



Dayananda Sagar University
School of Engineering,
Department of Aerospace Engineering

Meeting of the Board of Studies (BoS), B. Tech in Aerospace Engineering

At DSU, Kudlu Gate, Bengaluru on 3rd August 2023

Agenda

1. Scheme and Syllabus for 2020-2024 batch
2. Scheme and Syllabus for 2021-2025 batch
3. Scheme and Syllabus for 2022-2026 batch
4. Revisit to our Mission Statements and Program Specific Outcomes (PSO)
5. Discussion on feedback from stakeholders
6. Discussion on NEP 2020 implementation plans
7. Any other queries raised by members



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Minutes of Meeting of the Board of Studies (BoS), B. Tech in Aerospace Engineering

At DSU, Kudlu Gate, Bengaluru on 3rd August, 2023

Members Present:

Dr. K. Ramachandra (Former Director, GTRE)
Mr. Atmanathan (Capgemini)
Dr. Sudha Srinivasan (Aeronautical Development Agency)
Mr. Rishabsai P Wazarkar (Alumni – Lufthansa Technik)
Dr. BVN Ramakumar (Chairman and Head)
Dr. GK Suryanarayana (Professor)
Dr. Nagaraja S . R (Professor)
Dr. Sharakumar Variyar (Associate Professor)

Proceedings:

- 1) The developments and changes in the department after the previous BOS, including the MoU's and CSST partnership, were discussed.
- 2) BoS discussed and approved the semester-wise, scheme-wise courses, electives and credits based on the choice-based credit system.
- 3) BoS approved the changes in credits for projects and lab-integrated course introduction.
- 4) Alumni participants concurred that the course improvements being made are in line with the industry trends.
- 5) Industry feedback from GE, Capgemini and Boeing Aerospace experts was discussed.
- 6) Consistency of naming to be maintained – mini projects vs. minor projects
- 7) Include more communication experiments in the Avionics lab – CAN/ ARINC429/ RS 422/ RS232 / MIL1553B
- 8) Start offering Certifications from Aerospace Departments
 - a. Using Dassault 3DEXperience facilities
 - b. Mathworks
 - c. Others
- 9) Include special lectures on sustainability in Aerospace – involve partners like Mr. Sanjeev of Capgemini in conducting special topics series
 - a. Sustainability
 - b. Green materials
 - c. Green Propulsion etc.

- 10) Introduce more UAV-based courses. The courses could be alternately called Flying Robots or Aerial Robotics as required, with 4-channel to 16-channel based communication.
- 11) Explore a course such as **Advanced Avionics**. The course can include emerging technologies in Flight Management Systems & Avionics, Avionics Data Buses, Fault Tolerance, Safety & Certification
- 12) Core topics such as design, propulsion, stability, and control concepts could be taught using drone design, but the major differences that exist between drones and fixed-wing aircraft should be highlighted.
- 13) **Ensure a good introduction to systems engineering in the MBSE syllabus**. Include the concepts of system safety analysis (SSA), reliability, FHA, FMEA, FTA. These skills will be very useful for DSU graduates in any industry beyond aerospace also.
- 14) Explore more MOUs with diverse industries and institutions.
 - a. Aeromodelling
 - b. Military/ Govt / DRDO
 - c. Civil
 - d. Drone/ UAV/
 - e. Space
 - f. Startups
 - g. MROs
 - h. Airlines
 - i. Engine / Aircraft / Systems industries
 - j. Service industries
- 15) Explore a course/session on AS9100 with QAI, IAAI and fulfil requirements from Air India and Indigo
- 16) Mr. Athmanathan will give the contact details of possible DGCA people & DSU also can explore to connect with DGCA for the course on AS9100
- 17) **Aviation laws** to include reference to recently released Drone laws
- 18) Move NPTEL course offering to another Departmental elective slot from the current slot common with Tech Pub
- 19) IDAM Aviation Medicine
- 20) Internship has been made mandatory. The requirement of internship gaps should be met by Dayananda Sagar University internal research internships. Such students could be issued DSU's Certification of Internship to avoid disadvantages to internal internship proceeds.
- 21) Include GD&T in the Fusion 360.
- 22) Explore options for students in AI & ML and Entrepreneurship, Ethical Values and Liberal Studies at sources like NPTEL, Coursera, and Udemy.
- 23) UAV, GOD (Gun on Drone), and Anti-drone developments to be tracked.
- 24) Alumni could be asked to talk to fresh and early career students about which courses are important.
- 25) The proposed course outcomes (COs) and mapping of course outcomes with program outcomes (POs) and program-specific outcomes (PSOs) were approved.



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Actions taken

Sl no	BOS comments	Actions taken
1	Include more communication experiments in the Avionics lab – CAN/ ARINC429/ RS 422/ RS232 / MIL1553B	The following suggestions are included in the Avionics course
2	Start offering Certifications from Aerospace Departments	The suggestions will be incorporated in the skill enhancement course.
3	Include special lectures on sustainability in Aerospace – involve partners like Mr. Sanjeev of Capgemini in conducting special topics series a. Sustainability b. Green materials c. Green Propulsion etc.	This suggestion is incorporated in the Aircraft propulsion course.
4	Introduce more UAV-based courses. The courses could be alternately called Flying Robots or Aerial Robotics as required, with 4 channels to 16 channels-based communications.	Flying robots concepts are introduced in UAV and E mobility course.
5	Explore a course such as Advanced Avionics. The course can include emerging technologies in Flight Management Systems & Avionics, Avionics Data Buses, Fault Tolerance, Safety & Certification	The related suggestions will be implemented in special topics and avionics course as suggested.
6	Core topics such as design, propulsion, stability and control could be taught using drone design, but the major differences that exist between drones and fixed-wing aircraft should be highlighted.	These core topics are included courses on Aircraft Stability and Aircraft Design.
7	Ensure good introduction to systems engineering in the MBSE syllabus. Include the concepts of system safety analysis (SSA), reliability, FHA, FMEA, FTA. These skills will be very useful for DSU graduates in any industry beyond aerospace also.	The suggestions regarding this topics will be incorporated in MBSE course using interfaces like Delmia simulia etc.
8	Explore more MOUs with diverse industries and institutions. a. Aeromodelling	The suggestion will be taken in department elective courses.

	b. Military/ Govt / DRDO c. Civil d. Drone/ UAV/ e. Space f. Startups g. MROs h. Airlines i. Engine / Aircraft / Systems industries j. Service industries	
9	Explore a course / session on AS9100 with QAI, IAAI and fulfill requirements from Air India and Indigo	The suggestion will be implemented in aircraft maintenance repair course.
10	Mr. Athmanathan will give the contact details of possible DGCA people & DSU also can explore to connect with DGCA for the course on AS9100	The following suggestions will be explored through professional club which is initiated.
11	Aviation laws to include reference to recently released Drone laws	The suggestions are reflected in Aviation law course.
12	Move the NPTEL course offering to other Departmental elective slots from the current slot common with Tech Pub	This will be taken care of in the upcoming semester.
13	IDAM Aviation Medicine	The suggestion will be implemented in the courses.
14	The internship has been made mandatory. The requirement of internship gaps should be met by Dayananda Sagar University internal research internships. Such students could be issued DSU's Certification of Internship to avoid disadvantages to internal internship proceeds.	The suggestion will be incorporated and given 1 credit as per the DSU norms.
15	Include GD&T in the Fusion 360.	This suggestion will be included in the skill enhancement course.
16	Explore options for students in AI & ML and Entrepreneurship, Ethical Values and Liberal Studies at sources like NPTEL, Coursera, and Udemy.	These topics will be floated in department electives and special topics.
17	UAV, GOD (Gun on Drone), and Anti-drone developments to be tracked.	The suggestions will be incorporated into the course on UAVs.
18	Alumni could be asked to talk to fresh and early-career students about which courses are important.	This suggestion will be incorporated through club activities.



Dayananda Sagar University

School of Engineering

Innovation Campus, Kudlu Gate, Hosur Road, Bengaluru

Department of Aerospace Engineering

BOS Meeting Attendance

Date: 03/08/2023

1. Mr. Atmanathan *Atmanathan*
2. Dr. Sudha Srinivasan *Sudha*
3. Dr. Ramachandran
4. Mr. Rishab sai
5. Dr. B.V.N. Rama Kumar *Rama Kumar*
6. Dr. Suryanarayana *Suryanarayana*
7. Dr. Nagaraja *Nagaraja*
8. Dr. Shanatkumar Varrier *Varrier Dr.*
9. Dr. Prashanth Kumar *Prashanth Kumar*