14 CFR 141 PILOT SCHOOL

COMMERCIAL PILOT AIRPLANE SINGLE-ENGINE LAND TRAINING COURSE OUTLINE

October 15, 2008
Revision 1 October 1, 2010
Revision 2, October 26, 2011
Revision 3, February 28, 2013
Revision 4, May 7, 2014
Revision 5, October 5, 2015
Revision 6, May 16, 2017
Revision 7, January 10, 2018
Revision 8, June 30, 2021

LIST OF EFFECTIVE PAGES

COMMERCIAL PILOT AIRPLANE SINGLE-ENGINE LAND TRAINING COURSE OUTLINE

Changes are highlighted with a vertical border.

Pages	Revision
1-80	8

FAA APPROVED
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JOHN O SHAMBLIN
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Future revisions may be posted by pen-and-ink in the space provided.

DATE	REVISION #	PAGES AFFECTED

Summary of changes

Revision 8, June 30, 2021

TRAINING FACILITIES AND LOCATIONS, Training Devices. Added Frasca International, Inc. Model Reconfigurable Training Device (RTD) (Cessna 172 G1000 NXi) as an approved training device.

Flight Stage 1, Lesson 1. Altered requirement "retake the Louisiana Tech University SOP Test" to read "take the Louisiana Tech University Advanced SOP Test."

Flight Stage 1, Lesson 2. Deleted reference to "AATD."

Revision 7, January 10, 2018

Multiple instances of Practical Test Standards/PTS were replaced with Airman Certification Standards/ACS. Pages with this change are not considered revised.

Multiple instances of Flight Training Device/FTD were replaced with Aviation Training Device/ATD. Pages with this change are not necessarily considered revised, unless there were additional changes on the page.

P. 11, COURSEWARE AND REFERENCES. Added Piper PA-28R-201 Pilot's Operating Handbook and Airplane Flight Manual

P. 13, TRAINING FACILITIES AND LOCATIONS. Added Piper PA-28R airplanes. Deleted FRASCA Level 6 Cessna 172 FTD.

P.74, FLIGHT STAGE 3, LESSON 1. Deleted reference to Cessna 172RG.

Revision 6, May 16, 2017

P. 11, COURSEWARE AND REFERENCES. Deleted alphabetical suffixes from FAA publication series numbers. Added GARMIN *G1000 Integrated Flight Deck Pilot's Guide* and GIFD trainer software.

P. 12, COMMERCIAL PILOT COURSE PLANNED TRAINING TIMES. Revised "Key" at bottom to include ATD with ATD time. Clarified "*Note".

P. 13, TRAINING FACILITIES AND LOCATIONS. Added Frasca Mentor 172 G1000 Advanced Aviation Training Device (AATD) as an approved training device. Deleted Fidelity MOTUS AATD.

P. 45-46. Deleted redundant notes.

P. 46, FLIGHT TRAINING SUMMARY, second note. Clarified "solo" and sole occupant. Deleted reference to Fidelity MOTUS AATD.

P. 47, INSTRUCTOR ACTIONS. Directed instructors to intersperse dual, sim, and solo navigation training.

P. 48, FLIGHT STAGE 1, LESSON 1. Added special syllabus Item 1 requiring students without prior G1000 experience to complete additional training. Renumbered remaining items.

Revision 5, October 5, 2015

Modified medical certificate requirement for instructors.

Revision 4, May 8, 2014

Deleted "FLIGHT OPERATIONS" from cover page. Added requirement that Instrument students co-enrolling in the Commercial flight course must have completed the Approaches Sub-Stage Check.

All pages renumbered due to re-ordering of the front matter. Revised verbiage referring to ATD/AATD. Incorporated Revisions 2 and 3. Added three intentionally blank pages.

Revision 3, February 28, 2013

Facilities and Equipment was revised to include the Fidelity MOTUS AATD (Cessna 172) located at Louisiana Tech Flight Operations. Buildings/Room drawing is revised to reflect the position of the added ATD.

Ground Training Course was condensed into a single stage, which meets the training time requirements and covers the aeronautical knowledge training outlined by 14 CFR 141, Appendix D.

The Flight Training Syllabus added reference to the Commercial Maneuver and Cessna 172 RG worksheets, which have been in use for some time. Accelerated stall and emergency descent were added to the final flight lesson as Special Syllabus items.

Revision 2, October 26, 2011

Flight Lessons were broken into more Units per Lesson, for the purpose reducing the number of sorties graded Incomplete. There were no material changes to the maneuvers. Talon/ETA reflects the additional sorties.

Revision 1, October 1, 2010.

The document was substantially revised on 10/1/10. All pages were renumbered; 39 pages were added; multiple typographical and formatting errors were corrected; front matter (Preface, Training Facilities pages, Table of Contents, etc.) was rewritten and rearranged. Drawings were

revised; Ground Training Course Outline became Ground Training Syllabus, but was largely unchanged for content; References were moved to the front matter; Flight Training Course Outline became Flight Training Syllabus. Grading procedures were changed—maneuvers and daily overall grades changed to Unsatisfactory-Fair-Good-Excellent scheme, vice the former A-B-C-F. Only stage checks are now graded A-B-C-F; flight lessons were divided into units.

The method of directing Lesson and Unit contents were revised to be line items or "Special Syllabus" requirements. To indicate which line items are considered required, the convention was adopted of marking them on the Unit page with a '+'.

The flight portion was broken into three stages. The first is intended to comply with Part 141 dual, solo, cross-country, and night requirements. The second focuses on perfecting commercial maneuvers. In the third, the student builds solo cross-country time, and upgrades to complex aircraft in preparation for the practical test. Advanced instrument time was specified.

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 Airman Certification Standards (ACS). 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 the applicable Appendix to 14 CFR 141:

Private Pilot: 35 hours ground instruction, three hours cross-country, 35 hours total flight time, 20 hours dual, five hours solo, three hours night, three hours instrument, three hours in the 60 days preceding a practical test.

Instrument Rating: 30 hours ground instruction, 35 instrument flight training.

Commercial Pilot: 35 hours ground instruction, four dual hours cross-country, 120 hours total flight time, 55 hours dual, 10 hours solo, five hours night VFR, 10 hours complex, 10 hours advanced instrument, three hours in the 60 days preceding a 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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TABLE OF CONTENTS

COMMERCIAL PILOT—AIRPLANE 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 Airman Certification 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
GARMIN *G1000 Integrated Flight Deck Pilot's Guide* and GIFD trainer software
Piper PA-28R-201 Pilot's Operating Handbook and Airplane Flight Manual

COMMERCIAL PILOT COURSE PLANNED TRAINING TIMES

TRAINING STAGE	GROUND	DU	SO	ATD	ORL	INST	XC
GROUND COURSE	40.0						
FLIGHT STAGE ONE		14.0	14.0	22.0	10.5	15.0	28.0
FLIGHT STAGE TWO		10.0	18.0	2.0	5.0		
FLIGHT STAGE THREE		10.0	30.0		3.5		30.0
TOTALS	**40.0**	**34.0***	**62.0**	**24.0**	**19.0**	**15.0**	

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

*Dual flight instruction and instruction in the ATD combine to meet/exceed the total instruction required by 14 CFR 141.

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 15-17.
2. Type training aids: Refer to page 15-17.
3. Aviation training devices:
    a. Frasca Mentor Cessna 172 advanced aviation training device (ATD) located in Davison Hall, Room 110.
    b. Frasca International, Inc. Model Reconfigurable Training Device (RTD) (Cessna 172 G1000 NXi) located in Davison Hall, Room 110.
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 172 and Piper PA28R 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

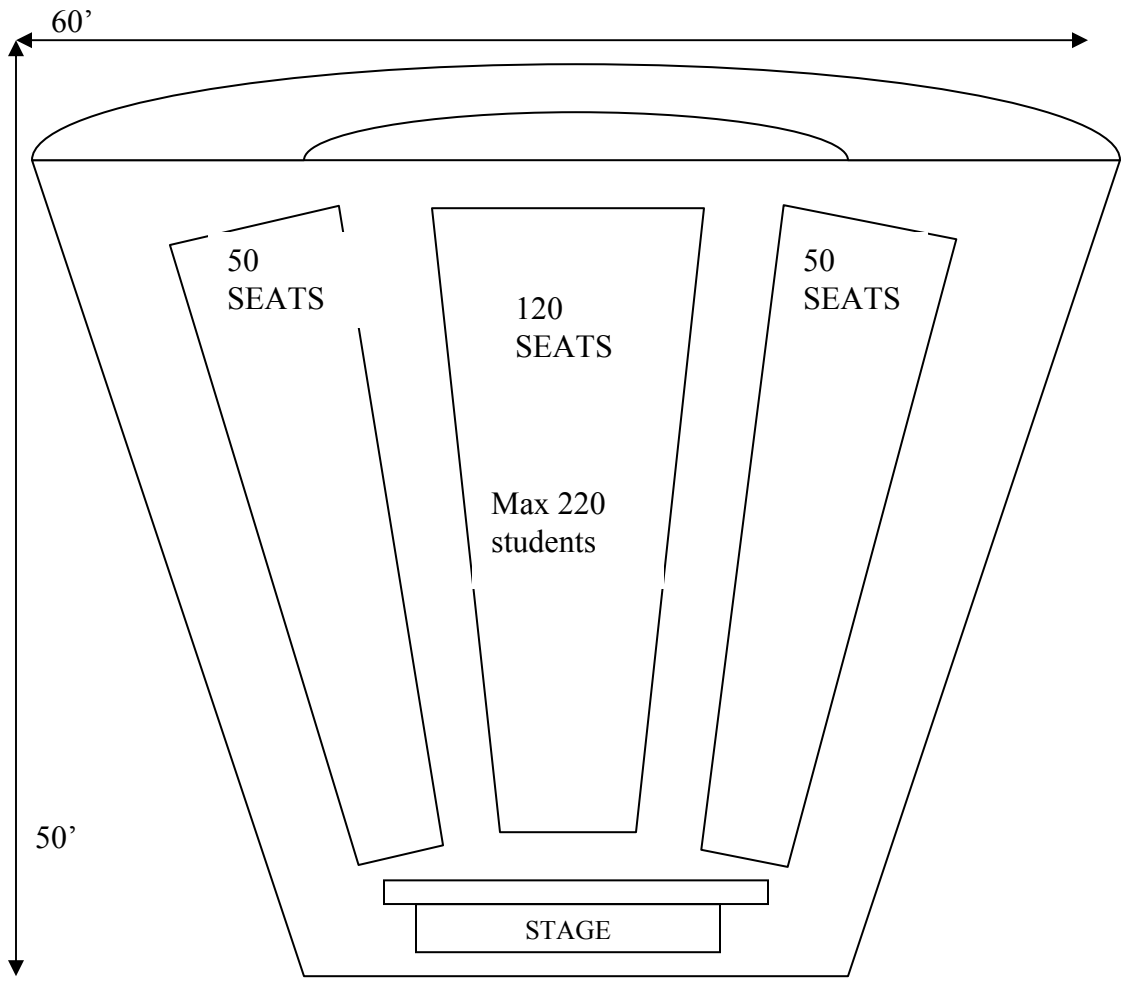
from the FAA or the student, a full set of paper daily training lesson gradesheets will be provided for any student.

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.)

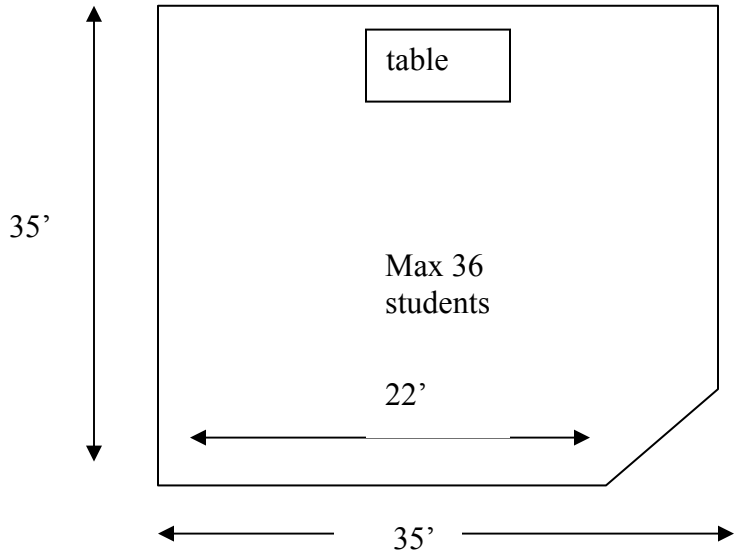
BUILDINGS/ROOMS

Main LTU Campus, Davison Hall, Room 113



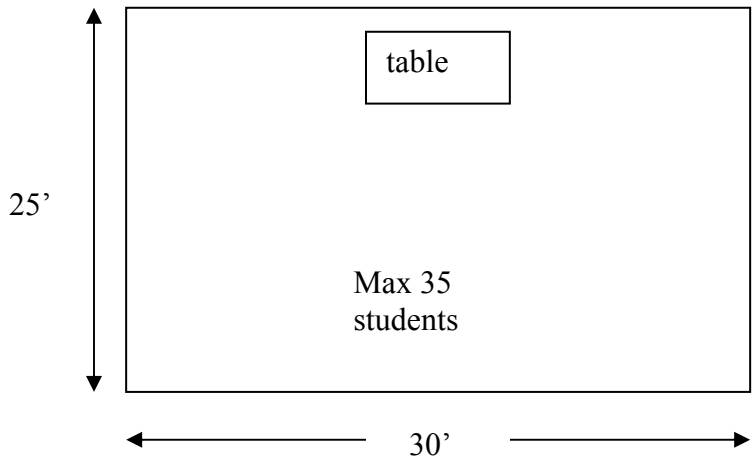
This room is used for safety meetings and other events of the Aviation Department. It is equipped with overhead projector, white board, computer, and TV/DVD/VCR player.

Main LTU Campus, Davison Hall, Room 310



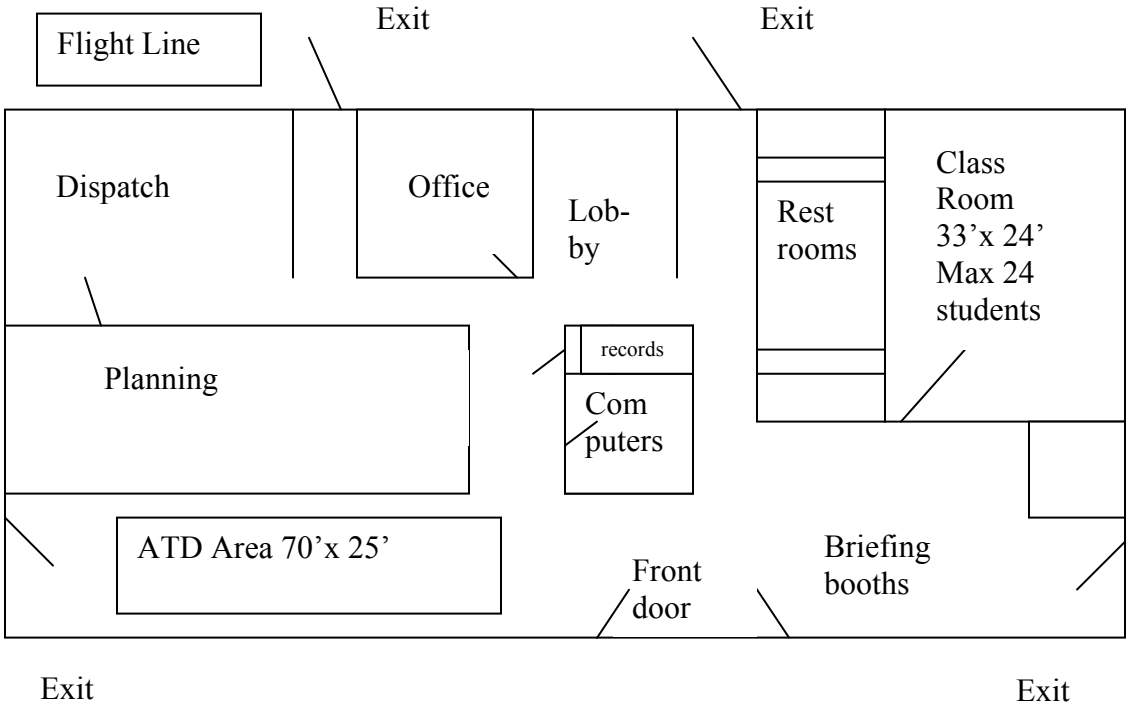
This room is used for larger classes and other events of the Aviation Department. It is equipped with blackboard, overhead projector, white board, computer, and TV/DVD/VCR player.

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, if required to act as PIC.
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 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 D, Paragraph 3, 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, which serves as endorsement to take the FAA Commercial Pilot Knowledge Test. 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. The course culminates with the FAA Commercial Pilot Knowledge Test, which serves as the final exam. Course completion is signified by the student earning a minimum score of 70% on this 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 ACS 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 COMMERCIAL PILOT EXAMINATION

OBJECTIVES: The Commercial Pilot Ground School is completed with the successful accomplishment of the FAA Commercial Pilot Knowledge Test.

CONTENT:
The examination will be administered as scheduled in the Professional Aviation computer lab. Students must register and pay the test fee.

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. However, students scoring less than 70% on the knowledge test must have additional instruction before being endorsed to retake it.

FLIGHT TRAINING SYLLABUS

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 the Commercial Pilot flight course need an Airman Medical Certificate, a Private Pilot Certificate, and completion of or concurrent enrollment in Commercial Pilot ground school. Additionally, they require an Instrument Rating, or concurrent enrollment in the Instrument course, in which they must have completed the Approaches Sub-Stage Check.

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. 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 aviation training device (ATD) 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 ATD, 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 ATD 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
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 ACS, 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 ONE FLIGHT TRAINING SUMMARY

	DU	SO	ATD	ORL	INST
LESSON 1: COMMERCIAL INTRO AND DUAL CROSS-COUNTRY NAVIGATION					
1. COMMERCIAL INTRO AND NAV PROCEDURESS				1.0	
2. NAVIGATION TRAINING	10.0			2.5	5.0
LESSON 2: ADVANCED INSTRUMENT INSTRUCTION					
1. ADVANCED INSTRUMENT INSTRUCTION			20.0	5.0	10.0
LESSON 3: PART 141 REQUIRED DUAL CROSS-COUNTRY					
1. PART 141 REQUIRED DUAL CROSS-COUNTRY	4.0			1.0	
LESSON 4: PART 141 REQUIRED SOLO OPERATIONS					
1. LONG SOLO CROSS-COUNTRY		3.0			
2. LONG SOLO CROSS-COUNTRY		6.0			
3. SOLO NIGHT PRACTICE		5.0			
LESSON 5: NAVIGATION STAGE CHECK					
1. NAVIGATION STAGE CHECK				1.0	
2. NAVIGATION STAGE CHECK			2.0		
TOTAL STAGE ONE TIMES	**14.0**	**14.0**	**22.0**	**10.5**	**15.0**

Note: DU—dual, SO—solo, ATD—aviation training device, ORL—oral, INST—instrument

STAGE TWO FLIGHT TRAINING SUMMARY

	DU	SO	ATD	ORL	INST
LESSON 1: LESSON 1: COMMERCIAL MANEUVERS TRAINING					
1. COMMERCIAL MANEUVERS PROCEDURES				1.0	
2. COMMERCIAL MANEUVERS TRAINING	9.0			3.0	
LESSON 2: COMMERCIAL MANEUVERS PRACTICE					
1. COMMERCIAL MANEUVERS PRACTICE		18.0			
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 TWO TIMES	**10.0**	**18.0**	**2.0**	**5.0**	

Note: DU—dual, SO—solo, ATD—aviation training device, ORL—oral, INST—instrument

STAGE THREE FLIGHT TRAINING SUMMARY

	DU	SO	ATD	ORL	INST
LESSON 1: LESSON 1: SOLO/PIC CROSS-COUNTRY					
1. SOLO/PIC* CROSS-COUNTRY		30.0			
LESSON 2: COMMERCIAL MANEUVERS IN COMPLEX AIRCRAFT					
1. COMM. KNOWLEDGE/COMPLEX SYSTEM				2.0	
2. COMPLEX AIRCRAFT OPERATIONS	8.5				
LESSON 3: COMMERCIAL FINAL STAGE CHECK					
1. COMMERCIAL FINAL STAGE CHECK				1.5	
2. COMMERCIAL FINAL STAGE CHECK	1.5				
TOTAL STAGE THREE TIMES	**10.0**	**30.0**		**3.5**	

Note: DU—dual, SO—solo*, ATD—aviation training device, ORL—oral, INST—instrument

*"Solo" in Stage 1 means sole occupant. In Stage 3, "solo" is expanded to include PIC with another rated pilot on board.

PROFESSIONAL AVIATION 342
COMMERCIAL PILOT FLIGHT I: STAGE ONE FLIGHT TRAINING
CROSS-COUNTRY OPERATIONS

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

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 1, LESSON 1: COMMERCIAL INTRODUCTION AND DUAL CROSS-COUNTRY NAVIGATION

OBJECTIVES: The objective is to introduce the student to the commercial pilot flight-training course. Cross-country procedures will be reviewed.

SPECIAL SYLLABUS:

1. Create student training folder.
    a. This includes the requirement to take the Louisiana Tech University Advanced SOP Test.
2. Intake student to Talon/ETA, if not already accomplished.
3. Verify student flight account.
4. Review course completion requirements.
5. Review appropriate policies and procedures
6. Conduct navigation training to suitable airports VFR and IFR. There is no minimum duration for these cross-country sorties.
7. The student will log at least five hours of 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, and intercepting and tracking navigational systems.
8. Unit 1 is a review of airspace rules, weather, pre- and post-flight procedures, airport operations, and flight planning.
9. Units 2 through 6 consists of not more than five cross-countries under instructor supervision. Unit 2 will be graded Incomplete until 10 hours are achieved, at which time Special Syllabus will be graded NG.

COMPLETION STANDARDS: The student should be familiar with the flight operations policies and procedures, have a flight record created, and be familiar with course completion requirements. The student should complete this lesson with advanced knowledge and proficiency in cross-country operations.

FS1, L1, UNIT 1: (1.0 HOUR ORAL) COMMERCIAL INTRODUCTION AND NAVIGATION PROCEDURES

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 / 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	
Special Syllabus Requirements	NG+

FS1, L1, UNITS 2 THROUGH 6: (10.0 HOURS DUAL) NAVIGATION TRAINING

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	F
Soft-field Takeoff	F
Departure	G+
Steep Turns	
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
Slip to Land / No-Flap Land	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+
Special Syllabus Requirements	NG+

FLIGHT STAGE 1, LESSON 2: ADVANCED INSTRUMENT INSTRUCTION

OBJECTIVE: The objective is to create a pilot who is confident in flying to unfamiliar fields under IFR using SIDs, STARs, and IAPs.

SPECIAL SYLLABUS:

1. The student will log at least 10 hours of advanced instrument instruction from a CFII with the absence of the ATD's visual presentation or with a view-limiting device. Advanced instrument instruction consists of attitude instrument flying, partial panel skills, recovery from unusual attitudes, and intercepting and tracking navigational systems.
2. Every flight will include a SID or STAR, as well as an instrument approach and published missed approach.
3. The ten units in this lesson should total 20 hours (ATD, or flight), at which time Special Syllabus will be graded NG. If units remain in this lesson after 20 hours is achieved, CFIs will use the "Omit, retain course minimums" feature of Talon/ETA. If 20 hours are not achieved by the end of 10 units, then grade Unit 10 Incomplete, and repeat as needed.
4. Flights may be accomplished in the aircraft if the AATD and ATD are unavailable. But the intent is to practice at unfamiliar airports while flying complex published procedures.
5. The instructor will conduct a review of 14 CFR 91.175.

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

FS1, L2, UNITS 1 THROUGH 10: (20.0 HOURS ATD) ADVANCED INSTRUMENT INSTRUCTION

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	F
Soft-field Takeoff	F
Departure	G+
Steep Turns	
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
Slip to Land / No-Flap Land	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+
Special Syllabus Requirements	NG+

FLIGHT STAGE 1, LESSON 3: PART 141 REQUIRED DUAL CROSS-COUNTRY NAVIGATION

OBJECTIVES: The objective of this lesson is to comply with 14 CFR141, Appendix D.

SPECIAL SYLLABUS:

1. 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.
2. 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.

COMPLETION STANDARDS: This lesson is complete when the student flies the required cross-country training under instructor supervision. Commercial ACS apply.

FS1, L3, UNIT 1: (4.0 HOURS DUAL) PART 141 REQUIRED DUAL CROSS-COUNTRY NAVIGATION

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	F
Soft-field Takeoff	F
Departure	G+
Steep Turns	
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
Slip to Land / No-Flap Land	F
180° Accuracy Landing	
Night Operations	G+
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+
Special Syllabus Requirements	NG+

FLIGHT STAGE 1, LESSON 4: PART 141 REQUIRED SOLO OPERATIONS

OBJECTIVES: The objective of this lesson is to comply with the solo training requirements of 14 CFR 141, Appendix D.

SPECIAL SYLLABUS:

1. One cross-country flight, with landings at a minimum of three points, and one of the segments consisting of a straight-line distance of at least 150 nautical miles.
2. One cross-country flight with landings at a minimum of three points, and one segment of the flight consisting of a straight-line distance of at least 250 nautical miles.
3. Five hours (four sorties, or as needed) in night VFR conditions with 10 takeoffs and 10 landings (with each landing involving a flight with a traffic pattern) at an airport with an operating control tower.
4. Grade Unit 3 Incomplete until the requirements are met.

COMPLETION STANDARDS: The lesson is complete when the student flies and logs the applicable minimum times.

FS1, L4, UNIT 1: (3.0 HOURS SOLO) LONG SOLO CROSS-COUNTRY

Preflight Preparation	NG+
Ground Operations	NG+
Normal Takeoff	NG+
Short-field Takeoff	NG
Soft-field Takeoff	NG
Departure	NG+
Steep Turns	
Slow Flight	
Power-off Stalls	
Power-on Stalls	
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
Slip to Land / No-Flap Land	NG
180° Accuracy Landing	
Night Operations	NG
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+
Special Syllabus Requirements	NG+

FS1, L4, UNIT 2: (6.0 HOURS SOLO) LONG SOLO CROSS-COUNTRY

Preflight Preparation	NG+
Ground Operations	NG+
Normal Takeoff	NG+
Short-field Takeoff	NG
Soft-field Takeoff	NG
Departure	NG+
Steep Turns	
Slow Flight	
Power-off Stalls	
Power-on Stalls	
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
Slip to Land / No-Flap Land	NG
180° Accuracy Landing	
Night Operations	NG
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+
Special Syllabus Requirements	NG+

FS1, L4, UNITS 3 THROUGH 6: (5.0 HOURS SOLO) SOLO NIGHT PRACTICE

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

FLIGHT STAGE 1, LESSON 5: 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 ATD that tests the student's decision-making.

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

FS1, L5, UNIT 1: (1.0 HOUR ORAL) NAVIGATION STAGE CHECK

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	G+
General Knowledge	G+
Basic Aircraft Control	
Special Syllabus Requirements	NG+

FS1, L5, UNIT 2: (2.0 HOURS ATD) NAVIGATION STAGE CHECK

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	F
Soft-field Takeoff	F
Departure	G+
Steep Turns	
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
Slip to Land / No-Flap Land	F
180° Accuracy Landing	
Night Operations	
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+
Special Syllabus Requirements	NG+

PROFESSIONAL AVIATION 343
COMMERCIAL PILOT FLIGHT II: STAGE TWO FLIGHT TRAINING
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 ACS in a fixed-gear airplane.

FLIGHT STAGE 2, LESSON 1: COMMERCIAL MANEUVERS TRAINING

OBJECTIVES: The objective of this lesson is to introduce advanced Commercial pilot maneuvers, and offer sufficient instruction for the student to achieve mastery of the aircraft.

SPECIAL SYLLABUS:

1. The completion of Units 1 and 2 opts the student for all lessons in this stage.
2. 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 Stage 2 stage check.
3. Students will demonstrate proficiency in spin recovery.

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

FS2, L1, UNIT 1: (1.0 HOUR ORAL) COMMERCIAL MANEUVERS PROCEDURES

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	G+
General Knowledge	G+
Basic Aircraft Control	
Special Syllabus Requirements	NG+

FS2, L1, UNITS 2 THROUGH 7: (9.0 HOURS DUAL) COMMERCIAL MANEUVERS TRAINING

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	G+
Soft-field Takeoff	G+
Departure	G+
Steep Turns	G+
Slow Flight	G+
Power-off Stalls	G+
Power-on Stalls	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+
Slip to Land / No-Flap Land	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+
Special Syllabus Requirements	NG+

FLIGHT STAGE 2, 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. The intent is to intersperse the units of Lessons 1 and 2, giving the student the opportunity to perfect maneuvers. The ratio should be about two solo sorties per dual training flight.
4. Students who have achieved a "Good" level in Commercial maneuvers may accomplish solo cross-countries in the remaining allotted time. Instructors use discretion in authorizing this option.

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

FS2, L2, UNITS 1 THROUGH 12: (18 HOURS SOLO) COMMERCIAL MANEUVERS PRACTICE

Preflight Preparation	NG+
Ground Operations	NG+
Normal Takeoff	NG+
Short-field Takeoff	NG+
Soft-field Takeoff	NG+
Departure	NG+
Steep Turns	NG+
Slow Flight	NG+
Power-off Stalls	NG+
Power-on Stalls	NG+
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+
Slip to Land / No-Flap Land	NG
180° Accuracy Landing	NG+
Night Operations	NG
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	NG
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+
Special Syllabus Requirements	NG+

FLIGHT STAGE 2, 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, plus diversion to an alternate.

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

FS2, L3, UNIT 1: (2.0 HOUR ATD) EMERGENCY PROCEDURES TRAINING

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	G+
General Knowledge	G+
Basic Aircraft Control	
Special Syllabus Requirements	NG+

FLIGHT STAGE 2, 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 ACS in maneuvering the training aircraft.

FS2, L4, UNIT 1: (1.0 HOUR ORAL) COMMERCIAL MANEUVERS STAGE CHECK

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	G+
General Knowledge	G+
Basic Aircraft Control	
Special Syllabus Requirements	

FS2, L4, UNIT 2: (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+
Steep Turns	G+
Slow Flight	G+
Power-off Stalls	G+
Power-on Stalls	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+
Slip to Land / No-Flap Land	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+
Special Syllabus Requirements	

PROFESSIONAL AVIATION 344
COMMERCIAL PILOT FLIGHT III: STAGE THREE FLIGHT TRAINING
CROSS-COUNTRY AND COMPLEX AIRCRAFT PROCEDURES

OBJECTIVES: The focus of this stage is for the student to apply their knowledge and skills to a complex aircraft.

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 ACS, while acting as PIC of a complex aircraft.

FLIGHT STAGE 3, LESSON 1: CROSS-COUNTRY TIME-BUILDING

OBJECTIVES: The objective of this lesson is for the student to build confidence while acting as PIC achieving the total time required for the course.

SPECIAL SYLLABUS:

1. The flight time for this lesson is estimated. Instructors will ensure the student accomplishes enough flights in this lesson to meet the training time requirement of 14 CFR 141. When this occurs, grade Special Syllabus NG.
2. Students may split time legally for time-logging purposes, presuming the students operating the sortie as follows: Student 1 flies with a view limiting device as sole manipulator of the controls; he logs PIC legally IAW 14 CFR 61.51. Student 2 is the safety pilot and PIC of record as defined in 14 CFR 1; he also logs PIC legally on the same sortie.
    a. Item 2 is not a requirement. Students may elect to operate these sorties solo.

COMPLETION STANDARDS: This lesson is complete when the student has sufficient flight hours for the course minimums.

FS3, L1, UNITS 1 THROUGH 10: (30.0 HOURS SOLO/PIC) SOLO/PIC CROSS-COUNTRY

Preflight Preparation	NG+
Ground Operations	NG+
Normal Takeoff	NG+
Short-field Takeoff	NG+
Soft-field Takeoff	NG+
Departure	NG+
Steep Turns	
Slow Flight	
Power-off Stalls	
Power-on Stalls	
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+
Slip to Land / No-Flap Land	NG
180° Accuracy Landing	NG+
Night Operations	NG
Engine-out Procedures	
Engine-out Landing	
Basic Instrument Maneuvers	NG
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+
Special Syllabus Requirements	NG+

FLIGHT STAGE 3, LESSON 2: COMMERCIAL MANEUVERS IN COMPLEX AIRCRAFT

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

SPECIAL SYLLABUS:

1. This lesson requires not less than 8.5 hours complex aircraft flight time.
2. When appropriate, the instructor will endorse the student's logbook for complex aircraft operations.
3. Unit 1 consists of identification and review of those areas found deficient on the Knowledge Test, along with 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
4. Instructor will demonstrate accelerated stall and recovery during first sortie. Student will perform accelerated stall and recovery on each subsequent sortie.
5. 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 pilot. Commercial ACS apply to maneuvers.

FS3, L2, UNIT 1: (2.0 HR ORAL) COMMERCIAL KNOWLEDGE REVIEW AND COMPLEX AIRCRAFT SYSTEMS

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	G+
General Knowledge	G+
Basic Aircraft Control	
Special Syllabus Requirements	NG+

FS3, L2, UNITS 2 THROUGH 7: (8.5 HR DUAL) COMPLEX AIRCRAFT OPERATIONS

Preflight Preparation	G+
Ground Operations	G+
Normal Takeoff	G+
Short-field Takeoff	G+
Soft-field Takeoff	G+
Departure	G+
Steep Turns	G+
Slow Flight	G+
Power-off Stalls	G+
Power-on Stalls	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+
Slip to Land / No-Flap Land	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+
Special Syllabus Requirements	NG+

FLIGHT STAGE 3, LESSON 3: COMMERCIAL FINAL STAGE CHECK

OBJECTIVES: This is the final check for the Commercial Pilot Certificate Training Course. A student who successfully completes this stage check will be awarded the graduation certificate for the commercial pilot training course.

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 Airman Certification Standards. Upon successful completion of this stage, the student will be graduated from the Commercial Pilot Course and will receive school affiliation and course association in the Integrated Airman Certification and Rating Application (IACRA) system.

FS3, L3, UNIT 1: (1.5 HR ORAL) COMMERCIAL FINAL STAGE CHECK

Preflight Preparation	G+
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	G+
General Knowledge	G+
Basic Aircraft Control	
Special Syllabus Requirements	NG+

FS3, L3, UNIT 2: (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+
Steep Turns	G+
Slow Flight	G+
Power-off Stalls	G+
Power-on Stalls	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+
Slip to Land / No-Flap Land	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+
Special Syllabus Requirements	NG+