

AT120 : Private Pilot Ground School

General Information

Author:	<ul style="list-style-type: none">Curtis G Potter
Course Code (CB01) :	AT120
Course Title (CB02) :	Private Pilot Ground School
Department:	AT
Proposal Start:	Spring 2025
TOP Code (CB03) :	(3020.20) Piloting
CIP Code:	(49.0102) Airline/Commercial/Professional Pilot and Flight Crew.
SAM Code (CB09) :	Possibly Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000160139
Curriculum Committee Approval Date:	05/22/2024
Board of Trustees Approval Date:	07/16/2024
Last Cyclical Review Date:	05/22/2024
Course Description and Course Note:	AT120 prepares the student for the FAA Private Pilot Knowledge Examination. The course covers powerplant operations, airport & airspace procedures, radio communications and radio navigation, meteorology, basic aerodynamics, FAA regulations, aviation physiology, aeronautical decision making, navigation charts, flight planning and cross-country navigation procedures common for pilots. There is an emphasis on risk management and flight safety. Note: The student must be able to speak, read and understand the English language per the requirements of Part 61 of the Federal Aviation Regulations as explained in FAA Advisory Circular 60-28B, and the Level 4 requirements of the International Civil Aviation Organization.
Justification:	Mandatory Revision
Academic Career:	<ul style="list-style-type: none">Credit
Mode of Delivery:	
Author:	Curtis G Potter
Course Family:	

Academic Senate Discipline

Primary Discipline:	<ul style="list-style-type: none">Aviation (Flight, navigation, ground school, air traffic control)
Alternate Discipline:	No value
Alternate Discipline:	No value

Course Development

Basic Skill Status (CB08)

Course is not a basic skills course.

Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Pre-Collegiate Level (CB21)

Not applicable.

Grading Basis

- Grade with Pass / No-Pass Option

Course Support Course Status (CB26)

Course is not a support course

General Education and C-ID

General Education Status (CB25)

Not Applicable

Transferability

Transferable to CSU only

Transferability Status

Approved

Units and Hours

Summary

Minimum Credit Units (CB07) 5

Maximum Credit Units (CB06) 5

Total Course In-Class (Contact) Hours 90

Total Course Out-of-Class Hours 180

Total Student Learning Hours 270

Credit / Non-Credit Options

Course Type (CB04)

Credit - Degree Applicable

Noncredit Course Category (CB22)

Credit Course.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Credit Course.

Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience

Education Status (CB10)

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	5	10
Laboratory Hours	0	0
Studio Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	0
Course In-Class (Contact) Hours	
Lecture	90
Laboratory	0
Studio	0

Total 90

Course Out-of-Class Hours

Lecture	180
Laboratory	0
Studio	0
Total	180

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Advisory

ENGL101 - Introduction to College Reading and Composition

Objectives

- Read, analyze, and evaluate a variety of primarily non-fiction readings for content, context, and rhetorical merit with consideration of tone, audience, and purpose.
- Write timed, in-class essays exhibiting acceptable college-level control of mechanics, organization, development, and coherence.
- Integrate the ideas of others through paraphrasing, summarizing, and quoting without plagiarism.
- Proofread and edit essays for presentation so they exhibit no disruptive errors in English grammar, usage, or punctuation.

OR

Advisory

ESL151 - Reading And Composition V

Objectives

- Read and critically analyze various academic readings.
- Summarize readings.
- Compose a 500 to 550-word essay which: summarizes and cites appropriately a reading passage; includes a clear thesis statement; uses evidence to support the thesis; shows clear organization into an introduction, body, and conclusion.

Entry Standards

Entry Standards

Course Limitations

Cross Listed or Equivalent Course

Specifications

Methods of Instruction

Methods of Instruction Lecture

Methods of Instruction Discussion

Methods of Instruction Multimedia

Methods of Instruction Tutorial

Methods of Instruction Demonstrations

Out of Class Assignments

- Worksheets exercises (e.g., Aviation Safety, aircraft performance and weight & balance, and FAA weather report interpretation)
- General aviation visit and related subject matter reports

Methods of Evaluation

Rationale

Exam/Quiz/Test	Chapter exams
Exam/Quiz/Test	Mid-term exam
Exam/Quiz/Test	Comprehensive final examination

Textbook Rationale

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
Federal Aviation Administration	Pilot's Handbook of Aeronautical Knowledge	Aviation Supplies and Academics, Inc.	2023	978-1-64425-346-5

Gleim, Irvin N.	Private Pilot FAA Knowledge Test Prep	Gleim Publications Inc.	2024	978-1-618546142
Federal Aviation Administration	FAR/AIM 2024	Aviation Supplies and Academics, Inc.	2024	978-1644252819
Other Instructional Materials (i.e. OER, handouts)				
Description	Flight Navigation Plotter (PN-1)			
Author	Jeppesen, Elroy B			
Citation	No value			
Online Resource(s)				
Description	E6B Flight Computer			
Author	Jeppesen			
Citation	No value			
Online Resource(s)				
Materials Fee				
No value				

Learning Outcomes and Objectives

Course Objectives

Apply Federal Aviation Regulations to flight.

Demonstrate knowledge of weather theory.

Evaluate aviation weather information.

Develop the skills of navigation, including radio, pilotage, and dead-reckoning.

Demonstrate knowledge of aircraft behavior, controls and performance.

Demonstrate knowledge of FAA airspace classifications and the requirements to fly in each.

SLOs

ILOs Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or
Core methodologies to solve unique problems.
ILOs

List the hazardous attitudes and explain how they can affect aeronautical decision making.

Expected Outcome Performance: 70.0

ILOs Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or
Core methodologies to solve unique problems.
ILOs

Demonstrate basic engine operating principles.

Expected Outcome Performance: 70.0

ILOs Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or
Core methodologies to solve unique problems.
ILOs

Additional SLO Information

Does this proposal include revisions that might improve student attainment of course learning outcomes?

No

Is this proposal submitted in response to learning outcomes assessment data?

No

If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.

No Value

SLO Evidence

No Value

Course Content

Lecture Content

Airplane Operation and Performance (20 hours)

- Airplane familiarization
- Aerodynamic principles
 - The four forces
 - Angle of attack
 - Slow flight and stalls
- Airplane controls
 - The three axis of control
 - Trim tabs
 - Wing flaps
 - Control use and coordination
- Load factors
- Weight and balance
- Airplane Powerplants
 - Basic engine operation
 - Operating limitations
 - Cowl flaps
 - Carburetor heat
 - The oil system
 - Ignition systems
 - Engine operations

- Starting
 - Warm-up
- Airplane Systems
 - Electrical systems
 - Fuel systems
 - Pitot-static system
- Airplane Instruments
 - Altimeter
 - Airspeed indicator
 - Vertical speed indicator
 - Turn coordinator
 - Magnetic compass
 - Heading indicator
 - Attitude indicator
- Airplane Operation
 - Taxiing
 - Run-up check
 - Takeoff
 - Climb
 - Stall series
 - Mixture control
 - Cruise performance charts
 - Descents
 - Traffic pattern flying
 - Landing
 - Go-around procedures
- Night Flying

Meteorology (10 hours)

- Atmosphere and atmospheric pressure
 - Circulation of the atmosphere
 - Atmospheric pressure
- Air masses
- Humidity
- Clouds and fog
- Stable and unstable air
- Fronts and frontal weather
- Thunderstorm
- Types of airplane ice
- Thermal activity
- Mountain waves
- Weather reports and forecasts
- Weather analysis
- Weather checklist

Communications (5 hours)

- Aircraft receiving frequencies
- Operation of transmitter and receiver
- Radio communications
- Light gun signals
- Air Traffic Control procedures

Publications (5 hours)

- Aeronautical Information Manual - general
 - Part 1 - Basic Flight Manual and ATC Procedures
 - Part 2 - Airport Directory
 - Part 3 - Operational Data and Notices to Airmen
- Abbreviations
- Visual navigation chart bulletin
- Notices to air missions (NOTAMS)
- Chart Supplement
- ARTCC communication frequencies
- FSS frequencies and telephone numbers
- Medical certification

Federal Aviation Regulations (5 hours)

- Certificates
- Pre-solo requirements
- Student pilot limitations
- Private pilot examinations
- Placards, records, inspection, registrations, and markings
- Engine instruments and safety devices

- Controlled airspace
- Visual flight rules
- Airports with and without towers
- Cross-country flight
- "Rules of the Road"
- Acrobatic flight
- Reckless or negligent operation
- Restricted and prohibited areas
- Miscellaneous rules

Navigation (10 hours)

- Introduction
- Charts and their use
 - Sectional charts
 - Chart symbols
- Latitude and longitude
- Use of the plotter
- Dead reckoning navigation
 - Common terms used
 - Measuring a true course
- Variation and deviation
- Wind effects on an airplane
- Navigation formulae
- Flight planning from and procedures

The Flight Computer (5 hours)

- Calculator side of the computer
 - Reading miles, gallons, and time scales
 - Relationship of inner and outer scales
 - Time, speed, and distance calculations
 - Conversion scales
 - Airspeed and density altitude computations
 - Fuel consumption calculations
- Wind side of the computer
 - Solving for GS and TH
 - Solving for wind
 - The wind triangle on the computer

Radio Navigation (10 hours)

- VOR navigation
 - Advantage of VOR
 - Airborne VOR equipment
 - Frequency selector
 - Course selector
 - "CDI" indicator
 - "To-From" indicator
- VOR navigator procedure
- VOR position fixes

Preflight Planning (10 hours)

- Importance
- Steps in flight planning
- Flight plans for filing with the FAA

Attitude Instrument Flying (5 hours)

- Theory of instrument flight
- Instrument indications

Emergency Procedures (5 hours)

- General introduction
- Engine failure
- Fires
- Minor emergencies

Total hours: 90

Additional Information

Is this course proposed for GCC Major or General Education Graduation requirement? If yes, indicate which requirement in the two areas provided below.

No

GCC Major Requirements

No Value

GCC General Education Graduation Requirements

No Value

Repeatability

Not Repeatable

Justification (if repeatable was chosen above)

No Value

Resources

Did you contact your departmental library liaison?

Yes

If yes, who is your departmental library liaison?

Adina Lerner (Technology & Aviation, Visual & Performing Arts)

Did you contact the DEIA liaison?

Yes

Were there any DEIA changes made to this outline?

No

If yes, in what areas were these changes made:

No Value

Will any additional resources be needed for this course? (Click all that apply)

- No

If additional resources are needed, add a brief description and cost in the box provided.

No Value