SEMESTER VII / VIII*

S. NO.	COURSE CODE	COURSE TITLE	CATE GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
THEORY								
1.	AE3701	Wind Tunnel Techniques	PCC	3	0	0	3	3
2.	GE3751	Human Values and Ethics	HSMC	2	0	0	2	2
3.		Elective – Management[#]	HSMC	3	0	0	3	3
4.		Open Elective – II**	OEC	3	0	0	3	3
5.		Open Elective – III***	OEC	3	0	0	3	3
6.		Open Elective – IV***	OEC	3	0	0	3	3
PRACTICALS								
7.	AE3711	Aero Engine and Airframe Laboratory	PCC	0	0	2	2	1
8.	AE3712	Aircraft Systems Laboratory	PCC	0	0	2	2	1
9.	AE3781	Computational Analysis Laboratory	PCC	0	0	2	2	1
			TOTAL	**17**	**0**	**6**	**23**	**20**

***If students undergo internship in Semester VII, then the courses offered during semester VII will be offered during semester VIII.**

****Open Elective – II shall be chosen from the emerging technologies.**

*****Open Elective III and IV (Shall be chosen from the list of open electives offered by other Programmes)**

[#] Elective - Management shall be chosen from the elective Management courses

SEMESTER VIII / VII*

S. NO.	COURSE CODE	COURSE TITLE	CATE GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
PRACTICALS								
1.	AE3811	Project Work /Internship	EEC	0	0	20	20	10
			TOTAL	**0**	**0**	**20**	**20**	**10**

***If students undergo internship in Semester VII, then the courses offered during semester VII will be offered during semester VIII**

TOTAL CREDITS: 166

1. Grid independence study and convergence test using any simple case like cylinder
2. Simulation of flow over an aero foil
3. Simulation of flow over backward facing step.
4. Simulation of Karman vortex trail (vortex shedding) using circular cylinder.
5. External flow simulation of subsonic and supersonic aero foils.
6. Internal flow simulation of subsonic, sonic and supersonic flow through a CD nozzle.
7. Structural analysis of bar and beam
8. Structural analysis of truss.
9. Structural analysis of tapered wing.
10. Structural analysis of fuselage structure.
11. Analysis of composite laminate structures.
12. Heat transfer analysis of structures.

TOTAL: 30 PERIODS

OUTCOMES:

On successful completion of this course, the student will be able to

- Develop and effectively employ solid modelling and simulation tools.
- Choose right specification and create a simple trade diagram.
- Choose appropriate structural models.
- Make use of tools to analyse stress distribution over complex structural components.
- Construct 3d designs and conduct flow analysis

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	1	1	1	1	-	-	1	-	1	2	1	2
CO2	2	2	1	1	1	1	1	1	-	1	-	1	2	2	1
CO3	2	2	2	1	1	1	-	-	-	1	-	1	2	2	2
	2	2	1	1	1	1	1	1		1		1	2	1.67	1.67

AE3811 **PROJECT WORK / INTERNSHIP** **L T P C**
0 0 20 10

COURSE OBJECTIVES:

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same. To train the students in preparing project reports and to face reviews and viva voce examination.
- The students in a group of 3 to 4 works on a topic approved by the head of the department under the guidance of a faculty member and prepares a comprehensive project report after completing the work to the satisfaction of the supervisor.
- The progress of the project is evaluated based on a minimum of three reviews. The review committee may be constituted by the Head of the Department. A project report is required

at the end of the semester.

- The project work is evaluated based on oral presentation and the project report jointly by external and internal examiners constituted by the Head of the Department.

TOTAL: 300 PERIODS

COURSE OUTCOME:

CO1: On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.

CAE331	NUMERICAL METHODS IN FLUID DYNAMICS	L T P C 3 0 0 3

COURSE OBJECTIVES

- To make students understand the complexity of general fluid dynamic equations in partial differential form in the mathematical nature of the equations.
- To make students understand the complexity of general fluid dynamic equations under different flow conditions
- To impart knowledge to students on the basic aspects of finite differences and finite volume methods
- To impart knowledge to students on the basic aspects of finite element methods