

Syllabi for B.Tech. (Aerospace Engineering)

Subject Code	Subject	L	T	P	Credits
Semster-1					
PH11001	Physics	3	1	0	4
PH19001	Physics lab	0	0	3	2
CY11001	Chemistry	3	1	0	4
CY19001	Chemistry lab	0	0	3	2
MA11001	Engineering mathematics-1	3	1	0	4
AE11001	Engineering Mechanics- I (Statics)	3	1	0	4
AE13001	Engineering drawing & computer Graphics	1	0	3	3
Semester Credit Total					23
Semster-2					
MA11002	Engineering mathematics-2	3	1	0	4
CS11002	Computer programming	3	1	0	4
EE11002	Electrical Technology	3	1	0	4
EE19002	Electrical Technology Lab.	0	0	3	2
HS11004	Introduction to Biology	3	0	0	3
AE11002	Engineering Mechanics-II (Dynamics)	3	1	0	4
Semester Credit Total					21
Semster-3					
AE21001	Fluid Mechanics & Heat Transfer	3	1	0	4
HS21001	English – I	2	1	0	3
EC21007	Basic Electronics	3	1	0	4
EC29003	Basic Electronics Lab.	0	0	3	2
MA21001	Mathematics -3 (Half semester course)	3	0	0	1.5
AE21003	Introduction to Aerospace Engineering (half semester course)	3	0	0	1.5
AE21005	Solid mechanics	3	1	0	4
ME21003	Materials and Manufacturing Processes	3	0	0	3
Semester Credit Total					23
Semster-4					
HS21002	English-II	2	0	1	3
AE21002	Aerodynamics-I	3	1	0	4
AE29002	Aerodynamics lab-I	0	0	3	2
HS21004	History of the Modern World	3	0	0	3
AE21004	Introduction to Automatic Control	3	1	0	4
AE21006	Aerospace Structures-I	3	0	1	4
AE29004	Structures Lab -I	0	0	3	2
Semester Credit Total					22

राजीव गाँधी राष्ट्रीय विमानन विश्वविद्यालय
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Subject Code	Subject	L	T	P	Credits
Semster-5					
AE31001	Mechanics of Flight	3	1	0	4
AE31003	Aerodynamics - Ii	3	1	0	4
AE39001	Aerodynamics lab-Ii	0	0	3	2
AE31005	Aerospace Structures - Ii	3	1	0	4
AE39003	Structures Lab -II	0	0	3	2
AE31007	Aerospace propulsion	3	1	0	4
AE39005	Propulsion Laboratory	0	0	3	2
Semester Credit Total					22
Semster-6					
AE31002	Aircraft stability and Control	3	1	0	4
AE31004	Mechanical Vibrations	3	1	0	4
AE31006	Avionics	3	1	0	4
AE31008	Space Mechanics	3	0	0	3
HS31001	Introduction to Macro & Micro-Economics	3	0	0	3
AE31010	Numerical Methods in Aerospace Engineering	3	0	0	3
AE39002	Numerical methods lab	0	0	3	2
Semester Credit Total					23
Semster-7					
AE43001	Principles of aircraft design	1	0	3	3
AE48001	Summer training/internship	0	0	0	2
AE41001	Aircraft maintenance-I	3	0	0	3
AE45001	Aircraft maintenance workshop-I	0	0	3	2
	Elective- I	3	0	0	3
	Elective- II	3	0	0	3
BM41003	Introduction to the principles of Management	3	0	0	3
	Elective- III	3	0	0	3
Semester Credit Total					22
Semster-8					
AE48002	Comprehensive Viva Voce	0	0	0	2
	Elective-IV	3	0	0	3
	Elective-V	3	0	0	3
AE41002	Aircraft maintenance-II	3	0	0	3
AE45002	Aircraft Maintenance Workshop- II	0	0	3	2
BM41002	Aviation Management	3	0	0	3
AE47002	Project	0	0	0	4
Semester Credit Total					20

Summary of Credits

Semester	1	2	3	4	5	6	7	8	Total
Credit	23	21	23	22	22	23	22	20	176

Electives: (all electives are of 3-0-0 contact hours and 3 credits)

Subject Code	A: Aerodynamics	
AE32001	Computational Fluid Dynamics	Elective I or II
AE32003	Advanced computational fluid dynamics (prerequisite: 1)	Elective IV or V
AE42002	Industrial Aerodynamics	Any
AE42004	Theory of viscous flows	Any
	B: Aircraft Structures	
AE32005	Finite element method	Elective I or II
AE42006	Advanced finite element method (prerequisite: 1)	Elective IV or V
AE32007	Composite structures	Any
AE32009	Fracture Mechanics	Any
AE42008	Vibration instrumentation & control	Any
AE42010	Aeroelasticity	Any
	C: Aircraft propulsion	
AE32011	Rocket propulsion	Any
AE32013	New propulsion systems	Any
AE42012	Principles of combustion and emission	Any
	D: Flight mechanics & automatic control	
AE32015	Automatic control of aircraft	Any
AE32017	Drone and unmanned aircraft technology	Any
AE42014	Helicopter engineering	Any
AE42016	Flight Laboratory (in collaboration with IIT Kanpur)	Any
	E: Humanities & social sciences	
HS34001	Values & Ethics	Any
HS44002	Economics of airlines operations	Any
HS34003	Introduction to Psychology	Any
	F: Miscellaneous topics	
CS34001	Soft computing, Artificial Intelligence & Machine Learning	Any