

# AEROSPACE

## SHORT COURSES

### Electrical Wiring Interconnection System (EWIS) and FAA Requirements (AERO0230)

**Instructor:** C. Bruce Stephens, Franklin L. Cummins, Thomas N. Taylor *(This course may be taught by any of these instructors.)*

#### Course Highlights

- EWIS best practices
- Team EWIS workshops
- DER/UM EWIS requirements
- EWIS examples and practical applications
- Review of advisory circulars

#### Course Description

This course discusses the FAA Code of Federal Regulations (CFRs) and design concepts required to ensure all aspects of aircraft electrical wiring and installation are safe. It examines aircraft wiring as a system and reviews all Part 25 CFRs related to EWIS FAA certification. Student teams will review FAA Advisory Circulars and present practical applications of the information in a simulation of the EWIS certification process. EWIS requirements for aircraft maintenance and inspection will also be discussed.

#### Who Should Attend?

The course is designed for all aircraft design areas including electrical, avionics, and HIRF/lightning engineers and aircraft technicians. Aircraft managers and project engineers working in electrical/avionics related areas should also attend.

#### Learning Objectives

- Understand of the EWIS CFRs related to aircraft wiring
- How each EWIS requirement relates to the different areas of the aircraft
- Safety aspects of EWIS
- Design requirements related to EWIS
- How EWIS relates to other engineering requirements
- Showing and finding compliance for EWIS

## Course Outline

### Day One

- Introduction
- The electromagnetic environment of aircraft—metallic and composite aircraft requirements
- Electromagnetic interference (EMI)
- Electromagnetic compatibility (EMC)
- Electrical bonding
- Electrostatic discharge (ESD)
- Precipitation static (P-STATIC)
- High-intensity radiated fields (HIRF)
- Lightning
- DER/UM EWIS requirements
- Aircraft EWIS best practices job aid—background and examples

### Day Two

- Aircraft EWIS best practices job aid—background and examples
- Certification of electrical wiring interconnection systems on transport category airplanes
- EWIS examples and practical applications
- EWIS workshop

### Day Three

- Certification case study design example
- Electrical equipment and installations
- Circuit protective devices
- Fire protection systems
- Electrical supplies for emergency conditions
- Protection against injury
- Electrical wiring interconnection systems instructions for continued airworthiness using enhanced zonal analysis procedure
- EWIS workshop

### Day Four

- System design and analysis
- Fuel tank ignition source prevention guidelines
- Acceptable methods, techniques and practices—aircraft inspection and repair
- EWIS workshop

## **Day Five**

- CFR compliance statements
- Final EWIS discussion and questions
- EWIS final exam presentations

### **Classroom hours / CEUs**

31.50 classroom hours

3.15 CEUs

### **Certificate Track**

Aerospace Compliance, Aircraft Maintenance and Safety, Avionics and Avionic Components, Electromagnetic Effects, Electrical Wiring Interconnection System (EWIS)

### **Course Fees**

Early registration course fee: \$2,495 if you register and pay by the early registration deadline (45 days out).

Regular registration course fee: \$2,695 if you register and pay after the early registration deadline.

### **U.S. Federal Employee Discount**

This course is available to U.S. federal employees at 10% off the registration fee. To receive the federal employee discount, you must enter the code **FGVT116** during the checkout process. Please note that you must validate your eligibility to receive this discount by entering your U.S. government email address (ending in .gov or .mil) when creating your online registration profile. This discount is available for both the early registration and regular registration fees.

### **Canada Department of National Defence Discount**

This course is available to Canada DND employees at 10% off the registration fee. Please contact the DND Procurement Authority (DAP 2-3) for details. Please note that you cannot register using our online system when requesting this discount. This discount is available for both the early registration and regular registration fees.

### **Netherlands Defence Academy Discount**

This course is available to Netherlands Defence Academy employees at a discounted registration fee. Please contact the NDA Procurement and Contracting department for details. Please note that you cannot register using our online system when requesting this discount.

**This class is available for delivery at your company.**

Your company can realize substantial savings by bringing an aerospace short course to your workplace. On-site delivery is ideal for organizations that need to train 10 or more employees on a specific topic. For more information on on-site course delivery, or to request a cost proposal, please contact us at 913-897-8782, or email us at [ProfessionalPrograms@ku.edu](mailto:ProfessionalPrograms@ku.edu).

**CONTACT US:**

KU Professional and Continuing Education (KUPCE)  
Aerospace Short Course Program  
12600 Quivira Road, RC 125  
Overland Park, Kansas 66213  
Email: [ProfessionalPrograms@ku.edu](mailto:ProfessionalPrograms@ku.edu)  
Phone: 913-897-8530 (Registration)

