



10th Meeting of the Board of Studies - B.Tech (Aeronautical Engineering)

Agenda

Date: 10th January 2025

Time: 10:00 AM

Venue: Aeronautical Department Meeting Room
ADCET, Ashta
(Internal Members)

Google Meet Link:
<https://meet.google.com/rdy-xmgh-byz>
(External Members)

Item No	Item Details
1	Welcome Address by the Chairperson, BoS
2	To Note Actions Taken and Confirmation of Minutes of Meeting of 09th Meeting of BoS
3	To discuss minor modification in the 02 revision curriculum structure in VI and VII Semester
4	To discuss on draft syllabus of Final Year - VII & VIII Semester of 02 Revision Curriculum
5	To discuss and finalize the Honours Program NPTEL Courses
6	To discuss and approve introduction of minor stream in Space Technology
7	To discuss and finalize the assessment methods for third year - VI Semester Course
8	To discuss student placement and internship status
9	To discuss our commitment to make India a Vishwa Guru in Artificial Intelligence.
10	Any other item with the permission of chair

HoD/Aero

Dean Academics

Director

**Members of Board of Studies**

Sl.No	Name of the Member and Designation	Position
1	Dr. K. M. Kiran Babu, Head of the Department, Department of Aeronautical Engineering, ADCET, Ashta	Chairperson
2 ✓	Dr. R K Satapathy, Professor, Department of Aerospace Engineering, Defence Institute of Advanced Technology, (DIAT), Pune	Vice Chancellor Nominee
3 ✓	Dr. Vijayakumar M Scientist - E, Aero Data Generation & Design Modification Aeronautical Development Establishment (ADE), Bangalore Defence Research and Development Organisation (DRDO)	Industry Representative
4 ✓	Dr. Shashidhar S. Principle Engineer, Collins Aerospace, Bengaluru	Industry Representative
5 ✓	Dr S. Nadaraja Pillai, Professor of Aerospace Engineering, Shanmugha Arts, Science, Technology & Research Academy (SASTRA), Thanjavur	Academic Expert
6 ✓	Dr. Tejinder Kumar Jindal, Professor, Aerospace Engineering, Punjab Engineering College (Deemed to be University), Chandigarh	Academic Expert
7 ✓	Dr. Rajkumar S. Pant Professor, Department of Aerospace Engineering Indian Institute of Technology Bombay, Mumbai	Special Invitee Academic Expert in LTA Systems and Aircraft Design
8 ✓	Dr. Nikhil Shende Director, S & I Engineering Solutions Pvt. Ltd.	Special Invitee Industry Expert in CFD & FEA
9 ✓	Shri. Thaariq Ahmad COO - NextLeap Aeronautics, eVTOL, Unmanned Aerial Systems	Special Invitee Industry Expert in UAV Systems
10 ✓	Dr. Sudhagara Rajan Associate Professor, School of Mechanical Engineering, REVA University, Bengaluru	Special Invitee Academic Expert in Composite Materials
11 ✓	Shri. Prasanna Venkatesh Senior Lead Engineer, Collins Aerospace, Bengaluru	Special Invitee Industry Expert in Propulsion
12 ✓	Mr. Ganesh Malgunde, Collins Aerospace, Bengaluru	Alumni Representative
13	Mr. Reju R, Assistant Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member Secretary
14	Dr. S. Sendhil Kumar Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member



Sant Dnyaneshwar Shikshan Sanstha's
Annasaheb Dange College of Engineering and Technology, Ashta
(An Empowered Autonomous Institute)
Department of Aeronautical Engineering

Sl.No	Name of the Member and Designation	Position
15	Dr. S. Yuvaraj Associate Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member
16	Dr. A. K. Vivekanandan Associate Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member
17	Dr. Sudharson Murugan Associate Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member
18	Dr. Sakthipriya Balu Associate Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member
19	Mr. Yogesh B. Kumbhar, Assistant Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member
20	Mr. Sanoj P. Suresh, Assistant Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member
21	Mr. L. Oblisamy, Assistant Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member
22	Mr. Sabarishwaran R, Assistant Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member
23	Mr. A. Basithrahman, Assistant Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member
24	Dr. P. Kaleeswaran, Assistant Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member
25	Mr. Karthik Pullela Assistant Professor, Department of Aeronautical Engineering, ADCET, Ashta	Member



10th Meeting of the Board of Studies - B.Tech (Aeronautical Engineering)

Minutes of Ninth Board of Studies Meeting

Date: 10th January 2025

Time: 10:00 AM

Venue:

Aeronautical Department Meeting Room
(Internal Members)

Google Meet Link:

<https://meet.google.com/rdy-xmgh-byz>
(External Members)

Members Present:

Sl.No	Name of the Member and Designation	Position	Signature
1	Dr. K. M. Kiran Babu, Head of the Department, Department of Aeronautical Engineering, ADCET, Ashta	Chairperson	
2	Dr. R.K. Satapathy, Professor, Department of Aerospace Engineering, Defence Institute of Advanced Technology (DIAT), Pune	Vice Chancellor Nominee	(Online Mode)
3	Dr. Shashidhar S, Principal Engineer, Collins Aerospace, Bengaluru	Industry Representative	(Online Mode)
4	Dr S. Nadaraja Pillai, Professor of Aerospace Engineering, Shanmugha Arts, Science, Technology & Research Academy (SASTRA), Thanjavur	Academic Expert	(Online Mode)
5	Dr. Tejinder Kumar Jindal, Professor, Aerospace Engineering, Punjab Engineering College (Deemed to be a University), Chandigarh	Academic Expert	(Online Mode)
6	Dr. Rajkumar S. Pant Professor, Department of Aerospace Engineering Indian Institute of Technology Bombay, Mumbai	Special Invitee Academic Expert in LTA Systems and Aircraft Design	(Online Mode)
7	Dr. Sudhagara Rajan Associate Professor, School of Mechanical Engineering, REVA University, Bengaluru	Special Invitee Academic Expert in Composite Materials	(Online Mode)
8	Shri. Prasanna Venkatesh Senior Lead Engineer, Collins Aerospace, Bengaluru	Special Invitee Industry Expert in Propulsion	(Online Mode)



Sant Dnyaneshwar Shikshan Sanstha's
Annasaheb Dange College of Engineering and Technology, Ashta
(An Empowered Autonomous Institute)
Department of Aeronautical Engineering

ADCE

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Enriching Future...

Sl.No	Name of the Member and Designation	Position	Signature
9	Mr. Ganesh Malgunde, Collins Aerospace, Bengaluru	Alumni Representative	(Online Mode)
10	Mr. Reju R. Assistant Professor	Member Secretary	
11	Dr. S. Sendhil Kumar Professor	Member	
12	Dr. S. Yuvaraj Associate Professor	Member	
13	Dr. A. K. Vivekanandan Associate Professor	Member	
14	Dr. Sudharson Murugan Associate Professor	Member	
15	Dr. Sakthipriya Balu Associate Professor	Member	
16	Mr. Yogesh B. Kumbhar, Assistant Professor	Member	
17	Mr. Sanoj P. Suresh, Assistant Professor	Member	
18	Mr. L. Oblisamy, Assistant Professor	Member	
19	Mr. Sabarishwaran R., Assistant Professor	Member	
20	Mr. A. Basithrahman, Assistant Professor	Member	
21	Mr. P. Kaleeswaran, Assistant Professor	Member	
22	Mr. Karthik Pullela Assistant Professor,	Member	



ITEM No: 10-BOS-1.1

Welcome Address by the Chairperson, BoS

**For the Information
of the Academic
Council**

The Chairperson of the Board of Studies (BoS) extended a sincere and warm welcome to all esteemed members, both internal and external, as the **10th Board of Studies meeting for B.Tech (Aeronautical Engineering)** commenced. This meeting, held on **January 10, 2025**, marked another crucial step in the continuous evolution and enhancement of the program.

The active participation and thoughtful contributions from all members were highly anticipated for each of these agenda items. This welcome address formally opened the proceedings and was noted for the **information of the Academic Council**. Productive discussions ensued, undoubtedly shaping the future trajectory of the Aeronautical Engineering program.

ITEM No: 10-BOS-1.2

**Confirmation of Minutes of the 09th Meeting of BoS and
To Note Actions Taken**

**For the Information
of the Academic
Council**

The **Minutes of the 9th Board of Studies meeting**, which took place on **June 22, 2024**, from 10:00 AM to 1:30 PM, were presented to the committee for confirmation. This meeting was conducted in a hybrid mode, with internal members present in the Collaborative Teaching Learning Class Room and external members joining via Google Meet. The 9th Board of Studies meeting saw several crucial discussions and recommendations that led to modifications and enhancements across various courses:

- **2AEPC301 - Aircraft Performance:** Dr. R. K. Satapathy recommended exploring the possibility of including **military aircraft performance** within the course curriculum.
- **2AEVS309 - Non-Destructive Testing (NDT):** A significant addition was recommended by Dr. R. K. Satapathy to incorporate **Infrared Thermography** into the curriculum content. This suggestion was seconded and supported by Shri. Uday Kale, Chairman of the ISNT Pune Chapter.
- **2AEVS308 - Geometric Dimensions and Tolerances (GD&T):** Shri. Thariq Ahamed suggested including the **basics of Tolerance Stack-up** in the GD&T curriculum to provide a more comprehensive understanding.
- **VI Semester Course Structure Modification:** Based on expert member suggestions, a modification was proposed for the VI Semester. The course **2AEVS324 - Virtual Instrumentation using LabView** is now planned to be accompanied by a course on **Predictive Maintenance using the MATLAB Toolbox**.
- **2AEPC203 - Fluid Mechanics:** Following recommendations from Dr. Sudhaarson Murugan, specific course contents were proposed for inclusion in the curriculum, leading to a modification of **2AEPC203 - Fluid Mechanics**.

A detailed briefing was provided to the members regarding the **actions taken based on the suggestions** put forth during the 9th BoS meeting. Following the presentation and discussion, the members of the BoS **unanimously confirmed the Minutes of the 9th Board of Studies meeting**.

**ITEM No: 10-BOS-1.3****Modification in the 02 revision curriculum structure in VI and VII Sem****For the Approval of
the Academic Council**

Minor modifications to the 02 revision curriculum structure for both the VI and VII Semesters were presented and discussed. The updated structures for VI Semester and VII Semester were displayed.

T. Y. B. Tech Semester VI

Course Code	Course Name	Teaching Scheme				THEORY						PRACTICAL						GRAND TOTAL	
		L	T	P	Credits	ISE		MSE + ESE		Total	Min	ISE		MSE + ESE		Total	Min		
						Max	Min	MSE	ESE			Max	Min	Max	Min				
2AEPC313	Composite Materials and Structures	2	-	2	3	40	16	30	30	24	100	40	50	20	-	-	50	20	150
2AEPCS14	Rocket Propulsion	2	1	-	3	40	16	30	30	24	100	40	-	-	-	-	-	-	100
2AEPE3**	Professional Elective - III	2	-	-	2	40	16	30	30	24	100	40	-	-	-	-	-	-	100
2AEPE3**	Professional Elective - IV	-	-	4	2	-	-	-	-	-	-	-	50	20	50	20	100	40	100
2AEELS25	Aircraft Design Project	-	-	4	2	-	-	-	-	-	-	-	50	20	50	20	100	40	100
2AEVS324	Predictive Maintenance and Condition Monitoring	-	-	2	1	-	-	-	-	-	-	-	25	10	25	10	50	20	50
2AECCS25	Aptitude and Reasoning Part - IV	-	-	2	1	-	-	-	-	-	-	-	50	20	-	-	50	20	50
2AEHSS26	Universal Human Values	2	-	-	2	50	20	-	-	-	50	20	-	-	-	-	-	-	50
2*****	Minor Stream Course 3	3	-	-	3	40	16	30	30	24	100	40	-	-	-	-	-	-	100
2*****	Open Elective 2	3	-	-	3	100	40	-	-	-	100	40	-	-	-	-	-	-	100
		14	1	14		22													900
	Total Contact Hours/Week				29														

Professional Elective - III

2AEPE315	Helicopter Engineering
2AEPE316	Lighter-Than-Air Systems
2AEPE317	Wind Energy Engineering
2AEPE318	Space Dynamics

Professional Elective - IV

2AEPE319	Explicit Dynamic Analysis
2AEPE320	Multiphase Flow Analysis
2AEPE321	Flight Controller for Drones
2AEPE322	AR and VR in Aircraft Maintenance

Final Year. B. Tech Semester VII

Course Code	Course Name	Teaching Scheme				THEORY						PRACTICAL						GRAND TOTAL	
		L	T	P	Credits	ISE		MSE + ESE		Total	Min	ISE		MSE + ESE		Total	Min		
						Max	Min	MSE	ESE			Max	Min	Max	Min				
2AEPC401	Vibrations and Structural Dynamics	2	1	2	4	40	16	30	30	24	100	40	50	20	-	-	50	20	150
2AEPC402	Heat Transfer	2	1	-	3	40	16	30	30	24	100	40	-	-	-	-	-	-	100
2AEPE4**	Professional Elective - V	2	-	2	3	40	16	30	30	24	100	40	50	20	-	-	50	20	150
2AEPE4**	Professional Elective - VI	-	-	4	2	-	-	-	-	-	-	-	50	20	50	20	100	40	100
2AEVS411	Aircraft Technical Publication	-	-	2	1	-	-	-	-	-	-	-	50	20	50	20	100	40	100
2AEEL412	Capstone Project	-	-	8	4	-	-	-	-	-	-	-	50	20	50	20	100	40	100
2CCHS413	Project Management and Finance	2	-	-	2	40	16	30	30	24	100	40	-	-	-	-	-	-	100
2*****	Minor Stream Course 4	3	-	-	3	40	16	30	30	24	100	40	-	-	-	-	-	-	100
2*****	Open Elective 3	2	-	-	2	100	40	-	-	-	100	40	-	-	-	-	-	-	100
		13	2	18		24													1000
	Total Contact Hours/Week				33														

Professional Elective - V

2AEPE403	Experimental Stress Analysis
2AEPE404	Turbulence Modeling
2AEPE405	Mechatronics for UAV
2AEPE406	Air Traffic Control and Flight Scheduling

Professional Elective - VI

2AEPE407	Composite Finite Element Analysis
2AEPE408	CFD Analysis using OpenFOAM
2AEPE409	Design of Unmanned Aerial Vehicles
2AEPE410	Repair and Maintenance of Composite Aircraft Structures



ITEM No: 10-BOS-1.4

Draft syllabus of Final Year - VII and VIII Sem of 02 Revision Curriculum

**For the Approval of
the Academic Council**

The draft syllabus for the Final Year - VII and VIII Semesters of the 02 Revision Curriculum was discussed.

The following courses were discussed for the final year curriculum:

- **2AEPC401:** Vibrations and Structural Dynamics
- **2AEPC402:** Heat Transfer
- **2AEPE4**:** Professional Elective - V
 - 2AEPE403: Experimental Stress Analysis
 - 2AEPE404: Turbulence Modeling
 - 2AEPE405: Mechatronics for UAV
 - 2AEPE406: Air Traffic Control and Flight Scheduling
- **2AEPE4**:** Professional Elective - VI
 - 2AEPE407: Composite Finite Element Analysis
 - 2AEPE408: CFD Analysis using OpenFOAM
 - 2AEPE409: Design of Unmanned Aerial Vehicles
 - 2AEPE410: Repair and Maintenance of Composite Aircraft Structures
- **2AEVS411:** Aircraft Technical Publication
- **2AEEL412:** Capstone Project
- **2CCHS413:** Project Management and Finance
- **2AEPE4**:** Professional Elective - VII
 - 2AEPE414: Aerodynamic Design of Axial Flow Compressors & Fans
 - 2AEPE415: Advanced Control System Design for Aerospace Vehicles
 - 2AEPE416: Engineering Design Optimization
 - 2AEPE417: Launch Vehicle Analysis and Design
- **2AEPR418:** Internship /On-the-Job Training

The following suggestions or comments were made by the Members of BoS

1. The external BoS member strongly advocated for increasing the credit allocation for the Capstone Project. This recommendation stems from a clear recognition of the project's paramount importance in the undergraduate engineering curriculum, as it provides students with invaluable practical experience and a culmination of their academic learning.
2. A significant suggestion from the BoS members was to offer Professional Elective VII in an online mode, moving away from purely MOOC-based courses. This strategic shift aims to provide more structured and potentially interactive learning experiences for students, while still leveraging the flexibility of online delivery.
3. The BoS members extended their sincere appreciation for the proactive integration of advanced tools such as OpenFOAM into the curriculum. This move was lauded as a forward-thinking initiative that equips students with cutting-edge industry-relevant skills, significantly enhancing their preparedness for future engineering challenges.



ITEM No: 10-BOS-1.5

Discuss and finalize the Honours Program Course Syllabus

**For the Approval of
the Academic Council**

The Honours Program Course Syllabus was discussed and finalized.

NPTEL courses for Honors, Double Minors, and Honors by Research were presented:

- **Honors in Aerodynamics:** 2AEAD201 - Fundamentals of Theoretical and Experimental Aerodynamics (3 Credits)
- **Honors in Propulsion:** 2AEPR201 - Fundamentals of Combustion (3 Credits)
- **Honors in Aircraft Structures:** 2AEAS201 - Characterization of Polymers, Elastomers and Composites (3 Credits)
- **Specialization Minors in Unmanned Aerial Vehicles:** 2AECS201 - Introduction to Aircraft Control System (3 Credits)
- **Specialization Minors in Space Technology:** 2AESS201 - Introduction to Atmospheric and Space Sciences (3 Credits)
- **Honors by Research:** 2AERP301 - Research Methodology (2 Credits)

ITEM No: 10-BOS-1.6

Discuss and approve introduction of minor stream in Space Technology

**For the Approval of
the Academic Council**

The proposal for introducing a minor stream in Space Technology was discussed and subsequently approved. The curriculum structure for the Minor/Honors in Space Technology was presented, outlining courses such as:

- SPT001: Introduction to Space Technology
- SPT002: Launch Vehicle Systems and Technologies
- SPT003: Spaceflight Mechanics and Attitude Dynamics
- SPT004: Spacecraft Systems Engineering
- SPT005: Space Data Products and Services
- SPT006: Space Economics, Law, Policy, and Benefits (Optional)

ITEM No: 10-BOS-1.7

Discuss and finalize the assessment methods for Third year - VI Sem Courses

**For the Approval of
the Academic Council**

The assessment methods for the Third Year - VI Semester Courses were discussed and finalized.

Details of the VI Semester courses and their teaching and evaluation schemes were presented.

The following courses were discussed:

- **2AEPC313:** Composite Materials and Structures
- **2AEPC314:** Rocket Propulsion
- **2AEPE3**:** Professional Elective - III
 - 2AEPE315: Helicopter Engineering
 - 2AEPE316: Lighter-Than-Air Systems
 - 2AEPE317: Wind Energy Engineering
 - 2AEPE318: Space Dynamics
- **2AEPE3**:** Professional Elective - IV
 - 2AEPE319: Explicit Dynamic Analysis
 - 2AEPE320: Multiphase Flow Analysis
 - 2AEPE321: Flight Controller for Drones



- 2AEPE322: AR and VR in Aircraft Maintenance
- 2AEEL323: Aircraft Design Project
- 2AEVS324: Predictive Maintenance and Condition Monitoring
- 2AECC325: Aptitude and Reasoning Part - IV
- 2AEHS326: Universal Human Values

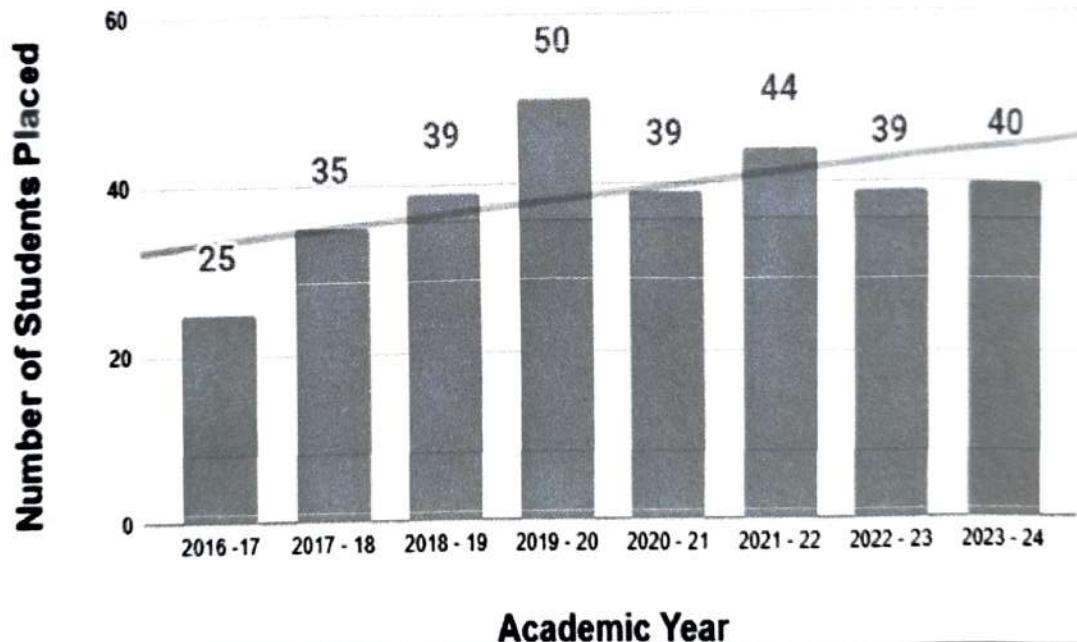
ITEM No: 10-BOS-1.8

Discuss student placement and Internship status

**For the Information
of the Academic
Council**

An overview of the student placement and internship status was provided. The average placement percentage for students is reported to be around 70%. Data illustrating the "Number of Students Placed" from academic year 2016-17 to 2023-24 was presented.

Average Placement Percentage around 70 %





ITEM No: 10-BOS-1.9

Discuss our commitment to make India a Vishwa Guru in Artificial Intelligence

**For the Information
of the Academic
Council**

The department's commitment to the vision of positioning India as a "Vishwa Guru in AI" was discussed. This initiative aims to lead in innovation, ethics, and education within the field of Artificial Intelligence, in line with the Prime Minister's vision.

Inputs and suggestions from the Board of Studies members were solicited regarding this commitment.

Prof. Pant from IIT Bombay recommended including a one-credit course on **Case Studies in AI for Aerospace Engineering** as a 1 Credit course in VII or VIII Semester, if possible in 02 Revision

The meeting concluded with a vote of thanks to the Chair and all the members for their valuable contributions.


Member Secretary


Chairperson



Action Items of the Tenth Board of Studies Meeting

Date: 10th January 2025

Time: 10:00 AM

Venue: Aeronautical Department Meeting Room
ADCET, Ashta
(Internal Members)

Google Meet Link:
<https://meet.google.com/rdy-xmqh-byz>
(External Members)

Action items

- The proposal for introducing a minor stream in Space Technology was discussed and subsequently approved.
- The assessment methods for the Third Year - VI Semester Courses were discussed and finalized.
- Dr. R. K. Satapathy recommended exploring the possibility of including military aircraft performance in the 2AEPC301 - Aircraft Performance course curriculum and his valuable input is incorporated in the In-Semester activities.
- The department's commitment to the vision of positioning India as a "Vishwa Guru in AI" was discussed and is implemented in the 3rd revision curriculum(Course: 3AEES115 - Introduction to Emerging Technologies).



Member Secretary



Chairperson