

Private Pilot Ground School Syllabus

Course Instructor: Charles E. Allen, MD, (USAF, Ret), CFI

St. John's Northwestern Academies (Ground School)

Wisconsin Aviation, Watertown, WI (Flight Training)

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Office hours: Monday and Wednesday, 5:00 p.m. to 6:15 p.m. or by appointment.

Ground School: Monday and Wednesday, 6:45 pm to 8:15 pm

I. COURSE DESCRIPTION: This detailed comprehensive 15-week course will thoroughly prepare the student to satisfy the mandatory requirement of passing the Federal Aviation Administration (FAA) knowledge exam for private pilot certification. This course is targeted for secondary and post-secondary students that have an interest in pursuing a career in aviation and aerospace industry. This course is particularly targeted for students seeking to obtain a private pilot license, career in airport management and or a degree in aeronautics. Emphasis on Science Technology Engineering and Mathematics (STEM) careers will be covered.

The specific requirements for obtaining a Private Pilot's License are:

1. Pass the FAA Private Pilot written exam with a minimum passing score of 70%. (This 15-week course will prepare the student for this requirement).
2. Minimum of 40 hours of flight instruction (20 hours of which is dual instruction)
3. Pass an oral exam with a designated FAA examiner
4. Pass a flight exam administered by a designated FAA examiner. (This requirement is completed with the student receiving flight instruction through Wisconsin Aviation at locations in Juneau (Dodge County Municipal Airport), Madison Truax Airport, or Watertown Municipal Airport.
5. Be at least 17 years old.

II. PREREQUISITE: Students should be at least 15 years of age and have an interest in aerospace careers (STEM) or students seeking to obtain a private pilot license. Completion of a physical science course and algebra 1 is highly desirable.

III. Textbook: *Airplane Handbook of Aeronautical Knowledge: FAA-H-8083-25B*

and Textbook: Airplane flying Handbook: FAA-H-8083-B

Course website: <http://www.pilottrainingsystem.com/> (free)

Additional resources: website: [Pilot Practice Page - Exams for Pilots http://exams4pilots.com /](http://exams4pilots.com/) (free)

2023 FAR/AIM (Federal Aviation Regulations and Aeronautical Information Manual)

IV. LENGTH OF COURSE: Lecture 3 Hours per week for approximately 15 weeks (note: class duration, time of class and the length of the class can be adjusted to accommodate any changes as directed by SJNA.

V. OBJECTIVE: Successful completion of this course will prepare and authorize the student to take the Federal Aviation Administration's (FAA) knowledge examination with a mandatory minimum passing score of 70%. This will not be a part of the final grade. However, students will be strongly encouraged to take the exam.

The major objectives of this course are:

- Prepares individual applicants for a beginning career in aviation and provides a comprehensive background in aviation and aerospace education.
- Expose the students to the vast number of career opportunities in aerospace (STEM)
- Students will development an understanding and appreciation of:

Airplane components and aerodynamics principles (Physical Science/Broad field science component)

Forces of Flight (physical science/physics component)

Airplane Instruments and systems of operation (physical science component)

Airplane Performance and Weight and Balance (physical science and mathematics component)

Aviation Weather/Meteorology (physical science component)

Cross country planning and Navigation (geography and topography)

National Aerospace System (History component)

Federal Aviation Administration regulations (reading and literacy component)

Aviation and Aerospace History

Aerospace Medical factors (biology component)

Airport Management

Communications (Written and oral component)

At the successful completion of the course, students will receive an endorsement allowing them to take the FAA knowledge exam for private pilot and a certificate of completion. All students will be strongly encouraged to take the exam; however, it will not be mandatory that they do so. The course will utilize traditional classroom didactics (lectures), in-person group discussions, guest presentations, short videos, and virtual learning tools (online assignments).

V. COURSE OUTLINE

Lesson number/Week	Topic	Hours of Instruction
Week 1 August 29th	Orientation and Registration Private Pilot requirements Aeromedical factors	3
Week 2 September 5th	Labor Day Holiday NO CLASS (Sept. 5th) Aeromedical Factors in Aviation Federal Aviation Administration regulations	1.5
Week3 September 12th	Aircrew Decision Making (ADM) Principles of Flight/Aerodynamic Principles Forces of Flight Factors that Affect Performance	3
Week 4 September 19th	Exam 1 Monday, September 19th Airplane Components	1.5 1.5
Week 5 September 26th	Airplane airframes Airplane Engines/Operations	3
Week 6 October 3rd	Airplane flight instruments Airplane Systems	3
Week 7 October 10th	Axes Aircraft Stability	3
Week 8 October 17th	Airplane Performance Airplane Weight and balance	3
Week 9 October 24th	EXAM 2 Monday, October 24th Navigation	1.5 1.5
Week 10 October 31st	Cross Country Planning	3
Week 11 November 7th	Aviation Weather and Meteorology	3
Week 12 November 14th	Exam 3 Airport Operations (AIM)	1.5 1.5
Week 13 November 21st	Terminal Departures/Arrivals	3.0
Week 14 th November 28th	National Airspace	3.0
Week 15th	FAA practice exam (Final exam) Course wrap-up and course evaluation	2.0 1.0

Grading and Examinations

Units Exams: 3	40% of Grade	200 points
Practice FAA written Exam	20% of Grade	125 points
Discussions: 10	15% of Grade	75 points
<u>Quizzes: 10</u>	<u>20% of Grade</u>	<u>100 points</u>
		500 points

Note: FAA knowledge exam is optional, but strongly encouraged. FAA knowledge exam will be scheduled through Spring City Aviation (Timmerman Airport) or Wisconsin Aviation (Madison Airport). Students will receive a course completion certificate and certified flight instructor logbook endorsement to take the FAA knowledge exam. Students must obtain an overall grade of 85% (B) on the practice FAA written exam (final exam) to receive an endorsement to take the FAA knowledge exam.

Exams: All exams will be given as specified in the course syllabus and will be announced two weeks in advance. Exam will be in-person examinations.

Discussions: There will be in-class and online topics requiring both oral and written presentations on various topics covered in class/lecture.

Quizzes: There will be in-class and online assignments given weekly.

Attendance: Attendance will be handled per Academy policy. In the event of disruption of normal classroom activities due COVID, inclement weather or other factors, the format for this course may be modified to enable completion of the course via virtual format. In that event, students will be provided an addendum to this syllabus that will supersede this version. COVID protocols will be enforced according to CDC guidelines or per Academy and departmental guidelines.

Students will have the opportunity to sign-up for discovery flights and receive flight instruction through Wisconsin Aviation, with training sites in Watertown, Madison, and Juneau.

Students will be provided opportunities to establish individual accounts and access to flight Schedule Pro to schedule their flight training dates and times. (see WisAv webpage).