COURSE CODE	COURSE TITLE	L	T	P	C
1154AE112	Aviation: Aircraft Systems	1	0	0	1

Course Category:

University Elective

a. Preamble:

The course aims at providing an understanding of the issues associated with the design and provision of tactical electronic warfare systems on the modern battlefield. The course has its emphasis on presenting the students with the concepts of Electronic support measures and Electronic Counter measures.

b. Prerequisite Courses:

- Discrete Time Signal Processing
- Waveguides and Antennas

c. Related Courses:

- Major Project

d. Course Educational Objectives :

- To discuss in general the taxonomy of electronic warfare and their importance.
- To understand the principles of Electronic warfare system.
- To know about the current challenges and future developments of Electronic Warfare.

e. Course Outcomes :

Upon the successful completion of the course, students will be able to:

CO Nos.	Course Outcomes	Knowledge Level (Based on revised Bloom's Taxonomy)
CO1	CO 1: The history of space exploration and its cultural.	K2
CO2	CO 2: Fundamentals of aerospace engineering	K2
CO3	CO 3: The key aspects of space systems and the space environment	K3
CO4	CO 4: Current trends of Space Exploitation	K2
CO5	CO 5: Future projects in space exploration	K3

Correlation of COs with POs:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	H											
CO2	H							H				
CO3	H					M		H			M	
CO4	H					M		H			M	
CO5	H									M		

H- High; M-Medium; L-Low

Course Contents

UNIT I -AIRPLANE CONTROL SYSTEMS **L 3**

Conventional Systems - fully powered flight controls - Power actuated systems – Auto pilot system - fly by wire systems - Digital Fly by wire system

UNIT II -AIRCRAFT SAFETY SYSTEMS **L 3**

Fire protection system, Deicing and anti icing systems - Working principles -Components - Advantages –Applications.

UNIT III -ENGINE SYSTEMS **L 3**

Lubricating systems for piston and jet engines , Starting procedures for reciprocating and gas turbine engine aircrafts, Ignition system - components– working principle.

UNIT IV -HUMAN COMFORT SYSTEMS **L 3**

Basic Air cycle systems - Vapor compression and absorption cycle systems, Cabin air pressure system, and Evaporative vapor cycle systems - Evaporative air cycle systems.

UNIT V -AIRCRAFT INSTRUMENTS **L 3**

Flight Instruments and Navigation Instruments – Air speed Indicator, Vertical speed indicator- Mach Meters –Variometers- Altimeters - Principles and operation

Total hours: 15