



Aviation Fuel Quality Control Course Syllabus

This course is designed as initial and recurrent training for personnel engaged in aviation fuel handling. The content here should not be used if it violates local codes or ordinances designed for safe operations considering local conditions. The information contained herein should be used as a guide to safe and efficient aviation fuel quality control operations. This AFQC course is embedded into the Fuel Safety Supervisor (FSS) and Line Fuel Service (LFS) courses that meet 14 CFR 139.321(e)(1) and (e)(2) training requirements.

Lesson 1: Orientation

- Lesson Objectives
- Course Purpose
- Expected outcomes
- Course Topics
- Course Testing and Completion
- Airport Certification
- National and Industry Standards
- Aviation Gasoline - AVGAS
- Aviation Jet Fuels
- Lesson Review
- Lesson Quiz

Lesson 2: Fuel Contaminants

- Lesson Objectives
- Water Contamination
- Particulate Contamination
- Surfactant Contamination
- Microorganism Contamination
- Cross Contamination
- FSII and DEF Hazards
- Lesson Review
- Lesson Quiz

Lesson 3: Receiving Fuel Shipments

- Lesson Objectives
- Before Receipt
- On Arrival
- Fuel Transfer
- After Delivery
- Lesson Review
- Lesson Quiz

Lesson 4: Fuel Filtration

- Lesson Objectives
- Filter Separators
- Filter Monitors
- Microfilters
- Clay Treatment
- Dehydrators
- Filter Vessel Appurtenances
- Filter Vessel Data
- Filter Element Replacement Criteria
- Differential Pressure
- Lesson Review
- Lesson Quiz

Lesson 5: Fuel Storage Facilities

- Lesson Objectives
- Planning and Design
- Equipment
- Inspections
- Lesson Review
- Lesson Quiz

Lesson 6: Aviation Refuelers

- Lesson Objectives
- Planning and Design
- Equipment
- Inspections
- Lesson Review
- Lesson Quiz

Lesson 7: Aviation Fuel Quality Testing

- Lesson Objectives
- API Specific Gravity Test
- Filter Membrane Test
- Free Water Test
- Fuel System Icing Inhibitor (FSII) Test
- White Bucket Test
- Lesson Review
- Lesson Quiz

Lesson 8: Operational Procedures

- Lesson Objectives
- Filter Element Replacement

- Misfueling Prevention
- Nozzle Screen Inspection
- Water Defense Systems
- Recordkeeping
- Lesson Review
- Lesson Quiz

Lesson 9: AFQC Lesson 10 Final Assessment

- Quiz Review
- Questions and Answers
- Testing
- Testing Results and Remediation
- Finish