AEROSPACE
SHORT COURSES

Operational Test and Evaluation: Customer-Focused Testing (AERO0531)

Instructor: John Norton

Course Description

The end user will inherit a system that is safe but has latent deficiencies, has been mostly tested against system specifications and has undergone limited "real world" integrated systems testing. Total system performance is of primary importance to the end user. This is the primary responsibility of Operational Test and Evaluation (OT&E) - to test an operationally representative system, in an operationally representative environment, using typical operators and maintainers against **user** requirements.

This OT&E course is designed to introduce students to the language, processes and assorted tools to estimate, plan, accomplish risk assessment, conduct, analyze and report on operational tests. It focuses on the challenges of safe and effective OT&E of ground support elements, aerospace vehicles, on-board systems, human-system interaction issues and logistics suitability.

The course focuses mainly on military systems but is equally applicable to commercial systems.

Who Should Attend?

This class is designed specifically for operators, maintainers, engineers and other support personnel. It is also appropriate for those personnel involved in planning, provisioning, conducting, reporting and supporting operational test activities. The course is applicable for military and civilian students as well as academic researchers. It may also be beneficial to those involved in writing user requirements or those involved with defining new system concepts based on market analysis.

Course Highlights

This course is designed to introduce the student to the essence of operational tests and the user's perspective, and focuses on:

- The requirements process - how and why system specifications may not accurately reflect user needs
- The users view of the world - why developers are from "Venus" and users are from "Mars"
- An OT&E process - differentiation between Development Test (DT) and Operational Test (OT) perspectives

- Areas of operational concern that are not addressed by DT - why DT alone is not sufficient to field a system
- Operational Test and Evaluation truths - mistakes made and lessons learned

Learning Objectives

- Where Developmental Test and Evaluation (DT&E) and OT&E fall in a generic acquisition cycle.
- The linkages with and differences between DT&E and OT&E.
- How operational requirements and capabilities are developed.
- How top level user (customer) requirements are dissected into specific operational test objectives, test conditions, test methods, and data collection.
- How to conduct and document an OT&E risk assessment and how to minimize identified risks during testing.
- How to safely, effectively, and efficiently conduct operational effectiveness and suitability tests
- How to ***convert*** OT&E test data and observations into ***information—***the "So What?" for an operator, maintainer, and user.
- Why today's systems development and test programs typically cost too much, are late on schedules, and do not test the complete system.
- The challenges of testing highly integrated systems in a net-centric setting.
- "Truths" of operational flight test (lessons learned).

Course Outline

Day One

- Course Introduction
- OT&E in Acquisition
- Developing User Requirements
- Dissecting User Requirements (including student exercise preparation)

Day Two

- Requirements exercise presentation preparation and briefing
- T&E Planning and OT&E Thoughts
- OT&E Risk Management

Day Three

- OT&E Products: Project Proposals; Test Plans; Test Reports
- OT&E Planning & Test Cards
- Human-System Interaction in Design & Operations (Part I)
- Integrated Systems OT&E

Day Four

- Closed Loop Handling Qualities in OT&E
- Human-System Interaction in Design & Operations (Part II)

- OT&E Configuration Management
- OT&E Suitability
- Initial Operational Assessment Assignments
- IOA Preparation Time

Day Five
- Initial Operational Assessments & Syndicate Discussions
- Lessons Learned
- Course Critiques

Classroom hours / CEUs
35.00 classroom hours
3.5 CEUs

Certificate Track
Flight Test and Aircraft Performance

Course Fees
Early registration course fee: $2,595 if you register and pay by the early registration deadline (45 days out).

Regular registration course fee: $2,795 if you register and pay after the early registration deadline.

Course Materials
Course materials, including outlines, presentation copies, and supplementary materials, will be accessible through Canvas, KU's online learning system. Instructions to access Canvas will be provided upon completed registration. Students are required to bring a computer or other electronic device with PDF-viewing capabilities with them to class each day. If you require accommodation contact us at professionalprograms@ku.edu and we will work with you on an accessible solution.

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.

Instructor Bio

John Norton is an experienced pilot, aeronautical engineer, and operational tester. He is the founder and President of Norton Aeronautical Solutions, Inc. With more than 40 years of

experience in aerospace, he has both military and civil operations and test experience. John's primary operational experience was in the C-130 and C-17 airlift aircraft; he was a member of the C-17 Operational Test and Evaluation (OT&E) team for four years, commanded a C-17 squadron, and directed C-17 combat operations in/out of Afghanistan. He retired from the Air Force after 28 years as a Colonel. John has taught OT&E at the National Test Pilot School in Mojave, CA since 2011, was an online aeronautics professor for Embry-Riddle Aeronautical University and has taught aeronautical short courses for his own company, Practical Aeronautics, Inc since 2013. John also leads a local middle-school STEM program that teaches 14-year-olds how to fly gliders. He holds engineering degrees from the USAF Academy and California State University Fresno and is an active FAA-certified flight instructor in power aircraft and gliders.

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 ProfessionalPrograms@ku.edu.

CONTACT US:

KU Jayhawk Global
Aerospace Short Course Program
1515 St. Andrews Dr.
Lawrence, KS 66047
Email: jayhawkglobal@ku.edu
Phone: 785-864-6779 (Registration)