

DoAE, Jain (Deemed-to-be University)

Department of Aerospace Engineering at Jain (Deemed-to-be University) besides involving itself in cutting edge research, is striving to generate a pool of technical manpower skilled in aircraft design, avionics, aircraft maintenance engineering, airport infrastructure and aviation management at the UG, PG and Research levels.

SIATI

The Society of Indian Aerospace Technologies & Industries (SIATI) has made pioneering efforts in bringing industry, R&D centres both in India and abroad together to enhance self-reliance in aerospace technology and manufacturing. In addition to major aerospace players, it has now about 300 small, medium and large scale private industries engaged in development and manufacture of aircraft structures, systems and equipment.

Course Coordinator

Air Cmde KA Muthana (Retd), Associate Director, SIATI
Tele: 080-25219951 (Mon-Fri, 10 AM - 5 PM)

REGISTRATION FEE PER PARTICIPANT

- Corporate: Rs 10000
- Academic Faculty & Government Organisations: Rs 8000
- Students: Rs 4500

Registration fee includes participation fee, lecture materials, working lunch, certification cost etc.

The registration details (Name, Designation, Organisation, contact details) along with NEFT/IMPS details should be conveyed at office@siati.org latest by 15 February 2026.

Acct Name: Society of Indian Aerospace Technologies & Industries (SIATI)

Ac No: SB 31759635132; **Bank:** SBI, HAL Branch (Code: 01114), Bangalore, **IFSC:** SBIN0001114; **MICR CODE:** 560002018



DEPARTMENT OF AEROSPACE ENGINEERING, JAIN (DEEMED-TO-BE UNIVERSITY)

**AND
SOCIETY OF INDIAN AEROSPACE TECHNOLOGIES AND INDUSTRIES (SIATI)**

SPECIAL 2-DAY COURSE ON AVIONICS



Date: 25&26 FEBRUARY 2026

VENUE: AERONAUTICAL SOCIETY OF INDIA, Junction of Old Madras Road & Suranjanadas Road, Bangalore - 560075

WITH SUPPORT FROM



ABOUT THE COURSE

- Avionics refers to the electronic systems used on aircraft (and spacecraft) to support navigation, communication, flight control, monitoring, and mission execution. Modern avionics are highly integrated, safety-critical, and designed with redundancy and fault tolerance.
- Avionics form the electronic nervous system of an aircraft, integrating navigation, communication, control, monitoring, and safety functions. Modern systems rely on high levels of automation, redundancy, and software intelligence, enabling safer, more efficient, and more precise flight than ever before.
- This special course aims to give participants, an overview of avionic architecture and design requirements. A Course Completion Certificate will be issued jointly by Jain (Deemed-to-be) University, Aerospace & Aviation Sector Skill Council (AASSC) and SIATI.

TIME FOR CLASSES: 08:30 AM to 5 PM on both days

FACULTY

- The lectures will be delivered by experts who have been in the field for over 20 years and hold senior positions in respective organisations.

WHO WOULD BENEFIT

- Scientists and Engineers associated with avionics design, development, manufacturing, testing, maintenance and upgrade.
- Faculty and students from institutes offering courses in avionics.



INTRODUCTION TO AVIONICS

- What is avionics? History & evolution. Role of avionics in modern aircraft.
- Difference between civil avionics and military avionics.
- Major subsystems overview with functional blocks.

AIRCRAFT ELECTRICAL & POWER SYSTEMS

- Aircraft power sources (AC/DC, generators, batteries)
- Power distribution basics. Redundancy & safety architecture.

SENSORS AND INSTRUMENTATION

- Air data systems (pitot-static, altimeters, airspeed)
- Gyros & Inertial Measurement Units (IMU). Sensor errors & filtering basics

NAVIGATION SYSTEMS

- Satellite navigation: GNSS (GPS/GLONASS/GALILEO/GAGAN/ IRNSS). Strengths and weaknesses.
- Terrestrial navigation: VOR, DME, ILS basics. Strengths and weaknesses.
- Future navigation systems.

AIRCRAFT COMMUNICATIONS

- Fundamentals of HF/VHF/UHF communications. Antennas and propagation.
- SELCAL, CPLDC, ACARS and Satellite communication basics.

FLIGHT CONTROL COMPUTERS AND DISPLAYS

- Introduction to fly-by-wire systems. Autopilot systems.
- EFIS (Electronic Flight Instrumentation System)
- EICAS (Engine Indication & Crew Alerting Systems). HUD/MFD basics.

INTEGRATED AVIONICS & DATA BUSES

- ARINC 429 / ARINC 664 / MIL-STD-1553/ MIL-STD-1760
- Data communication architecture. System redundancy and fault tolerance.

AIRCRAFT SURVEILLANCE & SAFETY SYSTEMS

- Radar basics (primary/secondary), weather radar.
- Transponder (mode A/C/S), TCAS/ADS-B overview, EGPWS/TAWS.
- Safety standards introduction (DO-178C, DO-254, DO-160, ARP4754A)

EMERGING TRENDS IN AVIONICS

- UAV Avionics. Autonomous systems. Integrated Modular Avionics (IMA)
- AI/ML in Avionics

VISIT TO AN AVIONICS RIG