

ABOUT THE INSTITUTE

Institute of Aeronautical Engineering (IARE) was established in the year 2000 with a mission 'Education for Liberation'. Started with aircraft maintenance engineering in the year 1994, it has gradually transformed itself into a premier integrated interdisciplinary technological institute offering UG and PG programmes in CSE, IT, ECE, EEE, AERO, MECH and CE and MBA.

The Institution has to its credit, over 1500 + research publications in International Journals / Conferences. This includes over 710 + research papers listed in the Scopus database. 55+ Patents have been filed / granted to faculty and students. There are 14 on-going research projects of worth 570.59 Lakhs and 261.03 Lakhs of funds for schemes and 1300+ Lakhs of funds for Innovation, Incubation and Entrepreneurship by various government agencies including DST, AICTE, UGC etc.

ABOUT THE DEPARTMENT

Department of Computer Science and Engineering (CSE) was started in the year 2001. offering B. Tech and M. Tech programs in Computer Science and Engineering and its aligned courses. The department has a recognized research center by JNTUH for admitting Ph.D students. The department has 50 faculty members, including ten doctorates. The department provides the state-of-art laboratories equipped with latest infrastructure. The department has dedicated Center for Research on Assistive Technologies with exclusive research facilities of Big Data Cluster, Cyberoam firewall for bandwidth and multilink management, IBM Bluemix, ANEKA .NET Cloud Computing Software IBM SPSS Modeler - Clementine, Tableau. And FIST funded IoT setup and AICTE – MODROBS funded GPUs setup. The students and faculty of CSE are actively participating in international exchange programs at Thailand, Singapore, Cambodia, Dubai.

CHIEF PATRON

Sri. M Rajasekhara Reddy, Chairman, IARE
Sri. Ch. Satti Reddy, Secretary, IARE
Sri. B Rajeswara Rao, Executive Member, IARE
Dr. L V Narasimha Prasad, Principal, IARE

COORDINATOR

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Dr. Y Mohana Roopa, Dean IQAC, IARE
Dr. G Manisha, Dean R&D, IARE
Dr. C Raghavendra, Assoc. Professor & Head, IT, IARE
Prof. B Padmaja, Assoc. Professor & Head, CSE Allied courses, IARE
Dr. G Ramu, Dean Skill Development, IARE



Institute of Aeronautical Engineering

Two Week Online Faculty Development Program (FDP)

on

Advanced Pedagogy and Digital Tools in Engineering Education

(14 - 26 December, 2020)



Organized by
**Computer Science and Engineering
Institute of Aeronautical Engineering**
(Autonomous)

Sponsored by

**ALL INDIA COUNCIL OF
TECHNICAL EDUCATION (AICTE)**



ELIGIBILITY

The programme is open to the PG and UG faculty of Engineering at Universities / Institutes / colleges.

RESOURCE PERSONS

- **Keynote Speaker: Prof. Satheesh Kumar S L**, Former Principal Consultant at Wipro
- **Dr. T V Suresh Kumar**, Professor & Director IQAC, GITAM University
- **Dr. G M Madhu**, Professor, Director IQAC, MS Ramayya Institute of Technology.
- **Dr. S Viswanadha Raju**, Professor & Vice Principal, JNTUCEJ
- **Dr. P Srinivasa Rao**, Professor & Head, ME, Vardhaman College of Engineering
- **Dr. M Madhu Bala**, Professor and Head of CSE, IARE
- **Dr. Manisha**, Dean R&D, IARE
- **Dr. T Vara Lakshmi**, Head MBA
- **Dr. Ch Srinivasulu**, Professor of CSE, IARE
- **Mr. Kiran**, Assistant Professor, BVRIH College of Engineering.
- **Mr. M Rakesh Kumar**, Digital Technologies & Soft Skills Trainer, Hyderabad.

REGISTRATION LINK:

<https://forms.gle/vuhUpeGv1hxnc9J8>

OBJECTIVE

Faculty Development Programme on **Advanced Pedagogy and Digital Tools in Engineering Education** aims to increase the effectiveness of the young faculties in teaching and usage of digital tools. It includes:

- To understand the philosophy of teaching and the role of Engineering Faculty.
- To develop effective teaching skills and significance of active teaching methods for better student learning among faculty in higher education
- To enable the participants by understanding and practice 'outcome based teaching' and 'learner centered teaching' strategies.
- To enable them for developing suitable tools for evaluation and able to differentiate between concepts, skills and subject knowledge
- To develop and disseminate learning digital resources like Textbooks, Laboratory Manuals, Video
- To adopt advanced learning tools such as MOOCs, MOODLE, Flipped Classroom etc. for deeper learning.
- To Introduce new instructional system and strategies for production of multimedia learning materials

Certificate: Certificate to the participants will be issued on successful completion of the FDP as per the AICTE guidelines.

No Registration Fee

LEARNING OUTCOMES

- At the end of this course, the participants will be able to:
- ✚ Enhance their teaching and learning skills in view of outcome based system
 - ✚ Awareness on usage of modern teaching tools and advanced pedagogies
 - ✚ Acquire knowledge and skills about current technological developments in relevant fields
 - ✚ Impart professional practices relevant to technical education to enhance their teaching and other skills
 - ✚ Achieve competitive teaching and Technology-enhanced learning environment with digital pedagogy

CONTENTS

- Outcome based Education in Engineering – Advanced Pedagogies – Impact
- Developing learning objectives-what, why, how
- Hierarchy of cognitive levels for learning objectives
- Writing higher order assessment questions (Apply, analyze, evaluate, and create levels)
- MOODLE Learning and MOODLE Design
- ICT Methods: Digital Blooms Taxonomy – Pros and Cons of using it, Case Studies, Impact Analysis
- Students' feedback: Best Practices, Impact Analysis and Improvement Strategies
- Digital platforms – online teaching
- Soft Skills for Teaching Learning and Evaluation
- Digital pedagogy Technology-enhanced learning
- Problem-Based Learning – Learning objectives – what, why, how”
- Workplace Learning / Collaborative Learning
- Research Based Learning - learning objectives - what, why, how”
- Project Based Learning - Carry out a pedagogical case study
- Flipped classroom (software pedagogical aids)- what, why, how
- Student collaboration- Benefits, Tools – blogs, wikis, and forums
- Massive Open Online Course (MOOC)



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Two Week Online Faculty Development Program (FDP)

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[14 - 26 December, 2020]

SCHEDULE

Date	Time	Activity	Resource Person
Day 1 14 December, 2020	10:00 - 10:30	Inaugural Session	Dr. M Madhu Bala FDP - Coordinator
	10:30AM to12:00PM	Teaching – Learning Process REDIFINED	Prof Satheesh Kumar S L Faculty Development Specialist, Academic Leadership Coach Former Principal Consultant, Wipro Ltd
	1:00PM to 3:00PM	Advanced Pedagogies – Impact on Outcome based education in Engineering	Dr. T V Suresh Kumar Director-IQAC GITAM Visakhapatnam
Day 2 15 December, 2020	10:00AM to12:00PM	Deeper Learning Vs Surface Learning • Levels of Learning • HOTS and LOTS	Prof Satheesh Kumar S L Faculty Development Specialist, Academic Leadership Coach Former Principal Consultant, Wipro Ltd
	1:00PM to 3:00PM	Concept maps for course planning and corresponding open-source tools Alignment of assessment to learning objectives	Dr. T Vara Lakshmi HoD of MBA Institute of Aeronautical Engineering
Day 3 16 December, 2020	10:00AM to12:00PM	Demonstration on “Writing higher order assessment questions (Apply, analyze, evaluate, and create levels)”	Dr. T Vara Lakshmi HoD of MBA Institute of Aeronautical Engineering
	1:00PM to 3:00PM	MOODLE Design: Plugins, Activities, Resources, Features, Its thought process of using it, Students Testimonials, Impact Analysis, Future Scope	Mr. Naveen BVRITH College of Engineering, Hyderabad
Day 4 17 December, 2020	10:00AM to12:00PM	Digital platforms – online teaching Soft Skills for Teaching Learning and Evaluation	Mr. M Rakesh Kumar, Independent Consultant
	1:00PM to 3:00PM	Digital platforms for online teaching, good practices	Mr. M Rakesh Kumar, Independent Consultant
Day 5 18 December, 2020	10:00AM to12:00PM	MOODLE Learning: Implementation, Challenges, Strategies, Best Practices, Case Studies, Student Testimonials, Impact Analysis, Future Scope	Mr. D Ranjith Digital Solution Technologies
	1:00PM to 3:00PM	ICT Methods - Demonstration of usage of different ICT tools	Mr. D Ranjith Digital Solution Technologies
Day 6 19 December, 2020	10:00AM to12:00PM	ICT Methods - Its Pros and Cons of using it, Case Studies, Impact Analysis	Mr. D Ranjith Digital Solution Technologies
	1:00PM to 3:00PM	Students’ feedback: When we want or when students want? Is it really learner centric? Best Practices, Impact Analysis and Improvement Strategies	Dr. Ch. Srinivasulu Professor, CSE IARE
Day 7 21 December, 2020	10:00AM to12:00PM	Instruction Paradigm Vs Learning Paradigm	Prof Satheesh Kumar S L Faculty Development Specialist, Academic Leadership Coach Former Principal Consultant, Wipro Ltd

	1:00PM to 3:00PM	Innovative Teaching-Learning Methodologies Active/Interactive/Experiential/Collaborative Learning Methodologies	Prof Satheesh Kumar S L Faculty Development Specialist, Academic Leadership Coach Former Principal Consultant, Wipro Ltd
Day 8 22 December, 2020	1:00PM to 3:00PM	Learning Engineering in whole new light	Dr. P Srinivasa Rao Professor & Head, ME, Vardhaman College of Engineering
	10:00AM to 12:00PM	Workplace Learning / Collaborative Learning in outcome based Engineering education Learning objectives-what, why, how”	Dr. G M Madhu MS Ramayya Institute of Technology
Day 9 23 December, 2020	10:00AM to 12:00PM	Best Practices in Outcome based Teaching - Learning	Dr. K Viswanadha Raju, Professor & Vice Principal, JNTUCEJ
	1:00PM to 3:00PM	Project Based Learning - learning objectives -what, why, how” Carry out a pedagogical case study of one or two common courses to several engineering disciplines	Dr. M Madhu Bala Professor and Head of CSE IARE
Day 10 24 December, 2020	10:00AM to 12:00PM	Massive Open Online Course (MOOC) Platforms for Faculty: SWAYAM-NPTEL and AICTE-NITTT, National Digital Library of India	Dr. R. Madana Mohana Professor, Bharat Institute of Engineering and Technology
	1:00PM to 3:00PM	Promoting student collaboration • Benefits of promoting student interaction • Tools to promote student collaboration – blogs, wikis, LinkedIn and forums	Mr. D Ranjith Consultant, Digital Solution Technologies
Day 11 25 December, 2020	10:00AM to 12:00PM	Creating an active-learning classroom (Online Classes) Why active-learning and how to achieve it Active-learning techniques such as Peer instruction and Think-pair-share	Mr. M Rakesh Kumar, Independent Consultant
	1:00PM to 3:00PM	Research Based Learning - learning objectives - what, why, how” Carry out a pedagogical case study of several engineering disciplines.	Dr. M Madhu Bala Professor and Head of CSE IARE
Day 12 26 December, 2020	10:00AM to 12:00PM	Conduction of Test on FDP	Mr. Mahidhar Reddy Asst. Professor, ME, IARE
	1:00PM to 3:00PM	Feedback session Valedictory session Report on two week Faculty Development Program	Mr. Mahidhar Reddy Asst. Professor, ME, IARE Dr. M Madhu Bala FDP - Coordinator

