Advanced Flight Tests
Instructors: Donald T. Ward, Thomas William Strganac

Description
This course provides the practical knowledge needed to plan a safe and comprehensive series of flutter envelope expansion tests. It includes suggestions and recommendations for flutter and post-stall certification and demonstration of new or significantly modified airplane designs to meet civil or military requirements.

Highlights
• Why advanced flight testing is necessary
• Fundamental principles of aeroelasticity
• Experimental and analytical tools used in preflight preparations
• Instrumentation for flutter envelope expansion
• Subcritical response techniques and interpretation of supporting analyses
• Interpreting test results
• Expanding the envelope
• Discussions of limit cycle oscillations
• Foundations of post-stall flight testing
• Aerodynamic conditions for dynamic equilibrium
• Experimental tools for preflight preparations
• Instrumentation for post-stall flight tests
• Emergency recovery devices
• Subsystem modifications for post-stall testing
• Recommended recovery techniques
• Guidelines and discipline for conducting advanced flight tests
• Planning for efficiency in data collection and data management
• Contingency planning

Who should attend?
Designed for practicing and entry-level flight test engineers and managers, aircraft engineers and aircraft designers.

“I enjoyed this class. I liked both the professors and the different perspectives they had to offer. Dr. Ward offered his view, knowledge and first-hand experiences. And Dr. Strganac presented the “nuts and bolts” and scientific theoretical perspective that helped me understand aeronautical theory.”

Glenn Johnson, Northrop Grumman Corporation