

**DEPARTMENT OF
AEROSPACE ENGINEERING
(School of Mechanical Sciences)**

**Curriculum Details
2015-19**

CURRICULUM

B-TECH AEROSPACE ENGINEERING

Pre – Engineering Program – 50 credits

Table 1

Sl. No.	Sub. Code	General – 2 credits	Credits
		Subject	
1	14VE2001 /14VE2002	Value Education I / II	2:0:0
		Subject Total	2

Sl. No.	Sub. Code	Basic Sciences – 12 credits	Credits
		Subject	
1	14MA2001	Vector Calculus and Complex analysis	3:1:0
2	14MA2003	Mathematical Transforms	3:1:0
3	14MA2006	Numerical Mathematics and Computing	3:1:0
		Subjects Total	12

Sl. No.	Sub. Code	Engineering Sciences & Technical Arts – 6 credits	Credits
		Subject	
1	14ME2001	Engineering Mechanics	3:0:0
2	14MS2002	Managerial Skills	3:0:0
		Subjects Total	6

Table 2

Course Code	PROGRAM CORE	Credits
	Name of the Course	
14CE2003	Mechanics of Fluids	3:1:0
15CE2004	Fluid Mechanics and Machinery Lab	0:0:1
14ME2014	Engineering Thermodynamics	3:0:0
14ME2020	Thermal Engineering Laboratory (V-1.1)	0:0:1

14AE2001	Introduction to Aerospace Engineering	3:0:0
14AE2002	Aerospace Components Drawing	0:0:1
14AE2004	Elements of Avionics (V-1.1)	3:0:0
16AE2001	Structural Mechanics	3:0:0
15CE2005	Strength of Materials Lab	0:0:1
14ME2015	Thermal Engineering I	3:0:0
14AE2006	Aerodynamics	3:0:0
14AE2007	Aerodynamics Laboratory – 1	0:0:2
14AE2008	Aerodynamics Laboratory – 2	0:0:2
14AE2009	CAD Laboratory	0:0:2
14AE2010	Aircraft Instrumentation	3:0:0
14AE2011	Instrumentation and Avionics Laboratory	0:0:2
16AE2002	Aircraft Structures – I	3:0:0
16AE2003	Aircraft Structures – II	3:0:0
14AE2013	Aircraft Structures Laboratory	0:0:2
14AE2014	Aircraft Performance	3:1:0
14AE2015	Aircraft Stability and Control	3:0:0
14AE2016	Space Dynamics	3:0:0
14AE2017	Aircraft Propulsion	3:0:0
14AE2018	Propulsion Laboratory	0:0:2
14AE2022	Rocket Propulsion	3:0:0
14AE2019	Computational Fluid Dynamics	3:0:0
14AE2020	CFD Laboratory	0:0:2
14AE2021	Gas Dynamics	3:0:0
14AE2023	Aircraft/Spacecraft Design Project	0:0:2
14AE2024	Computational Structural Analysis Laboratory	0:0:2
	Total Course Credits	75
FSP2999/PSP2998	Full / Part Semester Project	20/12
	Total	95/87

Table 3

Course Code	SOFT CORE – AEROSPACE ENGINEERING	Credits
	Name of the Course	
14AE2026	Wind Tunnel Techniques	3:0:0
15AE3009	Finite Element Analysis in Aerospace Application	3:0:0
16ME2014	Heat and Mass Transfer	3:0:0
14AE2028	Experimental Stress Analysis	3:0:0
14ME2039	Composite Materials	3:0:0
14AE2027	Navigation, Guidance and Control of Aerospace Vehicles (V-1.1)	3:0:0
16AE2004	Cryogenic Propulsion	3:0:0
16AE2005	Industrial Aerodynamics	3:0:0
16AE2006	Introduction to Unmanned Aircraft Systems	3:0:0
14AE2032	Aero-elasticity	3:0:0

16AE2007	Analytics for Aerospace Engineers	3:0:0
16AE2008	Advanced space dynamics	3:0:0
TOTAL		36

Course Code	OTHER ELECTIVES	Credits
	Name of the Course	
14AE2030	Basics of Aerospace Engineering	3:0:0
14AE2029	Air Traffic Control and Aerodrome details	3:0:0
14AE2031	Introduction to Non Destructive Testing	3:0:0
14AE2032	Aero-elasticity	3:0:0
14AE2034	Introduction to Hypersonic Flows	3:0:0
14AE2035	Aircraft Systems	3:0:0

Total Credits requirement: 190