

COURSE STRUCTURE

For

AERONAUTICAL ENGINEERING

(Applicable for batches admitted from 2016-2017)



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Year - I Semester

S.No.	Subjects	L	T	P	Credits
1-HS	English – I	4	--	--	3
2-BS	Mathematics - I	4	--	--	3
3-ES	Engineering Chemistry	4	--	--	3
4-BS	Engineering Mechanics	4	--	--	3
5-BS	Computer Programming	4	--	--	3
6-ES	Environmental Studies	4	--	--	3
7-HS	Engineering /Applied Chemistry Laboratory	--	--	3	2
8-BS	English- Communication Skills Lab - I	--	--	3	2
9-ES	C Programming Lab	--	--	3	2
Total Credits					24

I Year - II SEMESTER

S.No.	Subjects	L	T	P	Credits
1-HS	English – II	4	--	--	3
2-BS	Mathematics – II (Mathematical Methods)	4	--	--	3
3-BS	Mathematics – III	4	--	--	3
4-ES	Engineering Physics	4	--	--	3
5-HS	Basic Electrical and Electronics Engineering	4	--	--	3
6-ES	Engineering Drawing	4	--	--	3
7-BS	English - Communication Skills Lab - II	--	--	3	2
8-HS	Engineering /Applied Physics Lab	--	--	3	2
9-ES	Engineering /Applied Physics – Virtual Labs - Assignments	--	--	2	--
10	Engg., Workshop & IT Workshop	--	--	3	2
Total Credits					24

II Year - I Semester

S.No.	Subjects	L	T	P	Credits
1	Elements of Aerospace Engineering	4	--	--	3
2	Thermodynamics	4	--	--	3
3	Mechanics of Fluids	4	--	--	3
4	Computer aided Engineering and Drawing Practice	4	--	--	3
5	Mechanics of Solids	4	--	--	3
6	Managerial Economic & Financial Analysis	4	--	--	3
7	Fluid Mechanics & Strength of Materials Lab	--	--	3	2
8	Electrical & Electronics Engineering Lab	--	--	3	2
Total Credits					22

II Year - II Semester

S.No.	Subjects	L	T	P	Credits
1	Aerodynamics - I	4	--	--	3
2	Manufacturing Technology	4	--	--	3
3	Aircraft System and Instruments	4	--	--	3
4	Elements of Heat Transfer	4	--	--	3
5	Applied Thermodynamics	4	--	--	3
6	Industrials Engineering and Management	4	--	--	3
7	Applied Thermodynamics Lab	--	--	3	2
8	Manufacturing Technology Lab	--	--	3	2
Total Credits					22

III Year - I Semester

S.No.	Subjects	L	T	P	Credits
1	Aircraft Performance	4	--	--	3
2	Aerodynamics – II	4	--	--	3
3	Aircraft Structures – I	4	--	--	3
4	Propulsion – I	4	--	--	3
5	Theory of Machines	4	--	--	3
6	CAD/CAM Lab	--	--	3	2
7	Aerodynamics Lab	--	--	3	2
8	Propulsion Lab	--	--	3	2
7	IPR & Patents	--	2	--	--
Total Credits					21

III Year - II Semester

S.No.	Subjects	L	T	P	Credits
1	Aircraft stability and control	4	--	--	3
2	Aircraft Structures –II	4	--	--	3
3	Propulsion – II	4	--	--	3
4	Finite Element Method	4	--	--	3
5	OPEN ELECTIVE 1. DBMS 2. Waste water management 3. Entrepreneurship 4. Satellite technology 5. Industrial Aerodynamics 6. Theory of Elasticity	4	--	--	3
6	Aircraft Structures Lab	--	--	3	2
7	Aircraft Design Lab	--	--	3	2
8	Aero modelling Lab	--	--	3	2
MC	Professional Ethics & Human Values	--	3	--	--
Total Credits					21

IV Year - I Semester

S.No.	Subjects	L	T	P	Credits
1	Theory of Vibrations	4	--	--	3
2	Computational Fluid Dynamics	4	--	--	3
3	Instrumentation measurements and experiments in fluids	4	--	--	3
4	Helicopter Engineering	4	--	--	3
5	Elective I	4	--	--	3
	1. Airframe Repair and Maintenance				
	2. Boundary Layer Theory				
	3. Fatigue and Fracture Mechanics				
6	Elective II	4	--	--	3
	1. Elements of Combustion				
	2. Quality and reliability Engineering				
	3. Hypersonic Aerodynamics				
7	Computational fluid dynamics Lab	--	--	2	2
8	Finite element method Lab	--	--	2	2
Total Credits					22

IV Year - II Semester

S.No.	Subjects	L	T	P	Credits
1	Rocketry and Space Mechanics	4	--	--	3
2	Mechanics of Composites	4	--	--	3
3	Aerospace Materials	4	--	--	3
4	Elective III	4	--	--	3
	1. Avionics				
	2. Propellant Technology				
	3. Aero elasticity				
5	Seminar	--	3	--	2
6	Project	--	--	--	10
Total Credits					24

Total Course Credits = 48+44 + 42 + 46 = 180