Sample PIO Course Syllabus

Course Highlights

- Expert-led discussions on the evolution of PIO, from the Wright Flyer to modern fly-by-wire systems
- Real-world case studies, flight tests, and research-based solutions
- Practical strategies for designing, detecting, and mitigating PIO risk

Course Obectives

By the end of this course, you will:

- Fully understand the causes and consequences of PIO
- Master methods to predict and prevent PIO through design and analysis
- Learn advanced simulation and flight test techniques for identifying PIO susceptibility
- Get familiar with real-time monitoring tools for in-flight PIO detection
- Develop strategies to manage PIO in both design and operation

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Course Breakdown

Day 1 – Foundations of PIO:

- Introduction to PIO: Definition, history, and categories
- Causes of PIO: How aircraft design, dynamics, and pilot inputs trigger oscillations
- Case studies: Key insights from flight research programs and operational lessons learned

Day 2 – PIO Prevention Strategies:

- Designing Category I Resistant Aircraft: Essential techniques for PIO-resistant designs
- Real-Time Detection & Prevention: Tools and methods for in-flight monitoring
- Testing & Validation: Simulation and flight tests to ensure PIO resilience
- Best Practices: Proven strategies for ensuring PIO-free operations

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Who Should Attend?

This course is designed for aerospace professionals involved in the design, testing, and operation of aircraft, including:

- Program Managers
- Engineers (Structures, Controls, Handling Qualities, Flight Test)
- Pilots

Course Logistics

- Duration: 2 days
- Location: Flexible
- Hosting organization: Responsible for room, audio setup, and refreshments
- Participants' travel expenses are at their own expense

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(310) 679-2281

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