INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)
Dundigal, Hyderabad - 500 043

Faculty Accomplishments and Student Success

Faculty power may be beyond question, but we are at the beginning in trying to ensure that every student feels engaged, supported, and connected throughout their career. Close faculty-student mentorship results in significant greater level of happiness and engagement later in students career.

Faculty qualities that matter include, preparation and organization, clarity, availability, helpfulness, and concern for students and rapport with students.

As summarized by Angelo and Cross (1993) and Pascarella and Terenzini (2005):

- Good teachers are knowledgeable about their subject matter, are enthusiastic, encourage students to express their views through discussion, and interact with their students, both in and outside of class, (Feldman 1976; Marsh 1984; McKeachie et al. 1986; Murray 1985; Pascarella 1980).
- Students learn more from courses when they are given timely feedback that is both supportive and corrective (Cross 1987; Kulik, Kulik, and Cohen 1980; McKeachie et al. 1986; Menges and Mathis 1988).
- When students are expected to work hard, academic achievement, class attendance, and their sense of responsibility all increase (Berliner 1984; Cashin 1988; Marsh 1984).
- Because every student learns differently, individualized instruction is more effective under most circumstances (McKechnie et al. 1986).

Methodology for Audit of *Faculty Accomplishments and Student Success*

Evaluation Period – Once in 6 months (Odd/Even Semesters)

S.No	Parameters	Marks	Weightage
1	Content Development	100	0.20
2	Course Content Delivery	100	0.30
3	New Knowledge Acquisition	100	0.10
4	High Impact Practices	100	0.20
5	Student Academic Progression	100	0.10
6	Student Professional and Personal Development	100	0.10

S.No	Parameters		Marks
1	**Content Development (CD)**	**Audit Weight: 0.20**	**100**
	A. Understanding of Blooms Taxonomy: 20 marks B. Capacity in developing course content: 20 marks C. Capacity in preparing complex engineering problems: 20 marks D. Exercises developed towards regular laboratories: 20 marks E. ELRV video content made available on IARE Akanksha / YouTube / National platforms: 20 marks		
2	**Course Content Delivery (CCD)**	**Audit Weight: 0.30**	**100**
	A. Clear communication and language proficiency: 20 marks B. Delivery of new courses / technologies and learnt: 20 marks C. Capacity in teaching programming courses: 20 marks D. Number of Hackathons conducted and performance in open coding platforms: 20 marks E. Competency building workshops conducted for faculty: 20 marks		
3	**New Knowledge Acquired (NKA)**	**Audit Weight: 0.10**	**100**
	A. Knowledge acquired in AI, Machine Learning, Cyber Security, Data Science and so on: 25 marks B. Number of MOOCs completed on national platforms: 25 marks C. Essential Skills and Technologies in DevOps, Java Full Stack, AWS, Azure and so on: 25 marks D. Number of professional certifications completed: 25 marks		
4	**High Impact Practices (HIPs)**	**Audit Weight: 0.20**	
	A. Capacity in developing innovative ideas: 20 marks B. Innovative ideas funded by institute: 20 marks C. Innovative ideas funded by MSME / MeITY / Neti Ayog and so on: 20 marks D. Engineering Products developed: 20 marks E. Start-Ups registered: 20 marks		
5	**Mentoring-Student Academic Progression (SAP)**	**Audit Weight: 0.10**	**100**
	A. Mentoring participation in competency building workshops: 20 marks B. Mentoring participation and performance in career development training programs: 20 marks C. Activity logs on open coding platforms: 20 marks D. Admission to higher education / employment: 20 marks E. Publications in Journals / Conferences: 20 marks		
6	**Mentoring-Student Professional and Personal Development (SPPD)**	**Audit Weightage: 0.10**	**100**
	A. Professional Certifications: 20 marks B. Qualified in TCS Codevita: 20 marks C. High Impact Practice (HIPs) Projects: 20 marks D. Involving every student in a meaningful way in some activity or clubs: 20 marks E. Industry Internship / Practicum:20 marks		

1. CONTENT DEVELOPMENT (CD)

A. Understanding of Blooms Taxonomy: 20 Marks

(Action verbs and its usage)

Rate the faculty's understanding and implementation of Bloom's Taxonomy in course design, using a **5-point Likert scale** (1 = Not Addressed, 5 = Fully Implemented).

Score calculation:

Marks	20	15	10	0
No of questions	All 60	50-59	40-49	< 40

Bloom's Level	**Implementation in Course Design**	**Reviewer's Evaluation**
Remembering *(Recalls facts, basic concepts)*	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10	
Understanding *(Explains concepts, interprets information)*	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10	
Applying *(Uses knowledge in new situations, solves problems)*	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10	
Analyzing *(Breaks down information, finds relationships)*	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10	
Evaluating *(Judges based on criteria, justifies decisions)*	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10	
Creating *(Generates new ideas, designs projects, innovates)*	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10	

Formulate 10 questions on each of the above learning domains, satisfying the condition:
Students should be able to (action verb) + Behavior + Resulting evidence

B. Capacity in developing course content: 20 Marks

Score calculation:

Marks	20	15	10
Criteria	A	B	C

S.No	**Criteria**	**Course Code**	**Course Name**	**Course Code**	**Course Name**
1	Lecture Notes				
2	Power Point Presentation				
3	Definition and Terminology				
4	Assignments				
5	Model question papers (2 sets)				
6	Tutorial Question Bank				
7	Tech talk topics				
8	Concept video topics				
9	Open ended experiments/ Problems / Project Ideas				

A. All of the above
B. Any 7 of the above
C. Any 5 of the above

C. Capacity in preparing complex engineering problems: 20 marks

Complex problem solving – the capacity needed to solve new, poorly defined problems in complex solutions.

Score calculation:

Marks	20	10	10	5
No. of Problems	61-75	41-60	21-40	10-20

S.No	Criteria	Course Code	Course Name	No. of Problems Developed
1	Complex problem			
2	Difficulty decision			
3	Uncertain Strategy			
4	Confusing Idea			
5	Contentious Product			
6	Intractable change			

D. Exercises developed towards regular laboratories: 20 marks

Score calculation:

Marks	20	15	10	5
No of Exercises	>= 200	150-199	100-149	50-99

S.No	Criteria	Course Code	Course Name	No. of Exercises Developed
1	Conceptual Understanding Exercises			
2	Real world applications			
3	Case Study / Design Exercises			
4	Simulators for Exercises			
5	Videos for lab Experiments			
6	Virtual laboratory setup			
7	Hand-on working models			
8	Field visit (Expensive laboratory)			

E. ELRV video content made available on IARE Akanksha / YouTube / National platforms: 20 marks

Marks	20	15	10	0
No of Videos	>= 66	56-65	40-55	< 40

S.No	Specifications	Course Code	Course Name	Course Code	Course Name
		No. of Videos Created	Duration of the Video	No. of Videos Created	Duration of the Video
1	Theory				
2	Problem Solving				
3	Definitions & Terminology				
4	Question bank discussion				
5	OBE video				

2. COURSE CONTENT DELIVERY (CCD)

A. Clear communication and language proficiency: 20 marks

- **Classroom Observations (10 marks):** Observing lectures and interactions with students
- **Student Feedback (5 marks):** Surveys and questionnaires
- **Review of Written Materials (5 marks):** Evaluating lecture notes, assignments, and other written communications

S.No	Criteria	Rating on Likert Scale
1	Clarity in Lecture Delivery	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
2	Use of Simple and Precise Language	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
3	Active Engagement in Class Discussions	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
4	Use of ICT tools for Enhancing Communication	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
5	Use of new pedagogy tools	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
6	Early Semester Feedback	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
7	Quality of Lecture Notes	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Total		

- First five criteria 2 Marks each, maximum 10
- Student Feedback and Quality of lecture notes 5 Marks each

B. 1. New courses / technologies learnt: 20 marks

5 Marks per New Course or technology learnt, maximum 10 Marks

S.No	Name of the new course / Technology learnt	Duration	Date of Completion	Source

2. Delivery of new courses / technologies: 10 marks

5 Marks if CO attainment is fulfilled

S.No	Semester	Name of the new course / Technology	Course Attainment

C. Capacity in teaching programming courses: 20 marks

10 Marks per programming Course taught, maximum 20 Marks

Above 80 % 10 Marks

70%-80% 6 Marks

60%-70% 3 Marks

Below 60% 0

S.No	Semester	Name of the Programming Course	Early Semester Feedback	Impact

D. Number of Hackathons/ Ideathons conducted and performance in open coding platforms: 20 marks

5 Marks for hackathons organized maximum 10 Marks

S.No	Date	Name of the Hackathons / Ideathons	Role in the Hackathon	Number of Participants

3 Marks for performance in open coding platforms maximum 10 Marks

S.No	Date	Name of the Platform	Activity Level	Quality of Contributions

E. Proficiency in conducting competency building workshops: 20 marks

10 Marks for conducting competency building workshop maximum 20 Marks

S.No	Date	Name of Competency building Workshops	Role in the Workshop	Number of Beneficiaries	Outcome

3. NEW KNOWLEDGE ACQUIRED (NKA)

A. Knowledge acquired in AI, Machine Learning, Cyber Security, Data Science and so on: 25 marks

Score Calculation:

Marks	25	15	10	5
No. of Courses	4	3	2	1

S.No	Date and Duration	Name of the Course	Level of Knowledge acquired	Source

B. Number of MOOCs completed on national platforms: 25 marks

15 Marks for MOOCs completed a maximum of 25 Marks

S.No	Month and Year	No. of MOOCs Completed	Names of the MOOCs	Level

C. Essential Skills and Technologies in DevOps, Java Full Stack, AWS, Azure: 25 marks

10 Marks for one Essential Skill acquired a maximum of 25 Marks.

Score calculation:

Marks	25	15	10	5
No. of Courses	4	3	2	1

S.No	Date	Duration	Essential Skills acquired	Source

D. Number of professional certifications completed: 25 marks

15 Marks for one professional certification course completed and a maximum of 25 Marks

Score calculation:

Marks	25	15	10	5
No. of Certifications	4	3	2	1

S.No	Date	Duration	Name of the Course	Issuing Organization

4. HIGH IMPACT PRACTICES (HIPS)

A. Capacity in developing innovative ideas: 20 marks

10 Marks for innovative idea developed maximum 20 Marks

S.No	Month and Year	Name of the Innovative Idea	Area of Innovation	TRL-Level	Status in YUKTI Portal

B. Number of innovative ideas funded by institute: 20 marks

10 Marks per innovative idea funded by Institute

S.No	Month and Year	Name of the Innovative idea	TRL -Level	Amount Sanctioned	Progress of idea

C. Number of innovative ideas funded by MSME / MeITY / Neti Ayog: 20 marks

10 Marks per innovative idea funded by Institute

S.No	Month and Year	Name of the Innovative idea	Funding Organization	Amount Sanctioned (Rs.)	Progress of idea

D. Products developed: 20 marks

10 Marks for product developed maximum 20 Marks

S.No	Month and Year	Name of the product developed	Status

E. Start-Ups initiated: 20 marks

10 Marks for Start-Up initiated maximum 20 Marks

S.No	Month and Year	Name of the stat-up initiated	Status

5. STUDENT ACADEMIC PROGRESSION (SAP)

A. Participation and performance in competency building workshops: 20 marks

S.No	Year / Semester	No. of Students Participated	Impact on students		
			Certifications	Participated in National Level Competitions	Awards in National level Competitions

B. Participation and performance in career development training programs: 20 marks

S.No	Year / Semester	No. of students participated	Impact on students		
			Placed	Participated in national level competitions	Awards in national level competitions

C. Activity logs on open coding platforms: 20 marks

S.No	Date	Name of the Platform	Activity

D. Admission to higher education / employment: 20 marks

S.No	Batch	No. of students admitted to HE		Students Placed
		National	International	

E. Publications in Journals / Conferences: 20 marks

10 Marks for publication in Journal / Conference maximum 20 Marks

5 Marks for conference maximum 20 Marks

S.No	Month and Year	Title of the Publication	Name of the Journal / Conference

6. STUDENT PROFESSIONAL AND PERSONAL DEVELOPMENT (SPPD)

A. Professional Certifications: 20 marks

10 Marks for one Professional Certification developed maximum 20 Marks

S.No	Year / Semester	Student Roll Number	Name of the Student	Name of the Professional certifications	Issuing Agency

B. Student qualified in TCS Codevita: 20 marks

10 Marks per student Qualified in TCS Codevita maximum 20 Marks

S.No	Year / Semester	Student Roll Number	Name of the Student	TCS Codevita Level	Date

C. Encouragement towards High Impact Practice (HIPs) Projects: 20 marks

10 Marks per Project maximum 20 Marks

S.No	Name of HIPs Project	Role in the projects	No. of students	Impact on Student Learning

D. Involving every student in a meaningful way in some activity or clubs: 20 marks

2 Marks for one club activity maximum 20 Marks

S.No	Name of the Student Club	Nature of the Activity	Number of Students Participated	Impact on Students

E. Industry Internship / Practicum

5 Marks for student Industry Internship maximum 20 Marks

S.No	Duration	Date	Industry Sector	Organization Name	Number of Students Completed