

4 Year B. Tech. Programme  
Department of Aerospace Engineering

**Semester – 3**

#	Course Code	Number	Name	L	T	P	Credit	Semester
1.	IC - 9	MA20003	Transform Calculus	3	0	0	3	3
2.	IC - 10	EC21003	Basic Electronics	3	1	0	4	3
3.	D1	AE21001	Introduction to Aerodynamics	3	1	0	4	3
4.	D2	AE21003	Dynamics for Aerospace Engrs	3	1	0	4	3
5.			Biological Science	2	0	0	2	3
6.			Environmental Science	2	0	0	2	3
7.	IL7	EC29003	Basic Electronics Lab	0	0	3	2	3
8.	IP-3		EAA – 3	0	0	3	0	3
9.			<b>Total</b>	<b>16</b>	<b>3</b>	<b>6</b>	<b>21</b>	

**Semester – 4**

#	Course Code	Number	Name	L	T	P	Credit	Semester
1.	IC -11	MA20006	Numerical Solution of ODE and PDE	3	0	0	3	4
2.	D3		HSS	3	0	0	3	3
3.	D4	AE21002	Low Speed Aerodynamics	3	1	0	4	4
4.	D5	AE21004	Introduction to Aerospace Structures	3	1	0	4	4
5.	D6	AE21008	Introduction to Flight Vehicle Controls	3	0	0	3	4
6.	L-1	AE29002	Aerodynamics Laboratory - I	0	0	3	2	4
7.	L2	AE29004	Structures Lab - I	0	0	3	2	4
8.	IP-4		EAA – 4	0	0	3	0	4
9.			<b>Total</b>	<b>15</b>	<b>2</b>	<b>9</b>	<b>21</b>	

**Semester – 5**

#	Course Code	Number	Name	L	T	P	Credit	Se mes ter
1.	D7	AE31001	Thermodynamics & Aerospace Propulsion Systems	3	1	0	4	5
2.	D8	AE31003	High Speed Aerodynamics	3	1	0	4	5
3.	D9	AE31005	Aerospace Structural Analysis	3	1	0	4	5
4.	D10	AE31007	Mechanics of Flight	3	1	0	4	5
5.	B(IT/Sc)		Breadth (IT/Sc)	3	0	0	3	5
6.	L3	AE39001	Aerodynamics Laboratory - II	0	0	3	2	5
7.	L4	AE39003	Structures Lab - II	0	0	3	2	5

8.			<b>Total</b>	<b>15</b>	<b>4</b>	<b>6</b>	<b>23</b>	
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### Semester – 6

#	Course Code	Number	Name	L	T	P	Credit	Semester
1.	D11	AE31002	Aerospace Structural Dynamics	3	1	0	4	6
2.	D12	AE31004	Aircraft Stability and Control	3	1	0	4	6
3.	D13	AE31006	Computer Application in Aero. Engineering	3	0	0	3	6
4.	D14	AE31008	Theory of Jet Propulsion	3	1	0	4	6
5.	D15	AE31010	Viscous Flow Theory	3	1	0	4	6
6.	L5	AE39002	System Laboratory	0	0	3	2	6
7.	L6	AE39004	Propulsion Laboratory	0	0	3	2	6
8.			<b>Total</b>	<b>15</b>	<b>4</b>	<b>6</b>	<b>23</b>	

### Semester – 7

#	Course Code	Number	Name	L	T	P	Credit	Semester
1.	E1		Elective – 1	3	0	0	3	7
2.	E2		Elective – 2	3	0	0	3	7
3.	E3		Elective – 3	3	0	0	3	7
4.	E4		Elective –4(Flexible)	3	0	0	3	7
5.	B(HSS)		Breadth –(HSS)	3	0	0	3	7
5.	L7	AE49001	Aircraft Design & Optimization	1	0	3	3	7
6.	ST	AE48001	Summer Training	0	0	0	2	7
7.	P1	AE47001	Project – Part 1	0	0	6	4	7
8.			<b>Total</b>	<b>16</b>	<b>0</b>	<b>9</b>	<b>24</b>	

### Semester – 8

#	Course Code	Number	Name	L	T	P	Credit	Semester
1.	E5		Elective – 5	3	0	0	3	8
2.	E6		Elective – 6	3	0	0	3	8
3.	E7		Elective – 7 (Flexible)	3	0	0	3	8
4.	B(MNGT)		Breadth –(MNGT)	3	0	0	3	8
5.	CV	AE48002	Comprehensive Viva	0	0	0	2	8

6.	P2	AE47002	Project – Part 2	0	0	9	6	8
7.			Total	12	0	9	20	

**Total Credit: 22+23+21+21+23+23+24+20 = 177**

Semester	Credit	Contact Hours
1	22	29
2	23	29
3	21	25
4	21	26
5	23	25
6	23	25
7	24	25
8	20	21
<b>Total</b>	<b>177</b>	<b>215</b>

### LIST OF ELECTIVE SUBJECTS

#### Electives – 1, 2, 3 and 4 (Any three/four)

Sl. No.	Subject No.	Subject Name	L-T-P	Credit	Sem ester
1.	AE40001	Computational Fluid Dynamics	3-0-0	3	7
2.	AE40003	Finite Element Method	3-0-0	3	7
3.	AE40011	Advanced Aerospace Structures	3-0-0	3	7
4.	AE40015	Advanced Flight Mechanics	3-0-0	3	7
5.	AE40017	Stability of Flows	3-0-0	3	7
6.	AE40019	Automatic Control of Aircraft	3-0-0	3	7
7.	AE40021	Atmospheric Boundary Layers	3-0-0	3	7
8.	AE40023	Random Vibration in Aerospace Engineering	3-0-0	3	7
9.	AE40025	Air Transport Management	3-0-0	3	7
10.	AE40027	Introduction to Helicopter Engineering	3-0-0	3	7
11.	AE40029	Space Dynamics	3-0-0	3	7

**Elective – 5, 6 and 7 (Any two/three)**

Sl. No.	Subject No.	Subject Name	L-T-P	Credit	Semester
1.	AE40010	Advanced Structural Dynamics	3-0-0	3	8
2.	AE49012	Flight Testing Laboratory	1-0-3	3	8
3.	AE40018	Introduction to Turbulence	3-0-0	3	8
4.	AE40020	Composite Structures	3-0-0	3	8
5.	AE40022	Introduction to Avionics	3-0-0	3	8
6.	AE40024	Aeroelasticity	3-0-0	3	8
7.	AE40028	Rocket Propulsion	3-0-0	3	8
8.	AE40030	Advanced Gas Turbine Theory	3-0-0	3	8
9.	AE40034	Advanced Computational Fluid Dynamics	3-0-0	3	8
10.	AE40036	Nonlinear Vibration in Aerospace Structures	3-0-0	3	8
11.	AE40038	Nonlinear Finite Element Method	3-0-0	3	8

**REQUIREMENT FOR MINOR IN AEROSPACE ENGINEERING**

Following courses need to be taken to earn a Minor in Aerospace Engineering

Sl. No.	Subject No.	Subject Name	Semester	Prerequisite	L-T-P	Credit
1.	AE21001	Introduction to Aerodynamics	3rd	None	3-1-0	4
2.	AE21002	Low Speed Aerodynamics	4th	AE21001	3-1-0	4
3.	AE29002	Aerodynamics Laboratory - I	4th	AE21001	0-0-3	2
4.	AE21004	Introduction to Aerospace Structures	4th	None	3-1-0	4
5.	AE29004	Structures Laboratory - I	4th	None	0-0-3	2
6.	AE31001	Thermodynamics & Aerospace Propulsion Systems	5th	None	3-1-0	4
7.	AE31007	Mechanics of Flight	5th	AE21001	3-1-0	4
						<b>24</b>