7th Semester	RAE7D001	Avionics	L-T-P 3-0-0	3 Credits

Module I:
INTRODUCTION TO AVIONICS

Need for Avionics in civil and military aircraft and space systems – Integrated Avionics system – Typical avionics sub systems – Design approaches and recent advances - Application Technologies.

Module II:
FLIGHT DECK AND COMMUNICATION SYSTEMS

Flight deck display technologies – CRT, LED, LCD, Touch screen – Head up display – Electronic instrumentation systems. Aircraft audio systems basic – audio transmitter and receiver principles – VHF communication system – UHF communication systems.

Module III:

DIGITAL AVIONICS ARCHITECTURE

Avionics system architecture– salient features and applications of Data buses MIL–STD 1553 B– ARINC 429–ARINC 629

Module IV:
RANGING AND POSITIONG SYSTEMS
VHF Omni range – VOR receiver principles – distance maturity equipment – principles of operation – Instrument landing system – localizer and glide slope. Global positioning system principles – triangulation – position accuracy – applications in aviation.

Module V:

AUTO FLIGHT SYSTEM

Automatic flight control systems – fly by wire and fly by light technologies – flight director systems – flight management systems- Utility systems Reliability and maintainability - certification

Books:
[1] Elements of electronic navigation, N.S.Nagaraja, Tata Mc Graw Hill, 1995.
[2] Avionic systems Operation and maintenance, Janes W.Wasson,Jeppesen Sandersen Training products (Sterling Book House, Mumbai),1994.
[3] Introduction to Avionics, Dala R. Cundy, Rich S. Brown, Parson
[4] Principle of Avionics, Albert Hel frick, Avionics Communications Inc., 2000.