



## **Course Description**

### **ATT2120 | Instruments Pilot Theory | 4.00 credits**

This 30-hour course introduces basic theories of instrument pilot operations to prepare students for the FAA Instrument Written Exam. Students will acquire aeronautical knowledge required to act as an Instrument rated Pilot. It will prepare the students for the FAA Instrument Written Exam. Private Pilot Certificate required.

### **Course Competencies:**

**Competency 1:** The student will demonstrate knowledge and understanding of the subject matter required for an instrument rating as listed in Part 141 of the Federal Aviation Regulations by:

1. Recalling applicable federal aviation regulations for flight operations conducted under instrument flight rules (IFR)
2. Summarizing appropriate information in the Aeronautical information manual (AIM)
3. Describing the air traffic control system and the procedures for instrument flight operations
4. Explaining IFR navigation and approaches by use of navigation systems
5. Demonstrating the use of IFR roquette and instrument approach procedure charts
6. Discussing the procurement and use of aviation weather reports and forecasts and the elements of forecasting weather trends based on that information and personal observation of weather conditions
7. Breaking down and explaining the safe and efficient operation of aircraft under instrument flight rules and conditions
8. Demonstrating the recognition of critical weather situations and wind shear avoidance
9. Practicing aeronautical decision-making (ADM) and judgment
10. Understanding crew resource management, including crew communication and coordination

**Competency 2:** The student will analyze and interpret charts, tables, publications, and regulations and produce reasoned, critical responses to common aeronautical concerns of instrument flight operations by:

1. Charting and completing an IFR navigational log for a preplanned long-range flight
2. Filling out a standard IFR flight plan form for a preplanned flight
3. Solving various performance calculations for a preplanned flight
4. Interpreting the symbols found in low-altitude instrument charts
5. Describing arrival and departure procedures/ concerns using printed departure procedures (DPS) and standard terminal arrival (STARR) charts
6. Identifying procedures/concerns for printed instrument approach procedures (iPass)

**Competency 3:** The student will demonstrate the ability to act as an instrument-rated pilot by:

1. Discussing how to make a competent, logical “go/no-go” decision for an instrument flight and the factors to be considered
2. Planning and explaining a cross-country flight using real-time weather and conforming to the regulatory requirements for instrument flight rules (IFR)
3. Determining whether an alternate airport is required and, if so, whether the selected alternate airport meets the regulatory requirements
4. Recalling the requirements/procedures for landing from an instrument approach procedure
5. Summarizing procedures to be implemented in case of system and/or equipment malfunctions during instrument meteorological conditions (IMC)

### **Learning Outcomes:**

- Communicate effectively using listening, speaking, reading, and writing skills
- Solve problems using critical and creative thinking and scientific reasoning
- Use computer and emerging technologies effectively