FlightInsight
Introduction to Glass Cockpit

GLASS COCKPIT
2026 Edition

Learning Outcomes

Welcome to the Introduction to Glass Cockpit course! This course covers is designed to introduce pilots of all skill levels to the functioning of a so-called glass cockpit avionics system. The system used for the tutorials is the Garmin G1000 NXi Integrated Flight Deck, found in a wide range of general aviation aircraft.

The lectures in this course will guide you through each step of operating the system as we explore topics such as instrumentation, flight planning, navigation, communications, buttonology, and failures. Both VFR and IFR concepts are covered, accommodating pilots of all interest levels.

Each of the modules includes a series of video lectures and animations illustrating concepts. **All the course material is available online once you're enrolled on the FlightInsight course page.** After each video lecture, there are a series of questions designed to test your knowledge of the topic covered.

After successfully completing this course you will be able to:

- Apply your knowledge toward operating a Garmin G1000 equipped aircraft in conducting safe, efficient flight;
- Gain a general understanding of glass cockpits that will translate into many other forms of advanced avionics, shortening the learning curve as you become familiar with them.

Resources Used in the Course

The Garmin G1000 NXi will be simulated to show its functionality in each video. The following resources are used to present these simulations:

Microsoft Flight Simulator
Microsoft's latest PC-based flight simulator is used in a number of in-flight scenarios

Working Title: G1000 NXi Mod
This add-on improves on the G1000 used in Flight Simulator with more realistic functionality and options

Garmin G1000 NXi PC Trainer for Cessna
Where necessary, the Garmin PC trainer will be used to demonstrate functions not available through Flight Simulator

Your Instructor

Dan George is a Certified Flight Instructor-Instrument (CFII) based in Maryland. He has accumulated over 4,000 flight hours, mostly through instructing students.

He has guided dozens of pilots through the challenging process of attaining their Private or advanced ratings.

Dan serves as a Lecturer at the University of Maryland, teaching Aviation in the Aerospace Engineering Department.

He is an instrument rated Commercial Pilot with Single and Multiengine Land ratings and is an FAA Gold Seal Flight Instructor and Instrument Instructor.

Email Dan at training@flight-insight.com

Lecture Listing

MODULE	MODULE SUBJECT	TIME TO COMPLETE
Introduction	**The Glass Cockpit Course** Welcome to FlightInsight! Using this Course The Technically Advanced Aircraft (TAA)	**20 minutes**
Module 1	**Transitioning into the Glass Cockpit** The Primary Flight Display (PFD) System Overview Startup and Pre-takeoff (IFR Flight Part 1 of 3) Introduction to Horizontal Situation Indicators (HSI) The Multi-Function Display (MFD) Synthetic Vision and TAWS-B Autopilot Basics Takeoff and Cruise (IFR Flight Part 2 of 3)	**80 minutes**
Module 2	**Increasing Situational Awareness** The Flight Director Flight Calculations with the G1000 The ILS Approach Vertical Navigation (VNV) Non Precision Approaches and LNAV+V Departure Procedures VFR Cross Country Flight	**70 minutes**
Module 3	**Advanced Procedures** Planning a Visual Approach VOR Tracking Holds in the G1000 When Things Go Wrong Arrival and Approach (IFR Flight Part 3 of 3)	**60 minutes**

Scope of Course

This course is designed for first time users of a glass cockpit avionics system or long time users looking to gain deeper operating knowledge. The specific system demonstrated is the Garmin G1000 NXi, and the platform will be demonstrated using simulated versions of a Cirrus SR22 and Cessna 172. The purpose of the course is not to serve as a tutorial for either of these aircraft. The functionalities demonstrated in this course should be used as a supplement to those described in a particular aircraft's operating manuals.

Because the course is not designed as a tutorial for any one specific system or aircraft, it should not be used as the primary means of learning to use it. Always refer to the operating manual of the specific aircraft to be used and consult with a certified flight instructor familiar with the aircraft and system you intend to use.