circling Approach	
Special Syllabus Requirements	NG+