INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal - 500 043, Hyderabad, Telangana

Attainment of Program Outcomes (POs) of 2021 - 2023 batch (IARE -PG21)

Course Code	Course	Program Outcomes (POs)					
		PO1	PO2	PO3	PO4	PO5	PO6
BAEC01	Space Propulsion	1.20		1.10	1.10	1.10	
BAEC02	Advanced Mathematics in Aerospace Engineering			2.10	2.10	1.80	
BAEC11	Advanced Computational Aerodynamics Laboratory	2.10		2.10	2.10	2.10	
BAEC12	Computational Aerospace Engineering Laboratory			0.30	0.30	0.30	
BAEC05	Advance Computational Aerodynamics	1.10		1.10			
BAEC07	Unmanned Aerial Vehicles	1.20		1.20	1.20	1.20	
BAEC13	Flight Dynamics and Control	1.20		1.20			
BAEC14	Engineering Analysis of Flight Vehicles			1.20	1.20		
BAEC16	Rocket and Missile	1.30		1.20	1.20	1.30	
BAEC19	Atmospheric re entry Vehicles	1.30		1.20	1.00	1.20	
BAEC23	Flight Simulation and Controls Laboratory	3.00		3.00	3.00	3.00	
BAEC24	Advanced Computational Structures Laboratory	3.00		3.00	3.00	3.00	
BAEC25	Mini Project with Seminar	3.00	3.00	3.00	3.00	3.00	3.00
BHSC11	Research Methodology and IPR	1.10	1.10		1.20	1.20	1.10
BAEC28	Airport Planning and Operations	2.40		2.40	2.90	2.40	2.80
BPSC30	Waste to Energy	1.20	1.10	1.10		1.20	
BAEC31	Phase - I Dissertation	3.00	3.00	3.00	3.00	3.00	3.00
BAEC32	PHASE - II DISSERTATION	3.00	3.00	3.00	3.00	3.00	3.00
Direct Attainment Value		**1.9**	**2.2**	**1.8**	**2**	**1.9**	**2.6**

Overall Attainment

S. No	Assessment Components (Direct + Indirect)	Program Specific Outcomes (PSOs)					
		PO1	PO2	PO3	PO4	PO5	PO6
1	Direct Assessment (CIA + SEE + Course End Survey) (a)	1.9	2.2	1.8	2	1.9	2.6
2	Program Exit Survey (b)	2.3	2.5	2.3	2.4	2.2	2.2
3	Alumni Survey (c)	2.3	2.1	2.3	2.4	2.2	2.2
4	Employer Survey (d)	2.2	2.0	2.1	2.3	2.0	2.0
Final attainment = a*0.8 + b*0.1 + c*0.05 + d*0.05		**2**	**2.2**	**1.9**	**2.1**	**2**	**2.5**

Action taken to improve the attainment of Pos :

POs	Target Level	Attainment Level	Observation
PO1: Engineering Knowledge: Independently carry out research /investigation and development work to solve practical problems.			
PO1	**1.4**	**2**	**Target achieved. Following courses were identified which didn't meet the attainment target** BAEC01, BAEC05, BAEC07, BAEC13, BAEC16, BAEC19, BHSC11, BPSC30
Action: 1. Additional theory classes and tutorials to be conducted for students to gain a better understanding of the concepts of science and engineering. 2. Guest lectures and expert talk to be conducted to enrich the industry-oriented engineering knowledge.			
PO2: Problem analysis: Write and present a substantial technical report/document.			
PO2	**1.2**	**2.2**	**Target Achieved. Following courses were identified which didn't meet the attainment target** BHSC11, BPSC30
Action: 1. More emphasize on tutorial classes for problem solving. 2. Research journal access in the library is available for students to read journal articles on the latest research. 3. Students are encouraged to join NPTEL courses for developing an enhance problem-solving abilities, and gain deeper insights into technical subjects through quality online education.			
PO3: Design/development of solutions: Demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.			
PO3	**1.4**	**1.9**	**Target Achieved. Following courses were identified which didn't meet the attainment target**

			BAEC01, BAEC12, BAEC05, BAEC07, BAEC13, BAEC14, BAEC16, BAEC19, BPSC30

Action:

1. The Careers and Employability Skills Training (CEST) is dedicated to strengthening Industry-Institute Interaction and aims to prepare highly skilled professionals in the fields of science and technology by nurturing advanced technical competencies and industry-oriented skills.
2. Students are actively encouraged to participate in design contests, innovation challenges, and technical competitions conducted by national and international organizations to enhance their research capabilities, problem-solving skills, and global exposure in cutting-edge technologies.

PO4: Conduct investigations of complex problems: Identify, formulate, analyze and Design complex engineering problems, and design system components or processes by applying appropriate advanced principles of engineering activities and using modern tools.

PO4	**1.6**	**2.1**	**Target Achieved. Following courses were identified which didn't meet the attainment target** BAEC01, BAEC12, BAEC07, BAEC14, BAEC16, BAEC19, BHSC11

Action:

1. Expert talk and Academic workshops will be conducted to improve the knowledge on experiments and analysis of results.
2. Advanced technical skills, hands-on experience, and practical knowledge essential for research and innovation in the field of UAV technology.

PO5: Modern tool usage: Engage in life-long learning and professional development through self-study and continuing education in understanding the engineering solutions in global and management principles to manage projects in multidisciplinary environments.

PO5	**1.5**	**2**	**Target achieved. Following courses were identified which didn't meet the attainment target** BAEC01, BAEC12, BAEC07, BAEC16, BAEC19, BHSC11, BPSC30

Action:

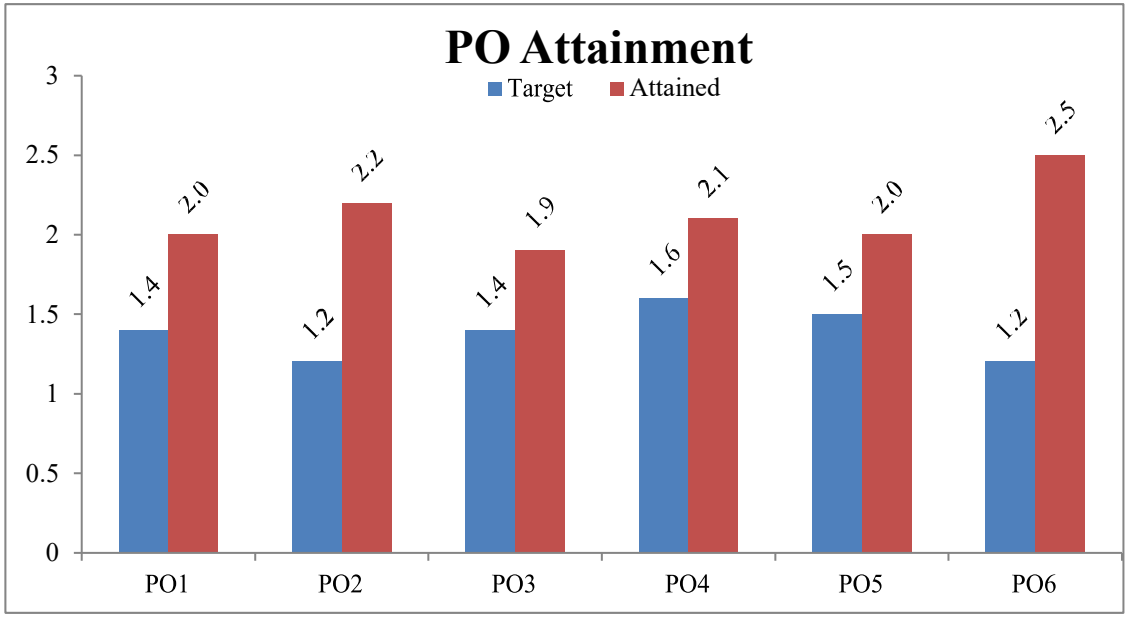
1. Students in the field of Space Propulsion, specialized training sessions, workshops, and seminars are regularly conducted. The hands-on exposure equips them with the necessary skills for pursuing careers in space research organizations, satellite launch vehicle programs, and propulsion system industries.
2. Students are encouraged to engage in simulation-based projects, propulsion system modeling, and performance analysis using computational tools.

PO6: The Engineer and Society: Function effectively as a member or leader in diverse teams to carry out development work, produce solutions that meet the specified needs with frontier technologies and communicate effectively on complex engineering activities.

PO6	**1.2**	**2.5**	**Target Achieved. Following courses were identified which didn't meet the attainment target** BHSC11, BAEC05

Action:

1. Students will develop the necessary skills to pursue high-quality research, contribute to technological advancements, and safeguard their intellectual contributions in academic and industrial environments.
2. The exposure on the use of Computational Fluid Dynamics (CFD) tools exposure enhances their analytical thinking, problem-solving skills, and research capabilities, preparing them for careers in aerospace industries, research organizations, and higher studies in aerodynamics.



HOD, AE

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