PERIYAR MANIAMMAI INSTITUTE OF SCIENCE & TECHNOLOGY

PERIYAR MANIAMMAI
INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University)
Established Under Sec. 3 of UGC Act, 1956 • NAAC Accredited
think • innovate • transform

Criterion 1 – Curricular Aspects

Key Indicator	1.2	**Academic Flexibility**
Metric	1.2.2	Percentage of Programmes in which Choice Based Credit System (CBCS)/elective course system has been implemented (Data for the latest completed academic year)

DEPARTMENT OF AEROSPACE ENGINEERING

STRUCTURE OF THE PROGRAM CLEARLY INDICATING COURSES, CREDITS/ELECTIVES

Programmes

1. **B. Tech Aerospace Engineering**

REGULATION – 2021

SEMESTER I

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XMA101	Calculus and Linear Algebra	3	1	0	4	4
2.	XBE102	Electrical and Electronic Engineering Systems	3	1	0	4	4
3.	XAP103	Applied Physics for Engineers	3	1	0	4	4
4.	XEG104	Engineering Graphics and Design	1	0	2	3	5
5.	XGS105	Speech Communication	0	1	2	3	5
6.	XUM106	Constitution of India	0	0	0	0	3
7.	XBE107	Electrical and Electronic Engineering Systems Lab	0	0	1	1	2
8.	XAP108	Applied Physics for Engineers Lab	0	0	1	1	2
		TOTAL				**20**	**29**

SEMESTER II

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XMA201	Calculus, Ordinary Differential Equations and Complex Variable	3	1	0	4	4
2.	XCP202	Programming for Problem Solving	3	0	0	3	3
3.	XAC203	Applied Chemistry for Engineers	3	1	0	4	4
4.	XGS204	Technical Communication	2	0	0	2	2
5.	XWP205	Workshop Practices	1	0	2	3	5
6.	XEM206	Engineering Mechanics	3	0	0	3	3
7.	XCP207	Programming for Problem Solving Lab	0	0	1	1	2
8.	XAC208	Applied Chemistry for Engineers Lab	0	0	1	1	2
		TOTAL				**21**	**25**

SEMESTER III

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XMA301	Transforms and Partial Differential Equations	3	0	0	3	3
2.	XAS302	Introduction to Aerospace Engineering	3	0	0	3	3
3.	XAS303	Strength of Materials	3	0	0	3	3
4.	XAS304	Fluid Mechanics	3	1	0	4	4
5.	XAS305	Aero Engineering Thermodynamics	3	1	0	4	4

6.	XUM306	Entrepreneurship Development	2	0	0	2	2
7.	HSMC (H-102)	Universal Human Values 2: Understanding Harmony	2	1	0	3	3
8.	XAS308	Strength of Materials Lab	0	0	1	1	2
9.	XAS309	Fluid Mechanics Lab	0	0	1	1	2
10.	XAS310	In-Plant Training-I	0	0	0	1	0
		TOTAL				**25**	**29**

SEMESTER IV

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XPS401	Probability and Statistics	3	0	0	3	3
2.	XAS402	Aerodynamics – I	3	0	0	3	3
3.	XAS403	Aircraft Structures -I	3	1	0	4	4
4.	XAS404	Air-Breathing Propulsion	3	0	0	3	3
5.	XUM405	Economics for Engineers	3	0	0	3	3
6.	XUM406	Disaster Management	0	0	0	0	3
7.	XAS407	Aerodynamics Lab	0	0	1	1	2
8.	XAS408	Thermal and Propulsion Lab	0	0	1	1	2
9.	XAS409	CAD Lab	0	0	1	1	2
		TOTAL				**19**	**25**

SEMESTER V

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XAS501	Aerodynamics – II	3	0	0	3	3
2.	XAS502	Aircraft Structures – II	3	1	0	4	4
3.	XAS503	Aerospace Propulsion	3	0	0	3	3
4.	XAS504	Elements of Satellite Technology	3	0	0	3	3
5.	XAS**	Professional Elective Course-I	3	0	0	3	3
6.	XOE*	Open Elective Course-I	3	0	0	3	3
7.	XAS507	Aircraft Structures Lab	0	0	1	1	2
8.	XAS508	Aircraft Design Project	0	0	1	1	2
9.	XAS509	In-Plant Training-II	0	0	0	1	0
		TOTAL				**22**	**23**

SEMESTER VI

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XAS601	Finite Element Analysis	3	1	0	4	4
2.	XAS602	Flight Dynamics	3	1	0	4	4
3.	XAS**	Professional Elective Course-II	3	0	0	3	3
4.	XOE*	Open Elective Course-II	3	0	0	3	3
5.	XGS605	Professional Skills	1	0	2	3	5
6.	XUM606	Cyber Security	0	0	0	0	3
7.	XAS607	Machine Dynamics Lab	0	0	1	1	2
8.	XAS608	Aeromodelling Lab	0	0	1	1	2
		TOTAL				**19**	**26**

SEMESTER VII

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XAS701	Computational Fluid Dynamics	3	1	0	4	4
2.	XAS702	Avionics	3	0	0	3	3
3.	XAS**	Professional Elective Course-III	3	0	0	3	3
4.	XOE*	Open Elective Course-III	3	0	0	3	3
5.	XUM705	Environmental Studies	0	0	0	0	3
6.	XAS706	Computational Fluid Dynamics Lab	0	0	1	1	2
7.	XAS707	Avionics Lab	0	0	1	1	2
8.	XAS708	Project Work (Phase-I)	0	0	2	2	4
9.	XAS709	In-Plant Training-III	0	0	0	2	0
		TOTAL				**19**	**24**

SEMESTER VIII

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XAS**	Professional Elective Course-IV	3	0	0	3	3
2.	XOE*	Open Elective Course-IV	3	0	0	3	3
3.	XOE*	Open Elective Course-V	3	0	0	3	3
4.	XAS804	Project Work (Phase-II)	0	0	9	9	18
		TOTAL				**18**	**27**

TOTAL CREDITS = 163

LIST OF ELECTIVES

PROFESSIONAL ELECTIVE COURSE – I

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XAS505A	Aerospace Materials	3	0	0	3	3
2.	XAS505B	Airframe Maintenance and Repair	3	0	0	3	3
3.	XAS505C	Navigation Systems	3	0	0	3	3

PROFESSIONAL ELECTIVE COURSE – II

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XAS603A	UAV Technologies	3	0	0	3	3
2.	XAS603B	Aero Engine Repair and Maintenance	3	0	0	3	3
3.	XAS603C	Space Mechanics	3	0	0	3	3

PROFESSIONAL ELECTIVE COURSE – III

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XAS703A	Vibration and Structural Dynamics	3	0	0	3	3
2.	XAS703B	Helicopter Maintenance	3	0	0	3	3
3.	XAS703C	Rockets and Missiles	3	0	0	3	3

PROFESSIONAL ELECTIVE COURSE – IV

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XAS801A	Wind Tunnel Techniques	3	0	0	3	3
2.	XAS801B	Experimental Aerodynamics	3	0	0	3	3
3.	XAS801C	Computer Integrated Manufacturing	3	0	0	3	3

OPEN ELECTIVE COURSE (Offered to other Department)

S. No.	COURSE CODE	COURSE NAME	L	T	P	C	H
1.	XASOE1	Elements of Aeronautics	3	0	0	3	3
2.	XASOE2	Air Transportation and Aircraft Maintenance Management	3	0	0	3	3

18.8.2021 Dated BoS Minutes

Department of
Aerospace Engineering
Periyar Nagar, Vallam, Thanjavur - 613 403, Tamil Nadu, India
Phone: +91 - 4362 - 264600 Fax: +91- 4362 - 264660
Email: headaero@pmu.edu Web: www. pmu.edu

PERIYAR MANIAMMAI INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University)
Established Under Sec. 3 of UGC Act, 1956 • NAAC Accredited
think • innovate • transform

MINUTES OF THE BOARD OF STUDIES MEETING
B.Tech. AEROSPACE ENGINEERING (FULL TIME) PROGRAMME

Date: 18.8.2021 **Time:** 11:00 AM **Venue:** Aerospace Department

Mode of Meeting: Google meet **Meeting Link:** meet.google.com/ziu-ovga-nkh

The Board of Studies meeting was held in virtual mode on 18.08.2021 for framing the B.Tech. Aerospace Engineering Curriculum (I to VIII semester) and syllabi (I to VIII semester) of Regulation 2021.

Agenda:

1. Implementation of actions on feedback curricular aspects from stake holders for Regulation 2021.
2. Presentation of Curriculum and Syllabi for B.Tech. Aerospace Engineering (Full Time) from I to VIII semester for Regulation 2021.
3. Discussion on programme articulation matrix (PO coverage by all COs).
4. Discussion on attainment of outcomes (PO, CO).
5. Presentation of new Value-Added Courses.
6. Discussions on Open Electives offered by Department of Aerospace Engineering to other departments.

Table: I Members of the BoS

Sl.No.	Name	Designation	Representing	Signature
1.	Mr. I. Karthic Subramaniyan	Head /Aerospace	Chair person	
2.	Dr.S.Thanigaiarasu	Professor, Head Department of Aerospace Engineering, MIT, Chennai.	Member (Academic Expert)	
3.	Mr.R.Suresh	Managing Director, M/s Sri Design CAD Technologies, Chennai.	Member (Industrial Expert)	
4.	Mr. V. Nagaraj	Assistant Professor	Department BoS Member	
5.	Mr. R. K. Muthuraman	Assistant Professor	Faculty Member	
6.	Mr. R. Suresh	Assistant Professor	Faculty Member	
6.	Ms.S.Sivapriya	Assistant Professor	Faculty Member	

Sl.No.	Name	Designation	Representing	Signature
7.	Mr.A.Mohamed Ismail	Asst. Professor	Faculty Member	
8.	Mr. A. Abdul Majeed	Alumni	Alumni (2014-2018 Batch)	online
9.	Ms. CJ. Sonasri	B.Tech. (IV year)	Student (2018-2022)	
10.	Mr.M.Deepanraj	B.Tech. (III year)	Student (2019-2023)	online

A. FEEDBACK ON CURICULLAR ASPECTS

The feedback were collected and analyzed during 2018-19, 2019-20 and 2020-21 from the following stake holders

1. Teachers
2. Employers
3. Alumni students
4. Students

In addition the feedback from Academic Expert, Industry Expert, Teachers, Alumni and students who participated in Department Advisory Committee Meeting (**DAC**) were presented. The action taken for the feedbacks are given as "Remarks" column in the point "C".

B. CURICULLUM INTERVENTION BASED ON CO ATTAINMENT

The CO attainment and PO attainment for the courses were presented to the members. The courses whose COs whose attainment was consistently below the target values were discussed. Syllabus were modified for those courses and documented in the Table II.

C. PRESENTATION OF CURICULLUM AND SYLLABUS

All the courses which are framed by the department of Aerospace Engineering are presented individually. The deletion, addition and introduction of new courses related details are tabulated for all courses in the following table.

Table II: Discussions on courses with actions as remarks

S. No.	Sem	Course Name	Course content Deletion/ Addition/New	Percentage of change	Remarks
1.	I	Calculus and Linear Algebra	Course designed by Mathematics department	No change	-
2.	I	Electrical and Electronic Engineering Systems	Course designed by EEE department	10%	
3.	I	Physics	Course designed by Physics department	No change	-
4.	I	Engineering Graphics and Design	Course designed by Mechanical department	No change	-

S. No.	Sem	Course Name	Course content Deletion/ Addition/New	Percentage of change	Remarks
5.	I	Speech Communication	Course designed by English department (Added as New Course)	100%	-
6.	I	Constitution of India	Course designed by Political Science department	No change	-
7.	I	Electrical and Electronic Engineering Systems Lab	Course designed by EEE department	No change	
8.	I	Physics Lab	Course designed by Physics department	No change	-
9.	II	Calculus, Ordinary Differential Equations and Complex Variable	Course designed by Mathematics department	No change	-
10.	II	Programming for Problem Solving	Course designed by CSE department	No change	
11.	II	Chemistry	Course designed by Chemistry department	No change	-
12.	II	Technical Communication	Course designed by English department (Added as a New Course)	100%	-
13.	II	Workshop Practices	Course designed by Mechanical department	No change	-
14.	II	Engineering Mechanics	Course designed by Mechanical department	No change	-
15.	II	Programming for Problem Solving Lab	Course designed by CSE department	10%	
16.	II	Chemistry Lab	Course designed by Chemistry department	No Change	-
17.	II	Transforms and Partial Differential Equations	Course designed by Mathematics department	No Change	-
18.	III	Introduction to Aerospace Engineering	Added as a New Course	100%	Feedback given by students
19.	III	Strength of Materials	The course was combined with Fluid Dynamics course. Now it is split into two separate courses. (Added as a New Course)	50% change in syllabus is seen in every course	Feedback given by students, Alumni and Faculty
20.	III	Fluid Mechanics	The course was combined with Fluid Dynamics course. Now it is split into two separate courses.	50% change in syllabus is seen in	Feedback given by students, Alumni and Faculty

S. No.	Sem	Course Name	Course content Deletion/ Addition/New	Percentage of change	Remarks
			(Added as a New Course)	every course	
21.	III	Aero Engineering Thermodynamics	This subject was renamed as Aero Engineering Thermodynamics and for their uniqueness, a separate Gas turbine unit was included.	20%	Based on the feedback from teachers, experts and also to achieve the target in CO attainments, their suggestions were considered and included for the students betterments.
22.	III	Entrepreneurship Development	Course designed by Department of Management studies (Added as a New Course)	70%	-
23.	III	Universal Human Values 2: Understanding Harmony and Gender	Added as a New Course	100%	University Mandatory course
24.	III	Strength of Materials Lab	Added as a New Course	100%	Feedback given by students and Alumni
25.	III	Fluid Mechanics Lab	Added as a New Course	100%	Feedback given by students and Alumni
26.	III	In-Plant Training – I	-	-	-
27.	IV	Probability and Statistics	Course designed by department of Mathematics (Added as a New Course)	100%	-
28.	IV	Aerodynamics-I	-	No change	-
29.	IV	Aircraft Structures – I	To learn wider knowledge about basics in Aircraft structures, a	20%	Based on the feedback from

S. No.	Sem	Course Name	Course content Deletion/ Addition/New	Percentage of change	Remarks
			separate unit was included.		teachers, experts and also to achieve the target in CO attainments, their suggestions were considered and included for the student's betterments.
30.	IV	Air-Breathing Propulsion	-	No change	-
31.	IV	Economics for Engineers	Course designed by Department of Management studies	No change	-
32.	IV	Disaster Management	Course designed by Department of Civil	10%	-
33.	IV	Aerodynamics Lab	-	No change	-
34.	IV	Thermal and Propulsion Lab	-	No change	-
35.	IV	CAD Lab	Added as a New Course	100%	Feedback given by teachers and students
36.	V	Aerodynamics-II	-	No change	-
37.	V	Aircraft Structures – II	-	No change	-
38.	V	Aerospace Propulsion	-	No change	-
39.	V	Elements of Satellite Technology	-	No change	-
40.	V	Professional Elective Course- I	-	-	-
41.	V	Open Elective Course – I	-	-	-
42.	V	Aircraft Structures Lab	-	No change	-
43.	V	Aircraft Design Project	Added as a New Course	100%	Feedback given by teachers
44.	V	In-Plant Training – II	-	-	-
45.	VI	Finite Element Analysis	-	No change	-
46.	VI	Flight Mechanics	-	No change	-
47.	VI	Professional Elective Course- II	-	-	-
48.	VI	Open Elective Course – II	-	-	-

S. No.	Sem	Course Name	Course content Deletion/ Addition/New	Percentage of change	Remarks
49.	VI	Professional Skills	Course designed by Department of English (Added as a New Course)	100%	-
50.	VI	Cyber Security	Course designed by Department of CSE	25%	-
51.	VI	Machine Dynamics Lab	Added as a New Course	100%	Feedback given by teachers in DAC
52.	VI	Aeromodelling Lab	-	No change	-
53.	VII	Computational Fluid Dynamics	-	No change	-
54.	VII	Avionics	Added as a New Course	80%	Feedback given by teachers and Students
55.	VII	Professional Elective Course- III	-	-	-
56.	VII	Open Elective Course – III	-	-	-
57.	VII	Environmental Studies	Course designed by Department of Civil	10%	-
58.	VII	Computational Fluid Dynamics Lab	-	No change	-
59.	VII	Avionics Lab	Experiments were updated according to current requirement (Added as a New Course)	50%	Feedback given by teachers, Alumni and students
60.	VII	Project Work (Phase-I)	-	-	-
61.	VII	In-Plant Training- III	-	-	-
62.	VIII	Professional Elective Course- IV	-	-	-
63.	VIII	Open Elective Course –IV	-	-	-
64.	VIII	Open Elective Course – V	-	-	-
65.	VIII	Project Work (Phase-II)	-	-	-

PROFESSIONAL ELECTIVE COURSES

PROFESSIONAL ELECTIVE COURSE I					
66.	V	Aerospace Materials	Added as a New course	100%	Feedback given by teachers, Experts

67.	V	Airframe Maintenance and Repair	-	No change	-
68.	V	Navigation Systems	-	No change	-
PROFESSIONAL ELECTIVE COURSE II					
69.	VI	UAV Technologies	-	No change	-
70.	VI	Aero Engine Repair and Maintenance	-	No change	-
71.	VI	Space Mechanics	-	No change	-
PROFESSIONAL ELECTIVE COURSE III					
72.	VII	Vibration and Structural Dynamics	Added as a New course	100%	Feedback given by teachers, Experts
73.	VII	Helicopter Maintenance	-	No change	-
74.	VII	Rockets and Missiles	-	No change	-
PROFESSIONAL ELECTIVE COURSE IV					
75.	VIII	Wind Tunnel Techniques	No change	No change	-
76.	VIII	Experimental Aerodynamics	Added as a New course	100%	Feedback given by teachers, Experts
77.	VIII	Computer Integrated Manufacturing	-	No change	-
OPEN ELECTIVE COURSE (Offered to Other Department)					
1	-	Elements of Aeronautics	-	No change	-
2	-	Air Transportation and Aircraft Maintenance Management	Added as a New course	100%	Feedback given by teachers and students

D. LIST OF NEWLY INTRODUCED COURSES IN REGULATION 2021

Table III: List of New Courses

S.No	Course Name
1.	Speech Communication
2.	Technical Communication
3.	Introduction to Aerospace Engineering
4.	Strength of Materials
5.	Fluid Mechanics
6.	Entrepreneurship Development
7.	Universal Human Values 2: Understanding Harmony and Gender
8.	Strength of Materials Lab
9.	Fluid Mechanics Lab

S.No	Course Name
10.	Probability and Statistics
11.	CAD Lab
12.	Aircraft Design Project
13.	Professional skills
14.	Machine Dynamics Lab
15.	Avionics
16.	Avionics Lab
17.	Aerospace Materials
18.	Vibration and Structural Dynamics
19.	Experimental Aerodynamics
	Open Elective – Offered to other departments
1.	Elements of Aeronautics
2.	Air Transportation and Aircraft Maintenance Management

E. LIST OF COURSES REMOVED

Table IV: List of courses removed

S.No	Course Name	Remarks
1.	English	Refer English Department
2.	Material Science and Metallurgy	Provided Aerospace Materials as a new course (Professional Elective-I) according to the current advancements of Aviation fields.

F. PERCENTAGE CHANGE IN THE SYLLABUS

1. Number of new courses added = 20 = 43 credits

2. Number of courses removed = 2 = 6 credits

% change = (49/163) x 100 = 30.06%

G. NOTES ON BENCHMARKING WITH AICTE MODEL CURRICULUM

The AICTE model syllabus was also presented in the BoS.The members compared the designed curriculum and discussed the following:

a. The credits of the two curriculums are found to be same.

b. The courses in the AICTE curriculum are present in the designed curriculum either as combined course or as part of other courses.

c. The designed curriculum is found to have extra coverage of the programme of study.

H. NOTES ON CREDIT DISTRIBUTION AND COMPARISION WITH AICTE GUIDELINES

AICTE guidelines on credit distribution is well taken into account when framing the curriculum and syllabus. The credit distribution of various types of courses are given in Table V.

Table V: Credit distribution of various courses

AICTE Course Types	I	II	III	IV	V	VI	VII	VIII	B TECH. AEROPSACE	AICTE recommendation	Deviation
HSMC	3	2	5	3		3			16	15	1
BSC	9	9	3	3					24	25	-1
ESC	8	10							18	24	-6
PCC			16	13	15	10	9		63	48	**15**
PEC					3	3	3	3	12	18	**-6**
OE					3	3	3	6	15	18	-3
PROJ			1		1		4	9	15	15	0
MC									0	0	0
	20	21	25	19	22	19	19	18	163	163	

It is found from Table V that the curriculum scrupulously follows the AICTE guidelines.

I. COURSES ON EMPLOYABILITY/ENTREPRENEURSHIP/SKILL DEVELOPMENT

The curriculum focus of including 92.3% of courses with either/and employability/entrepreneurship/skill development. The courses are given below:

Table VI: Categorization of courses

Sem.	Category	Code	Subject Name	Category
I	BSC-1	BSC	Calculus and Linear Algebra	Skill Development
I	ESC-1	ESC	Electrical and Electronics Engineering Systems	Skill Development
I	BSC- 2	BSC	Physics	Skill Development
I	ESC-2	ESC	Engineering Graphics and Design	Employability
I	HSMC-1	HSMC	Speech Communication	Skill Development
I	UMAN-1	UMAN	Constitution of India	Skill Development
I	ESC-3	ESC	Electrical and Electronic Engineering SystemsLab	Employability
I	BSC-3	BSC	Physics Lab	Skill Development
II	BSC-4	BSC	Calculus, Ordinary Differential Equations and Complex Variable	Skill Development
II	ESC-4	ESC	Programming for Problem Solving	Employability
II	BSC-5	BSC	Chemistry	Skill Development
II	HSMC-2	HSMC	Technical Communication	Skill Development
II	ESC-5	ESC	Workshop Practices	Employability
II	ESC-6	ESC	Engineering Mechanics	Employability
II	ESC-7	ESC	Programming for Problem Solving Lab	Employability
II	BSC-6	BSC	Chemistry Lab	Skill Development

Sem.	Category	Code	Subject Name	Category
III	BSC-7	BSC	Transforms and Partial Differential Equations	Skill Development
III	PCC-1	PCC	Introduction to Aerospace Engineering	Skill Development
III	PCC-2	PCC	Strength of Materials	Skill Development
III	PCC-3	PCC	Fluid Mechanics	Skill Development
III	PCC-4	PCC	Aero Engineering Thermodynamics	Skill Development
III	HSMC-4	HSMC	Entrepreneurship Development	Entrepreneurship
III	UMAN-2	UMAN	Universal Human Values 2: Understanding Harmony	Skill Development
III	PCC-5	PCC	Strength of Materials Lab	Employability
III	PCC-6	PCC	Fluid Mechanics Lab	Employability
III	PROJ-1	PROJ	In-Plant Training-I	Employability
IV	BSC-8	BSC	Probability and Statistics	Skill Development
IV	PCC-7	PCC	Aerodynamics – I	Skill Development
IV	PCC-8	PCC	Aircraft Structures -I	Skill Development
IV	PCC-9	PCC	Air-Breathing Propulsion	Skill Development
IV	HSMC-5	HSMC	Economics for Engineers	Employability
IV	UMAN-3	UMAN	Disaster Management	Skill Development
IV	PCC-10	PCC	Aerodynamics Lab	Employability
IV	PCC-11	PCC	Thermal and Propulsion Lab	Employability
IV	PCC-12	PCC	CAD Lab	Employability
V	PCC-13	PCC	Aerodynamics – II	Skill Development
V	PCC-14	PCC	Aircraft Structures – II	Skill Development
V	PCC-15	PCC	Aerospace Propulsion	Skill Development
V	PCC-16	PCC	Elements of Satellite Technology	Skill Development
V	PEC-1	PEC	Professional Elective Course-I	Skill Development
V	OE-1	OE	Open Elective Course-I	*****
V	PCC-17	PCC	Aircraft Structures Lab	Employability
V	PCC-18	PCC	Aircraft Design Project	Employability
V	PROJ-2	PROJ	In-Plant Training-II	Employability
VI	PCC-19	PCC	Finite Element Analysis	Employability
VI	PCC-20	PCC	Flight Dynamics	Skill Development
VI	PEC-2	PEC	Professional Elective Course-II	Skill Development
VI	OE-2	OE	Open Elective Course-II	*****
VI	HSMC-6	HSMC	Professional Skills	Employability
VI	UMAN-4	UMAN	Cyber Security	Employability
VI	PCC-22	PCC	Machine Dynamics Lab	Employability
VI	PCC-23	PCC	Aeromodelling Lab	Employability, Entrepreneurship
VII	PCC-24	PCC	Computational Fluid Dynamics	Skill Development

Sem.	Category	Code	Subject Name	Category
VII	PCC-25	PCC	Avionics	Skill Development
VII	PEC-3	PEC	Professional Elective Course-III	Skill Development
VII	OE-3	OE	Open Elective Course-III	*****
VII	UMAN-5	UMAN	Environmental Studies	Skill Development
VII	PCC-26	PCC	Computational Fluid Dynamics Lab	Entrepreneurship, Employability
VII	PCC-27	PCC	Avionics Lab	Skill Development
VII	PROJ-3	PROJ	Project Work (Phase-I)	Employability
VII	PROJ-4	PROJ	In-Plant Training-III	Employability
VIII	PEC-4	PEC	Professional Elective Course-IV	Skill Development
VIII	OE-4	OE	Open Elective Course-IV	*****
VIII	OE-5	OE	Open Elective Course-V	*****
VIII	PROJ-5	PROJ	Project Work (Phase-II)	Employability

J. DISCUSSION ON PROGRAMME ARTICULATION MATRIX (PO COVERAGE BY ALL COS)

The existing POs and PSO was presented. The members agreed that there need not be any changes in the PSO and PO. The coverage of POs and PSOs are given in the figure 1.

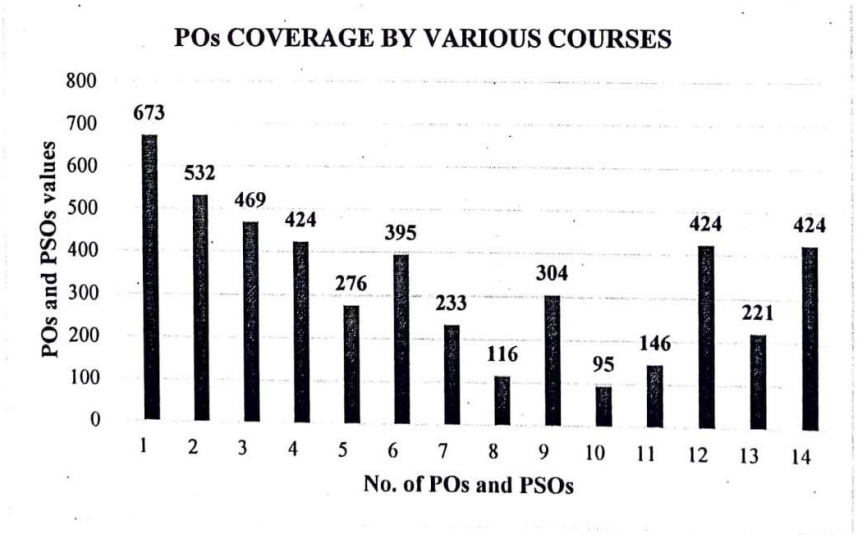

Figure 1: PO and PSO coverage by courses

It is found that PO10 which is ability to communicate effectively with a range of audiences by written and oral is covered by few courses. Other than that, the curriculum covers all POs with small deviations.

K. VALUE ADDED COURSES PROVIDED

Value added courses with more than 30 hours are given to the students by the department.

The value added courses are given below:

Table VII: Value added courses (New and old) offered by department.

S.No.	Course Name	Remarks
1.	Robotics (Intermediate level)	Old
2.	Drones	Old
3.	Satellite Making (CANSAT)	New
4.	AutoCAD	Old
5.	Solid Works	New
6.	NX-Nastran	New

The BoS members recommended to submit the outcome of this meeting in the forthcoming Academic council meeting for approval.

HoD/Aerospace
(Mr.I.Karthic Subramaniyan)

Dean (FET)
(Dr.S.Senthamilkumar)

Dean (Academic)
(Dr. P.K Srividhya)

30.9.2021- ACM Minutes

3. **BUSINESS BROUGHT FORWARD BY FACULTY OF ENGINEERING AND TECHNOLOGY (FET)**

DEPARTMENT OF AEROSPACE ENGINEERING

FET Aero 38.3.1 **TO CONSIDER AND APPROVE** the Curriculum and Syllabus for B.Tech. – Aerospace programme under Full-Time (Regulation 2021).

Notes:

The Board of Studies of the Department of Aerospace Engineering recommended the Curriculum from I to VIII Semesters and Syllabus from I to VIII Semesters for B.Tech. Aerospace Engineering programme under Full-Time (Regulation 2021).

Curriculum and Syllabus is in line with AICTE guidelines 2020 with 31% revision from previous syllabus. The syllabus revision is based on feedback on curricular aspects from students, teachers, employers and alumni. The syllabus contains 92% courses having focus on employability /entrepreneurship/skill development. The complete Curriculum and Syllabus with details are attached as Annexure. The new courses (Regulations 2021), new value added courses to be offered by Department and Open Elective courses offered by the Department to other Department students are as follows:-

New Courses

1. Speech Communication
2. Technical Communication
3. Introduction to Aerospace Engineering
4. Strength of Materials
5. Fluid Mechanics
6. Entrepreneurship Development
7. Universal Human Values 2: Understanding Harmony
8. Strength of Materials Lab
9. Fluid Mechanics Lab
10. Probability and Statistics
11. CAD Lab
12. Aircraft Design Project
13. Professional Skills
14. Machine Dynamics Lab
15. Avionics
16. Avionics Lab
17. Aerospace Materials
18. Vibration and Structural Dynamics
19. Experimental Aerodynamics

New Value Added Courses

1. Robotics (Intermediate level)
2. Drones
3. Satellite Making (CANSAT)
4. AutoCAD
5. Solid Works
6. NX-Nastran

Open Electives

1. Elements of Aeronautics
2. Air Transportation and Aircraft Maintenance Management

The matter is placed before the Academic Council for approval.

Dr.V.K.Stalin, External Member enquired about the model Curriculum followed for revision of courses.

Dr. P.K.Srividhya, Dean Academic & Registrar i/c informed that all the revisions are made based on the AICTE model Curriculum.

Dr.S.Asokan, Controller of Examinations suggested that the fraction mentioned in percentage (%) of syllabus revision and courses having employability/entrepreneurship/skill development may be rounded off.

Resolution

RESOLVED TO APPROVE the Curriculum and Syllabus for B.Tech. – Aerospace programme under Full-Time (Regulation 2021).