GENERAL INFORMATION
Instructor: George Jacox
Office Number: Flight Operations, Eaker Field
Office Hours: M-F, 1330 - 1500, or by appointment
Telephone Number: 580-745-3245

PREREQUISITES AND SUPPORT COURSES
AVIA 1041, AVIA 3284

BRIEF COURSE OUTLINE
This course exposes the career-oriented student to requirements and skills necessary to function as a Certified Flight Instructor.

COURSE OBJECTIVES
The student will be able to describe and list the fundamentals elements of the following:
- Planning an Instructional activity
- Development of an Lesson Plan
- Development of a Training syllabus for Private and Commercial certificates
- Practice teaching Private maneuvers
- Practice teaching Commercial maneuvers

TEXT MATERIALS
AC 60-14, Aviation Instructor's Handbook
Instrument/Commercial Manual, Jeppesen Sanderson
Flight Training Handbook, FAA
Current FAR/AIM book

STYLE/MODE OF TEACHING
Lecture/Seminar/Presentations/Demonstrations/Class Handouts.

DROP AND ADD POLICY
Same as University. Please review.

ATTENDANCE POLICY
The Federal Aviation Administration, per 14 CFR Part 141, requires minimum contact time as stated in the approved curriculum. Therefore, all class absences must be completed on an hour for hour basis. This must be accomplished by an approved ASI Staff Flight instructor at the student’s expense. Scheduling and completion of this requirement is the responsibility of the student.

Attendance is very important. Students are expected to attend all classes. Entering the classroom after the start of class is very disrupting and inconsiderate of your class mates. There is a 1% point deduction for being late. If you must leave during class time, be considerate! Unannounced quizzes will be given, and added to your final grade. All
absences, except those having to do with pre-approved SOSU functions, will be considered unexcused.

Make-up exam will be given in extenuating circumstances only, and only with prior permission. Credit will not be given for assignments that are turned in after the due date. There will be no make-up quizzes. In the event of an absence, the student is responsible for scheduling a makeup lesson on all material covered in class. Attendance will be taken at the beginning of each class. Make-up quizzes will not be given.

Make-up exams will be given in extenuating circumstances only, with prior permission.

LABORATORY
N/A

READING
Reading assignments are to prepare you for that class period and should be accomplished prior to the scheduled class.

EXAMINATION
There will be two Presentations, “Two Test, Final Test and a notebook. The examination will be a combination of multiple choice, matching, fill in the blanks, and essay questions.

GRADING PROCEDURES

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>Presentation #1</td>
<td>50</td>
<td>90 - 100%</td>
<td>A</td>
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<tr>
<td>Presentation #2</td>
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<td>70 - 79%</td>
<td>C</td>
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<tr>
<td>Test 2</td>
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<td>Note Book</td>
<td>200</td>
<td>Less than 60</td>
<td>F</td>
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<tr>
<td>Class participation</td>
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<td><strong>Total</strong></td>
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TERM PAPER/PRESENTATION
N/A

CHEATING or PLAGIARISM
Cheating may be defined as using unauthorized materials or giving or receiving unauthorized materials or receiving unauthorized assistance during an examination or other academic exercise. Examples may include:

1. Copying the work of another student during an examination OR other academic exercise (including computer exercises), or permitting another student to copy one's work;

2. Taking an examination for another student, or allowing another student to take one's examination;
3. Possessing unauthorized notes, study sheets or other materials during an examination or other academic exercise;

4. Falsifying or tampering with examination results;

5. Completing, copying, or using the results of any other student's computer assignments.

Plagiarism may be defined as the use of another's ideas or words without acknowledgement.

Examples of plagiarism may include:

1. Failing to use quotation marks when quoting from a source;

2. Failing to document distinctive ideas from a source;

3. Fabrication or inventing sources.

Library Services:
Get help @ your library! You may access the online catalog, electronic databases, research guides and help with citing sources from Henry G. Bennett Library’s website at http://www.se.edu/lib/. For research assistance, you may contact the Reference Desk: Phone: 580-745-2935 or Email: dmiles@se.edu or kplunkett@se.edu

Mental Health
Any student experiencing mental or emotional issues who desires free, confidential, clinical counseling is encouraged to contact the SE Counseling Center at (580) 745-2988 to schedule an appointment during normal working hours Monday – Friday, 8:00 AM to 5:00 PM. For after hours mental health emergencies, please call SE Campus Police at (580) 745-2911 or the Mental Health Crisis Hotline at 1-(800) 522-1090.

Disability
Any student needing special accommodations due to a disability should contact the Coordinator for Disability Services, GDJ Student Union, Room 328 or call (580) 745–2392 (TDD# 745–2704). It is the responsibility of each student to make an official request for accommodations to the Coordinator.
<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture Topic</th>
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<tr>
<td>Oct. 11</td>
<td>II-1, Basic Aerodynamics</td>
</tr>
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<td>Oct. 14</td>
<td>II-1, Basic Aerodynamics</td>
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<td>Oct. 23</td>
<td>II-2, Analysis of Basic Flight maneuvers and procedures</td>
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<td>II-3, Integration of instruction in visual and instrument flying</td>
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<td>Nov. 4</td>
<td>II-3, Integration of instruction in visual and instrument flying</td>
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<td>Test I</td>
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<td>Nov. 11</td>
<td>II-4, Communication and navigation</td>
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<td>Nov. 13</td>
<td>II-5, Pilot information publications</td>
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<td>Nov. 15</td>
<td>II-5, Pilot information publications</td>
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<td>Nov. 18</td>
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<td>Nov. 20</td>
<td>II-6, Importance to flight instruction</td>
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<td>Nov. 22</td>
<td>II-6, Importance to flight instruction</td>
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<td>Nov. 25</td>
<td>II-6, Importance to flight instruction</td>
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<td>Nov. 27-29</td>
<td>Thanksgiving Holiday</td>
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<tr>
<td>Dec. 4</td>
<td>Review for final</td>
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<tr>
<td>Dec. 13</td>
<td>CFI written take by 1500</td>
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The notebooks will have everything you need to teach a private/commercial student. The format of the notebook will be left up to you, but will include:

1) Table of contents
2) An introduction
3) Course syllabi for a complete private, commercial certificate
4) Additional Information supporting your lessons.

It would be a good idea to have any useful information included.

You will be graded by the following:

1) Having a table of contents (tabbed) 30 points
2) Having a introduction 20 points
3) Course syllabi, Private 50 points
4) Course syllabi, Commercial 50 points
5) Ease of use 15 points
6) Logical flow 20 points
7) Additional information 15 points

Total points 200

Notice

Upon completion of this course, the following information will be submitted to the FAA’s Airman Testing Standards Branch, AFS-630, in Oklahoma City, Oklahoma:

- Student’s last name, first name and middle initial
- Student’s course completion date
- Student’s social security number
- Student’s date of birth

The release of this information is in compliance with Order: 8700.1, Appendix: 3, Bulletin: HBG 00-09

Dress Code

Each Student will dress like a professional flight instructor. This includes khakis, pullover shirt or “like new” blue jeans. This DOES NOT include, Hats, T-shirts, Flip flops or open toe shoes, cut off shorts/pants, shirts that were just pulled out of a pile.
Training Course Outline -- Training Syllabus

Flight Instructor Course - Airplane - Single Engine Land

Ground Training: 40 Hours

Ground Training Course Objectives
The student will obtain the necessary aeronautical knowledge and meet the prerequisites for the Flight Instructor - Airplane - written examination.

Ground Training Course Completion Standards
The student has demonstrated through oral examination, written tests, and records that he meets the prerequisites for the Flight Instructor - Airplane - written examination.

Stage One
A Presentation Of The Fundamentals Of Instruction
15:00 Hours

Stage One Objective
To ensure the student possesses an adequate knowledge of the fundamentals of flight instruction to instruct in flight training.

Stage One Completion Standards
This stage will be successfully completed when the student passes the Stage One final written examination with a minimum grade of 80 percent and has been reviewed in all areas found deficient.

Lesson I-1 - 3:00 Hours

Objectives
During this lesson, the student will be instructed in the principles of teaching and learning.

Content
How people learn
Perception
Individual mental, emotional, and physiological characteristics
Needs and requirements
Goals and values
Self-concept
Time and opportunity to perceive
The element of threat
Insight
Cultivating receptiveness to new experience
Organizing demonstrations, explanations, and directed student practice
Pointing out related perceptions as they occur
Supervising the "trial and error" process
Assisting the student in grouping associated perceptions into meaningful wholes or “blocks” of learning

Motivation
- Types of motivation
- Use of factors which affect motivation

Obstacles to learning
- Self-consciousness
- Antagonism or feeling of unfair treatment
- Impatience
- Worry or lack of interest
- Physical discomfort, fatigue, and illness
- Apathy fostered by poor instruction
- Fear, anxiety, and timidity
- Lack of confidence
- Airsickness

Habits and transfer
- The importance of the formation of correct habit patterns
- The importance of habit patterns in aircraft control
- The promotion of transfer of learning through use of flight syllabus
- Positive transfer
- Negative transfer
- The influence of the "building block" techniques of instruction in habit development

Levels of learning
- Rote performance
- True understanding
- Correlation of previous learning, understanding, and skill with new tasks, problems, techniques, and procedures

Rates of learning
- The characteristics of the typical learning curve
- Initial learning rate
- Slumps or plateaus and their causes
- The role of memory and the effect of forgetting in the achievement of satisfactory student progress
- Relationship between memory and habit forming patterns
- Usefulness of drill, recitation, and quizzing
- Continued usage, practice, and application

Significant principles which reinforce memory
- Praise
- Association
- Favorable attitude
- Learning with all senses
- Meaningful repetition

Common misconceptions about learning
- Fear is the best motivator
- Making it easy to learn is contrary to the principles of sound teaching
- Pictures, illustrations, and diagrams are, per se, more effective than written or verbal presentations of information
- The greater the experience, the better the performance
- The impersonal approach is more effective than the friendly attitude in teaching
- Competition is the key to successful learning
- Frustration and failure are essential to learning

Completion Standards
This lesson will be successfully completed when, by oral examination, the student displays a basic understanding of the principles of teaching and learning as set forth in the current FAA Practical Test Standards.

Lesson I-2 - 3:00 Hours
Objectives
During this lesson, the student will be instructed in how to guide the learning process.

Content

Plan the instructional activity
- Establish clear objectives or goals
- Identify the block of learning
- Provide for student participation
- Diagnose student ability
- Use a teaching sequence that "makes sense"
- Work from the known to the unknown
- Work from the easy to the difficult
- Plan so the student will see the necessity and logic of each succeeding step

The flight training syllabus
- Arrange for efficient sequence in "block" of training
- Use syllabus as a guide
- Keep flexibility in teaching procedures

The lesson plan
- Lesson planning is essential to teaching success
- Items to include in lesson plan

The flight instruction breakdown
- Useful in preparing meaningful lesson plans
- Useful in guidance in offering effective instruction
- Requires personal analysis of maneuver
- Requires personal analysis of proposed procedures for teaching maneuver

Presentation of the instruction material
- Establish the atmosphere of cooperation
- Explain, demonstrate, and direct
- Require student participation
- Keep goal in sight
- Be brief, clear, and to the point in explanations
- Use analogies as link between known and unknown
- Question technique: use and importance
- Deal with the individual needs of both poor students and apt students

Performance
- Usually integrated with presentation
- Require discipline
- Make it realistic
- Guide students efforts
- Progress from easy to difficult
- Relate to previous explanations and practice
- Provide adequate practice but control blind "trial and error"
- Understand factors relating to length and frequency of practices
- Use of briefings and critiques
- Skill versus knowledge
- Role of repetition in learning and retention

Evaluate the performance
- An integral part of each lesson
- Establishes need for selective re-teaching or review
- Acquaint student with his progress
- Should include evaluation of things previously learned
- Should be based on standards established by the training syllabus

Completion Standards
This lesson will be successfully completed when, by oral examination, the student displays a basic
understanding of how to guide the learning process as set forth in the current FAA Practical Test Standards.

Lesson I-3 - 2:00 Hours

Objectives
During this lesson, the student will be instructed in the analysis of effective methods and techniques.

Content
The four basic steps in teaching process
Preparation
Presentation
  Telling or explaining—the lecture method
  Techniques of discussion
Application
  Doing—trial and practice
  Essential to the learning process
  Constitutes student's activity based on instructor's preparation and presentation
  Requires careful guidance and correction
Review and evaluation
  Organizes thinking
  Develops understanding of basic principles
  Helps the student to see relationships
  Measures the success of a teaching program
  Tests for both understanding and performance
  Characteristics of good evaluation
  Common techniques of evaluation

Completion Standards
This lesson will be successfully completed when, by oral examination, the student displays a basic understanding of the analysis of effective methods and techniques as set forth in the current FAA Practical Test Standards.

Lesson I-4 - 3:00 Hours

Objectives
During this lesson, the student will be instructed in the flight instructor's role in helping students to learn.

Content
Be a professional
  Train and prepare
  Follow a program of self-improvement
  Adhere to ethical standards
  Be of real service
  Believe in your work
  Maintain a positive attitude—be sincere, enthusiastic, friendly, and patient
  Be proficient as a pilot
  Be proficient as a teacher
The instructor/student relationship
  Gain the student's confidence
  Appreciate the student's problems
  Allow for individual differences
  Keep student aware of progress
Safety practices
- Practice what you preach
- Use the checklists
- Observe established safety practices
- Observe regulations
- Teach respect for limitations of self and equipment

Use of training aids
- Models
- Charts, diagrams, and performance tables
- Audiovisual courses
- Programmed instruction

Completion Standards
This lesson will be successfully completed when, by oral examination, the student displays a basic understanding of the flight instructor's role in helping the students to learn as set forth in the current FAA Practical Test Standards.

Lesson I-5 - 2:00 Hours

Objectives
During this lesson, the student will be instructed in flight instructor responsibilities including maintaining student interest and motivation.

Content
Motivation - basic to all learning
- Utilize interest noted during analysis of the student
- Direct and control student's attention
- Appeal to all the student's senses
- Contrive interesting experiences
- Teach from the known to the unknown
- "Watch your language" - explain technical terms
- Emphasize the positive
- Utilize the incentive provided by rewards

Foster student learning
- Know the objective
- Devise the plan of action
- Create a positive instructor/student relationship
- Present information and guidance effectively
- Transfer responsibility to the student as he learns
- Evaluate teaching effectiveness through evaluation of the student's learning and proficiency

Instruction of student pilots
- Provide adequate instruction
- Require an adequate standard of performance
- Give adequate supervision
- Endorse student pilot certificates
- Endorse student logbook
- Maintain adequate records

Flight test recommendations and other instructor endorsements

Aircraft checkouts and refresher training

Flight instructor image
- Sincerity
- Accept the student as he is
- Appearance and habits
- Avoid the use of obscene language
- Maintain a professional demeanor
Completion Standards
This lesson will be successfully completed when, by oral examination, the student displays a basic understanding of flight instructor responsibilities including maintaining student interest as set forth in the current FAA Practical Test Standards.

Lesson I-6 - 1:00 Hour

Objectives
during this lesson, the student will be instructed in the important aeromedical information required for flight instruction.

Content
The general health factor
Specific aeromedical factors -- their symptoms and control
  Fatigue, boredom, inattention
  Hypoxia
  Alcohol
  Drugs
  Vertigo
  Carbon monoxide
  Vision
  Middle ear discomfort
Scuba diving -- "Airman's Bends"
Psychological factors in flying
  Anxiety
  Normal and abnormal reactions to stress
  The "difficult" student
  The seriously abnormal student

Completion Standards
This lesson will be successfully completed when, by oral examination, the student displays a basic understanding of aeromedical factors in flight training and the prescribed procedure in each situation as set forth in the current FAA Practical Test Standards.

Stage One Final Written Examination - 1:00 Hour
This stage will be successfully completed when the student passes the written exam with a minimum grade of 80 percent and has reviewed all areas found deficient.

Stage Two
Analysis Of Flight Training Maneuvers
25:00 Hours

Stage Two Objective
To ensure the student possesses an adequate knowledge and understanding of the performance and analysis of flight training maneuvers as required to instruct in the principles of flight.
Stage Two Completion Standards
This stage will be successfully completed when the student passes the Stage Two written examination with a minimum grade of 80 percent, and has been reviewed in all areas found deficient.

Lesson II-1 - 4:00 Hours

Objectives
During this lesson, the student will be instructed in the basic aerodynamics required to flight instruction.

Content
Aerodynamic terms and definitions
  Recommended terms
  Other terms often used by pilots
Airplane loading
  Weight and balance and flight performance
  Effects of load on the aircraft structure
  Effects of loading on stability and controllability
Forces acting on an airplane in flight
  Explanation of forces
  How forces are applied to the aircraft
The airplanes axes of rotation
  Explanation of these axes
  Location of these axes on the airplane
Functions of the control surfaces and trim tabs
  How they operate
  Their primary purposes
Use of flaps
  Effects on flight performance
  Effects on stability
Angle of attack
  In stalls
  As an index of performance
Airspeed
  Control effectiveness
  Maximum performance airspeeds
    Slow flight
    Cruise
    Best rate-of-climb (Vy)
    Best angle-of-climb (Vx)
  Relationship between speed, angle of bank, and rate of turn
Turns
  Forces acting on an aircraft in a normal turn
  Changes of lift in a turn
  Changes of drag in a turn
Ground effect
  As a factor in takeoffs
  As a factor in landings
  Its use in emergencies
Torque and "P" factor
  Aircraft rigging
  Asymmetrical loading of the propeller
  Action of the spiral slipstream
  Gyroscopic action of the propeller
  Torque action
Controllable propellers
How a propeller works
Purpose of controllable propellers
Operation of controllable propellers--the relationship between manifold pressure, RPM, and BMEP (Brake Mean Effective Pressure)

Completion Standards
This lesson will be successfully completed when, by oral examination, the student displays an understanding and can correctly analyze the basic aerodynamics required for flight instruction as set forth in the current FAA Practical Test Standards.

Lesson II-2 - 4:00 Hours

Objective
During this lesson, the student will be instructed in the analysis of basic flight maneuvers and procedures.

Content
How and when to introduce maneuvers and procedures
Preflight (including check of airplane documents and records), starting, warm-up, taxi, before takeoff, in-flight, and post flight checks and procedure
Use of radio for voice communications
Straight and level flight, turns, (including slips and skids), and confidence maneuvers
Climbs and glides (including powered descents)
Ground track maneuvers
"S" turns across a road
Turns about a point, including 720 degree steep turns
Rectangular patterns
Traffic patterns
Stalls, stall recoveries, and flight at minimum controllable airspeeds
Takeoffs and landings
Normal
Crosswind
Short, soft, and rough field landings
Slips, and slips to a landing
Downwind landings
Power approaches
Touch-and-go landings
Wheel landings (tail wheel type airplanes), stall landings, (nose wheel landings)
Go-arounds
Emergencies, including those applicable to multiengine aircraft
Solo flight
Pattern eights (along, across, and around)
Chandelles and lazy eights
Steep turns (including 720 degree power turns)
Constant radius power off spirals
Spins
Post solo emergencies
Knowing the correct technique for the maneuvers and procedures
Recognition and analysis of common student errors
Familiarization of effective methods of correcting student errors
Required maneuvers and procedures
Cross-country flying
Planning
Pilotage
Dead reckoning
Use of radio aids
Cross-country emergencies

Completion Standards
This lesson will be successfully completed when, by oral examination, the student displays an understanding, and can correctly analyze basic flight training maneuvers and procedures as set forth in the current FAA Practical Test Standards.

Lesson II-3 - 4:00 Hours

Objectives
During this lesson, the student will be instructed in the integration of instruction in visual and instrument flying, and the fundamentals of instrument flight.

Content
Objectives of integrated flight instruction
- Development of habit patterns
- Accuracy of flight control
- Operating efficiency
- Emergency capability
Other factors of integrated flight instruction
- Procedures
- Safety precautions
- Flight instructor qualifications
The three major components of attitude instrument flight
- Instrument coverage (cross check)
- Instrument interpretation
- Aircraft control
Instrument characteristics
- Attitude indicator
- Heading indicator
- Vertical speed indicator
- Turn and slip indicator
- Airspeed indicator
- Altimeter
- Magnetic compass
Other important factors in instrument training
- How to determine attitude by instrument indications
- Recognition of incorrect use of controls by flight instrument references
- The relationship between rate of turn, radius of turn, true airspeed, and angle of bank
- Standard rate turns
- Physiological reactions and sensory illusions
Required maneuvers for a private pilot certificate with an airplane rating

Completion Standards
This lesson will be successfully completed when, by oral examination, the student displays an understanding, and can correctly analyze both integrated flying and attitude instrument flying for training purposes as set forth in the current FAA Practical Test Standards.

Lesson II-4 - 4:00 Hours

Objectives
During this lesson, the student will be instructed in the use of radio for both communication and navigation.
Content
VHF communication equipment
   The "line-of-sight" range of transmissions
   Understanding how to use UHF/DF service and radar assistance from ground stations
VOR equipment
   H, L, T, VOR's
   The components of the VOR system
   VOR radials and their relation to the station
   Determining the instrument indications and their relation to position from the station
   Time to station and off course navigation
   VOR checks
ADF equipment
   Determining magnetic directions and relative positions
   Determining bearing information
   ADF time and distance checks
   ADF tracking (both inbound and outbound)
   Operational characteristics and precautions to observe in use of L/F radio equipment

Completion Standards
This lesson will be successfully completed when, by oral examination, the student displays an understanding, and can correctly explain the use of radio equipment for flight training purposes as set forth in the current FAA Practical Test Standards.

Lesson II-5 - 4:00 Hours
Objectives
During this lesson, the student will be instructed in the use of pilot information publications.
Content
Airman's Information Manual
   NAVAIDS
   Airport and air navigation lighting and marking aids
   Altimetry
   Good operating practices
   Radar
   Radiotelephone phraseology and techniques
   Safety of flight
   Weather
   ATC operations and procedures
   Flight data and special operations
   NOTAMS
   Airport directory
   Airport facility directory
Airplane flight and owner's manuals
   Know how to consult the weight and balance data to determine that the aircraft is properly loaded. Know how to compute empty weight, useful load, and gross weight.
   Know how to compute moments from weight and center of gravity arms.
   The grade and quantity of fuel and oil required
   Flight load factor limitations and airspeed limitations
   Use of performance charts as required for:
      Takeoff data
      Climb data
      Landing distance data
      Cruise performance data (cruise power settings, approximate true airspeeds, fuel consumption rate)
   Use tables such as:
      Stall speed versus angle-of-bank table
Airspeed calibration or correction table

NTSB Part 830, Rules pertaining to the Notification and Reporting of Aircraft Accidents, Incidents, and Overdue Aircraft, and preservation of Aircraft Wreckage, Mail, and Records

Federal Aviation Regulations
- Part 1, Definitions and Abbreviations
- Part 61, Certification: Pilots and Flight Instructors
- Part 91, General Operating and Flight Rules

Completion Standards
This lesson will be successfully completed when, by oral examination, the student displays an understanding, and can correctly teach the use of airman information publications as set forth in the current FAA Practical Test Standards.

Lesson II-6 - 4:00 Hours

Objectives
During this lesson, the student will be instructed in other areas of importance to flight instruction.

Content
- Airframe and power plant operation
  - Aircraft structures
  - Airframe components and control surfaces
  - Fuel and fuel systems
  - Oil and oil systems
  - Electrical system fundamentals
  - Reciprocating engine principles and components
  - Carburetor and fuel injection
  - Propellers
  - Engine instruments
- Altimeters (A review of Lesson 3 as required)
- Airspeed indicators
- Aircraft stability
  - Static
  - Dynamic
- Airport lighting
  - Special procedures for multi-engine instruction
  - Charts (density altitude, load factor, and oxygen)
- Safe flying practices
  - Density altitude
  - Carburetor icing
  - Snow, ice, and frost
  - Wake turbulence
  - Fuel contamination

Completion Standards
This lesson will be completed successfully when, by oral examination, the student displays an understanding and can correctly teach in all other major areas of importance to flight instruction as set forth in the current FAA Practical Test Standards.

Stage Two Final Written Examination - 1:00 Hour
This stage will be successfully completed when the student passes the written exam with a minimum grade of 80 percent and has reviewed all areas found deficient.