

DAYANANDA SAGAR UNIVERSITY
SHAVIGE MALLESHWARA HILLS, KUMARASWAMY
LAYOUT BENGALURU-560 111, KARNATAKA.

SCHOOL OF ENGINEERING



**SCHEME &
SYLLABUS FOR
BACHELOR OF TECHNOLOGY (B.Tech.)**

AEROSPACE ENGINEERING

(ASE)

**2019-2023
19ASXXX**

IISEM - AEROSPACE ENGINEERING

CR – Credit, AU – Audit, L – Lecture, T – Tutorial, P – Practical, S/P – Seminar/Project, C – No. of Credits,

SL	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					SCHEME OF EVALUATION		Pre Requisite	
				L	T	P	S/P	C	CIA	END EXAM		
1	19ME230 1	ENGINEERING MATHEMATICS – III - MECH & ASE	CR	04	00	--	--	03	50	50	*	***
2	19AS230 1	INTRODUCTION TO AEROSPACE ENGINEERING	CR	03	--	--	--	03	50	50		
3	19AS230 2	THERMODYNAMICS	CR	03	00	--	--	03	50	50	*	***
4	19AS230 3	FLUID MECHANICS	CR	03	--	--	--	03	50	50	*	***
5	19AS2304	MECHANICS OF SOLIDS	CR	03	--	--	--	03	50	50	*	***
6	19AS230 5	AEROSPACE MATERIALS	CR	03	--	02	--	03	50	50	*	***
7	19AS230 6	COMPOSITES LAB	CR	--	--	02	--	1	50	50	*	***
8	19AS230 7	FLUID MECHANICS LAB	CR	--	--	02	--	1	50	50	*	***
9	19AS230 8	MINI PROJECT – I	CR	--	--	--	02	1	50	50	*	***
TOTAL				19	--	04	02	22	450	450		

CR – Credit, AU – Audit, L – Lecture, T – Tutorial, P – Practical, S/P – Seminar/Project, C – No. of Credits,

IVSEM - AEROSPACE ENGINEERING

SL	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					SCHEME OF EVALUATION		Pre Requisite	
				L	T	P	S/P	C	CIA	END EXAM		
1	19AS2401	AIRCRAFT PROPULSION	CR	03	00	--	--	03	50	50	Aerodynamics-1	
2	19AS2402	AERODYNAMICS – I	CR	03	--	--	--	03	50	50	Introduction to Aerospace Engineering	
3	19AS2403	AEROSPACE STRUCTURAL MECHANICS	CR	03	00	--	--	03	50	50	*	***
4	19AS2404	MECHANISMS AND MACHINE THEORY	CR	03	--	--	--	03	50	50	*	***
5	19AS2405	MANUFACTURING PROCESSES	CR	03	--	--	--	03	50	50	*	***
6	19AS2406	PRODUCT DESIGN - 1	CR	02	--	02	--	03	50	50	*	***
7	19AS2407	AEROSPACE STRUCTURES LAB	CR	--	--	02	--	1	50	50	*	***
8	19AS2408	MANUFACTURING PROCESSES LAB	CR	--	--	02	--	1	50	50	*	***
9	19AS2409	MINI PROJECT – II	CR	--	--	--	02	1	50	50	*	***
TOTAL				17	03	06	02	21	450	450		

CR – Credit, AU – Audit, L – Lecture, T – Tutorial, P – Practical, S/P – Seminar/Project, C – No. of Credits,

V SEMESTER -AEROSPACE ENGINEERING

SL	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					SCHEME OF EVALUATION		Pre Requisite
				L	T	P	S/P	C	CIA	END EXAM	
1	19AS3501	Aerodynamics-II	CR	03	00	--	--	03	50	50	Aerodynamics-1
2	19AS3502	Introduction to Space Technology	CR	03	--	--	--	03	50	50	Introduction to Aerospace Engineering
3	19AS3503	Aircraft Performance	CR	03	00	--	--	03	50	50	
4	19AS3504	Principles of Management and Economics for Engineers	CR	03	--	--	--	03	50	50	
5	19AS3508/ 19AS3509	Program Elective – 1	CR	03	--	--	--	03	50	50	
6	19ASOEX XX	Open Elective – 1	CR	03	--	--	--	03	50	50	
7	19AS3505	Aerospace Propulsion Lab	CR	--	--	02	--	1	50	50	
8	19AS3506	Flight Physics Lab	CR	--	--	02	--	1	50	50	
9	19AS3507	Mini Project – III	CR	--	--	--	02	1	50	50	
TOTAL				18	03	04	02	21	450	450	

CR – Credit, AU – Audit, L – Lecture, T – Tutorial, P – Practical, S/P – Seminar/Project, C – No. of Credits, CIA – Continuous Internal Assessment

PROGRAM ELECTIVE – 1

SL	COURSE CODE	COURSE TITLE
1	19AS3508	WIND TUNNEL MODEL TESTING
2	19AS3509	FINITE ELEMENTAL METHODS

VI SEMESTER- AEROSPACE ENGINEERING

SL	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					SCHEME OF EVALUATION		Pre Requisite
				L	T	P	S/P	C	CIA	END EXAM	
1.	19AS3601	CONTROL THEORY	CR	03	--	--	--	03	50	50	
2.	19AS3602	AIRCRAFT SYSTEMS AND INSTRUMENTATION	CR	03	--	--	--	03	50	50	
3.	19AS3603	AIRCRAFT STABILITY AND CONTROL	CR	03	--	--	--	03	50	50	Aircraft Performance
4.	19AS3604	ORBITAL MECHANICS	CR	03	--	--	--	03	50	50	Introduction to Space Technology
5.	19AS3603	PROGRAM ELECTIVE – 2	CR	03	--	--	--	03	50	50	
6.	19IEXXXX	OPEN ELECTIVE – 2	CR	03	--	--	--	03	50	50	
7.	19AS3605	SIMULATION LAB	CR	--	--	03	--	1	50	50	
8.	19AS3606	MODEL BASED SYSTEM ENGINEERING	CR	01	--	03	--	2	50	50	
9.	19AS3607	MINI PROJECT – IV	CR	--	--	--	04	1	50	50	
TOTAL = 900				19		06	04	22	450	450	

CR – Credit, AU – Audit, L – Lecture, T – Tutorial, P – Practical, S/P – Seminar/Project, C – No. of Credits, CIA – Continuous Internal Assessment

PROGRAM ELECTIVE – 2

SL	COURSE CODE	COURSE TITLE
1	19AS3608	INTRODUCTION TO COMPUTATIONAL FLUID DYNAMICS
2	19AS3610	FATIGUE AND FRACTURE MECHANICS

VII SEMESTER AEROSPACE ENGINEERING

SL	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING						SCHEME OF EVALUATION	
				L	T	P	S/P	C	No. of hour/ Week	CIA	END EXAM
1	19AS401	Avionics	CR	3			2	4	4	50	50
2	19AS404/1 9AS406	Program Elective 3	CR	3				3	3	50	50
3	19AS408/1 9AS410	Program Elective 4	CR	3				3	3	50	50
4	19OEXXX	Open Elective -3	CR	3				3	3	50	50
5	19AS402	Law for Engineers	CR	3				3	3	50	50
7	19AS471	Avionics Lab	CR			4		2	4	50	50
8	19AS472	Major Project Stage-1	CR				10	5	10	50	50
TOTAL				15		4	11	23	30	350	350

CR – Credit, AU – Audit, L – Lecture, T – Tutorial, P – Practical, S/P – Seminar/Project, C – No. of Credits, CIA – Continuous Internal Assessment

Department Elective III

Sl. No	Course Code	Course Name
1.	19AS4705	Unmanned Aircraft Systems & E- Mobility
2.	19AS4706	Aircraft Maintenance, Overhaul and Repair
3.	19AS4707	Research Methodology

Department Elective IV

Sl. No	Course Code	Course Name
1.	19AS4708	Optimization Techniques
2.	19AS4709	Air Worthiness & Aerospace Technical Publications
3.	19AS4710	NPTEL Course

SCHEME - B.TECH - 2019-20 ONWARDS

VIII SEM - AEROSPACE ENGINEERING

SL	PROG RA M COD E	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					PREREQUISITE		Scheme of Evaluation	
					L	T	P	S/P	C	SE M	COURS E CODE	CIA	End EXA M
1	101	19AS48XX	PROGRAM ELECTIVE – V	CR	03	--	--	-	03	*	***	50	50
2	101	19OEXXXX	OPEN ELECTIVE – IV	CR	03	--	--	-	03	*	***	50	50
3	101	19CS4801	MAJOR PROJECT STAGE – II	CR	--	--	--	18	09	VII	19AS4705	50	50
					06	--	--	18	15			150	150

PROGRAM ELECTIVE – V

SL	COURSE CODE	COURSE TITLE
1	19AS4802	ROCKETS & MISSILES
2	19AS4803	HELICOPTER DYNAMICS
3	19AS4804	NPTEL

CR – Credit, AU – Audit, L – Lecture, T – Tutorial, P – Practical, S/P – Seminar/Project, C – No. of Credits,

