

Course Description

ATT2821 | Air Traffic Control (ATC) Radar | 3.00 credits

This course will provide the student with a fundamental knowledge of air traffic control practices, policies and procedures as they relate to the specifics of the controller function in an air traffic radar operating environment, with air traffic controllers utilizing the radar for traffic separation. The liberal use of the figures and example phraseology assist the student in achieving an overall use of understanding of the air traffic control system. A radar air traffic control simulator is utilized to provide realistic training exercises for the students. Prerequisite: ASC1210.

Course Competencies:

Competency 1: The student will demonstrate knowledge and understanding of the subject matter relating to radar operations in air traffic control (ATC) by:

1. Recalling aircraft separation requirements, including the different types of separations used daily by controllers to safely, orderly, and expeditiously separate aircraft within the National Airspace System (NAS)
2. Differentiating the various radar systems used by ATC
3. Discussing special operations, including information about flights that are out of the ordinary and the requirements for special handling
4. Explaining radio and satellite navigation, including how controllers assist the pilot using them.
5. Interpreting various instrument flight rules (IFR) charts and publications
6. Breaking down aircraft approaches, including an instrument approach procedures (IAP) overview.
7. Defining the role of the air traffic control system in an emergency, including tasks, functions, response procedures, and management structure
8. Showing essential ATC communications, including the need for good communications and proper procedures
9. Identifying strip markings and corresponding procedures
10. Analyzing ATC clearances, including the corresponding procedures and responsibilities of both pilot and controller regarding the same

Competency 2: The student will demonstrate the ability to analyze and interpret the following ATC documentation by:

1. Low-altitude and high-altitude IFR route charts
2. Instrument approach plates (IAP)
3. Airport facility directory
4. Flight data center notices to airmen (FDC NOTAMS)
5. Pilot reports (PIREPS)
6. Strip markings

Competency 3: The student will demonstrate proficiency in ATC Radar communications and operations by:

1. Accomplishing control tower simulation exercises in a simulated ATC environment (simulator) using FAA standards; multiple traffic and weather scenarios will be utilized, including alerts, emergencies, and conflict situations such as runway incursions
2. Issuing clear, concise commands to aircraft in various situations to resolve or prevent conflict.
3. Providing a detailed, standard position relief briefing during training exercises
4. Showing reasoned, decisive procedures in emergency/abnormal situations
5. Shaping communications to purpose, audience, and occasion

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Use quantitative analytical skills to evaluate and process numerical data
- Use computer and emerging technologies effectively