

Program: B.Tech (Aerospace Engineering) (Batch 2024-28)

Total Credits =		164							
SEMESTER 1									
Sl.	Category(AICTE)	Code	Course Title	L	T	P	Total H	Credits	Category (NEP)
1	BSC	PHY1006/PHY1006L	Essentials of Engineering Physics	3	0	2	5	4	
2	BSC	ARE1708	Engineering Mathematics I	3	1	0	4	4	
3	ESC	ARE1001/ARE1001L	Introduction to Engineering Programming	2	0	2	4	3	
4	BSC	CHE1004/CHE1004L	Engineering Chemistry	3	0	2	4	4	
5	HSMC	COM1515	Modern English Language	0	0	4	4	2	AEC
6	HSMC	VAC001	Design Thinking	2	0	0	2	2	VAC
7	PCC	ARE1701	Introduction to Aerospace Engineering	2	0	0	2	2	
8	MC/AU	HUM2790	Essence of Indian Traditional Knowledge	3	0	0	3	0	MDC
9	MC/AU	EGR1501	Induction Program					0	
			Total				26	21	
SEMESTER 2									
Sl.	Category	Code	Course Title	L	T	P	Total H	Credits	Category (NEP)
1									
2	BSC	ARE1709	Engineering Mathematics II	3	1	0	4	4	
3	ESC	ELE1001/ELE1001L	Fundamentals of Electrical & Electronics Engineering	3	0	2	5	4	
4	ESC	MEC1506	Engineering Drawing	0	0	4	4	2	
5	HSMC	VAC002	Innovation. Entrepreneurship and sustainability	2	0	0	2	2	VAC
6	PCC	ARE1703	Aircraft Materials and Processes	3	0	0	3	3	
7	PCC	ARE1704	Introduction to Aviation	2	0	0	2	2	
8	HSMC	COM1521	Communication Skills and ability enhancement	2	0	0	2	2	AEC
9	MC/AU	LAW3702	Constitution of India	3	0	0	3	0	
10	ESC	MEC2701	Engineering Mechanics	3	0	0	3	3	
			Total				28	22	
SEMESTER 3									

Sl.	Category	Code	Course Title	L	T	P	Total H	Credits	Category (NEP)
1	ESC	ARE2005/ARE2005L	Strength of Materials	3	0	2	5	4	
2	ESC	MEC1103	Engineering Thermodynamics	3	0	0	3	3	
3	PCC	ARE2101/ARE2101L	Fluid Mechanics	3	0	2	5	4	
4	PCC	ARE2401/ARE2401L	Introduction to Avionics	2	0	2	4	3	
5	MC/AU	UHV2701	Universal Human Values	3	0	0	3	3	MDC
6	HSMC	COM2521	Academic writing	0	0	0	4	2	SEC
7	PROJ	IPT2001	Interdisciplinary Project-I					3	
			Total				24	22	
SEMESTER 4									
Sl.	Category	Code	Course Title	L	T	P	Total H	Credits	Category (NEP)
1	PCC	MEC2804	Numerical Methods	3	0	0	3	3	
2	ESC	ELX3008/ELX3008L	Microprocessor and Microcontroller	3	0	2	5	4	
3	PCC	ARE2201	Aerospace Structures	3	1	0	4	4	
4	PCC	ARE2102/ARE2102L	Aerodynamics	3	0	2	5	4	
5	PCC	MEC2002/MEC2002L	Heat and Mass Transfer	3	0	2	5	4	
6	HSMC	COM2525	Workplace communication	2	0	0	2	2	AEC
7	MC/AU	ENV1704	Environmental Studies	3	0	0	3	0	VAC
8	PROJ	IPT2002	Interdisciplinary Project-II					3	
			Total				26	24	
SEMESTER 5									
Sl.	Category	Code	Course Title	L	T	P	Total H	Credits	Category (NEP)
1	PCC	MEC3103/MEC3103L	Kinematics and Dynamics of Machines	3	0	2	5	4	
2	PCC	ARE3102	Atmospheric Flight Mechanics	3	1	0	4	4	
3	PCC	ARE3301	Air-Breathing Propulsion	3	1	0	4	4	
4	PCC	ARE 3204	Compressible Flows	3	0	0	3	3	
5	OEC		Open Elective-1	3	0	0	3	3	SEC
6	PEC		Professional Elective -I	3	0	2	5	4	MIC

7	PROJ	ARE3901	Prototype Project I					2	MDC
			Total				24	24	
SEMESTER 6									
Sl.	Category	Code	Course Title	L	T	P	Total H	Credits	Category (NEP)
1	PCC	ARE3601	Rocket and Space Propulsion	3	0	0	3	3	
2	PCC	ARE3105/ARE3105L	Computational Fluid Dynamics	3	0	2	5	4	
3	PCC	ARE3104/ARE3104L	Aerospace Vehicle Design	2	0	2	4	3	
4	PCC	ARE3702	Mechanical Vibrations and Aeroelasticity	3	0	0	3	3	
5	PEC		Professional Elective -II	3	0	2	5	4	MIC
6	OEC		Open Elective-2	3	0	0	3	3	AEC
7	PCC	ARE3501	Aerospace Propulsion Lab	0	0	2	2	1	
8	PROJ	ARE3902	Prototype Project II					4	

			Total				25	25	
SEMESTER 7									
Sl.	Category	Code	Course Title	L	T	P	Total H	Credits	Category (NEP)
1	PEC		Professional Elective-III	3	0	2	5	4	MIC
2	PEC		Professional Elective-IV	3	0	2	5	4	MIC
3	PROJ	EGR4501	Major Project I					2	
4	PROJ	EGR4502	Summer Internship					2	
			Total				10	12	
SEMESTER 8									
Sl.	Category	Code	Course Title	L	T	P	Total H	Credits	Category (NEP)
1	PEC		Professional Elective-V	3	1	0	4	4	MIC
3	PROJ	EGR4503	Major Project II					10	
			Total				4	14	
						Total Credits =		164	

Professional Electives

Course Code		Course Title	Credits	Specialization
PE I	ARE3501	Spacecraft Dynamics and Attitude Control	4	Astronautics
PE II	ARE3602	Finite Element Methods	4	
PE III	ARE 4101	Satellite communication	4	
PE IV	ARE4205	Hypersonic Flows	4	
PE V	ARE4302	Space Science and Environment	4	
PE I	ARE3502	Aircraft Systems and Instrument	4	Aeronautics
PE II	ARE3602	Finite Element Methods	4	
PE III	ARE4102	Flight Stability and Control	4	
PE IV	ARE4206	Helicopter Engineering	4	
PE V	ARE4304	Unmanned Aerial Vehicles	4	
PE I	ARE3503	Electromagnetic Wave Propagation	4	Avionics
PE II	ARE3603	Embedded Systems	4	
PE III	ARE3605	Navigation, Guidance and Control	4	
PE IV	ARE 4101	Satellite communication	4	
PE V	ARE4305	Radar Engineering	4	
PE I	ARE3504	Introduction to Aerospace Defence Technologies	4	Defense Technology
PE II	ARE3605	Navigation, Guidance and Control	4	
PE III	ARE 4103	Rocket and Missiles	4	
PE IV	ARE4206	Warefare Simulations and Strategy	4	
PE V	ARE 4306	Automatic Flight Control	4	