

ARIZONA WESTERN COLLEGE  
SYLLABUS

AET 119 Pre-Aviation Flight Simulation

Credit Hours: 3 Lec 2, Lab 1

PREREQUISITE: None

COURSE DESCRIPTION

Introduction to flying and basic flight operations via simulation. Includes basic flight maneuvers, traffic patterns, departures, approaches, and emergency procedures under simulated flight conditions. Students will review regulations, cross-country flight planning, weight and balance, performance and limitations, human factors, chart use, night operations, navigation systems, and aeronautical decision making. At the end of this course, students will be able to take the Federal Aviation Administration's Private Pilot written exam.

1. COURSE GOAL

- Preflight preparation
- Preflight procedures
- Airport and seaplane base operations
- Takeoffs, landings, and go-arounds
- Performance maneuvers
- Ground reference maneuvers
- Navigation
- Slow flight and stalls
- Basic instrument maneuvers
- Emergency operations
- Night operations, except as provided
- Data collection and search strategies.
- Navigation systems
- Postflight procedure
- Air control system structure
- Control tower procedures
- Air Traffic Control (ATC) rules and regulations
- Communication procedures and phraseology
- Radar fundamentals
- Radar separation

2. OUTCOMES

Upon satisfactory completion of this course, via exam, simulation and written response after simulation (14CFR Part 61.105(b)), students will be able to:

2.1 Private Pilot

- (A) apply flight planning procedures that involve determining aircraft performance, which could be affected by weight, atmospheric conditions, the runway environment, and pilot physiological conditions.
- (B) utilize performance charts to determine takeoff, climb, range, endurance, descent, and landing performance.
- (C) evaluate their routes in plan a cross-country flight between two airports.

2.2 sUAS Pilot

- (A) perform effective point, route, and area searches using a simulated UAS.
- (B) communicate data in real time to simulated ground personnel.
- (C) operate a simulated UAS in a live exercise to gather data, make decisions, communicate to ground personnel, and affect the outcome of a scenario.
- (D) create an end-of-mission report.

2.3 ATC Controller

- (A) describe controller positions and responsibilities in the control tower.
- (B) utilize standard phraseology in typical scenarios confronted by air traffic controllers in a tower environment (FAA JO 7110.65).
- (C) apply separation minima between aircraft in typical scenarios occurring in the ATC environment.
- (D) demonstrate correct procedures to deal with wake turbulence situations.
- (E) operate a computerized radar system and identify separation standards.

3. METHODS OF INSTRUCTION

- 3.1 Lecture
- 3.2 Video
- 3.3 Classroom demonstrations
- 3.4 Computer Simulation

4. LEARNING ACTIVITIES

- 4.1 Complete assigned readings
- 4.2 Do hands-on analysis in lab activities
- 4.3 Participate in weekly group discussion boards
- 4.4 Complete weekly critical thinking essays
- 4.5 Participate in examinations

5. EVALUATION

- 5.1 Written exercises

- 5.2 Exams
- 5.3 Simulation check flights and scenarios
- 5.4 Final exam

6. STUDENT RESPONSIBILITIES

- 6.1 Under AWC Policy, students are expected to attend every session of class in which they are enrolled.
- 6.2 If a student is unable to attend the course or must drop the course for any reason, it will be the responsibility of the student to withdraw from the course. Students who are not attending as of the 45th day of the course may be withdrawn by the instructor. If the student does not withdraw from the course and fails to complete the requirements of the course, the student will receive a failing grade.
- 6.3 Americans with Disabilities Act Accommodations: Arizona Western College provides academic accommodations to students with disabilities through AccessABILITY Resource Services (ARS). ARS provides reasonable and appropriate accommodations to students who have documented disabilities. It is the responsibility of the student to make the ARS Coordinator aware of the need for accommodations in the classroom prior to the beginning of the semester. Students should follow up with their instructors once the semester begins. To make an appointment call the ARS front desk at (928) 344-7674 or ARS Coordinator at (928) 344-7629, in the College Community Center (3C) building, next to Advising.
- 6.4 Academic Integrity: Any student participating in acts of academic dishonesty—including, but not limited to, copying the work of other students, using unauthorized “crib notes”, plagiarism, stealing tests, or forging an instructor’s signature—will be subject to the procedures and consequences outlined in AWC’s Student Code of Conduct.
- 6.5 Texts and Notebooks: Students are required to obtain the class materials for the course.
- 6.6 Arizona Western College students are expected to attend every class session in which they are enrolled. To comply with Federal Financial Aid regulations (34 CFR 668.21), Arizona Western College (AWC) has established an Attendance Verification process for "No Show" reporting during the first 10 days of each semester. Students who have enrolled but have never attended class may be issued a “No Show” (NS) grade by the professor or instructor and receive a final grade of “NS” on their official academic record. An NS grade may result in a student losing their federal financial aid. For online classes, student attendance in an online class is defined as the following (FSA Handbook, 2012, 5-90):
  - Submitting an academic assignment
  - Taking an exam, an interactive tutorial or computer-assisted instruction
  - Attending a study group that is assigned by the school
  - Participating in an online discussion about academic matters

## AET 119 PRE-AVIATION FLIGHT SIMULATION

- Initiating contact with a faculty member to ask a question about the academic subject studied in the course