FACULTY DEVELOPMENT PROGRAM ON ENGINEERING EXPLORATION COURSE

Application closes On Nov 01, 2017

ABOUT THE WORKSHOP

This workshop is aimed at empowering faculty members of engineering institutions in designing student centered freshman engineering course that helps students explore and understand what engineering, engineering problem solving, engineering design process, multi-disciplinary skills, team work and collaboration is. It will be led by a team of experts from KLE Technological University who have been involved in designing such courses and research in engineering education. The workshop follows active, collaborative and experiential learning pedagogies.

At the end of the workshop each team would be able to carry the content, delivery details, resource procurement plan and deployment schedule of Engineering Exploration course for implementation in their respective institution.

The workshop is recognized by IESA – NETRA, the national initiative on ESDM skill development. All the participants will be getting certificate from Electronics Sector Skills Council of India (ESSCI).

Workshop dates : Nov 29-Dec 1, 2017

WORKSHOP DETAILS

Who can apply?

A team of 03-05 faculty members from AICTE recognized Engineering Institution offering undergraduate degree in engineering. The team shall consist of at least one member each from mechanical, electronics and computer science disciplines.

Apply using the link : https://goo.gl/forms/OYXqaZO0bJZqQASv1

Registration Fees and Accommodation

Rs. 10,000/- per participant + Taxes. Includes course content, lunch and tea / coffee during sessions.

We encourage on campus stay for participants. Limited accommodation available on campus on twin sharing basis. Rs.2500/- per person for five days. Includes breakfast and dinner.

Hosts:

CENTRE FOR ENGINEERING EDUCATION RESEARCH

KLE TECH. KLE Technological University — Creating Value Leveraging Knowledge

NETRA

ABOUT ENGINEERING EXPLORATION COURSE

The first year course – "Engineering Exploration" is an unique innovation born in the educational ecosystem of KLE Tech. This is a co-designed and co-taught course that focuses on problem solving, engineering design, multi-disciplinary skills, data analysis and acquisition, ethics and sustainability. It follows PBL pedagogy and students work in teams to solve identified problems through the entire semester.

This course is recognized by IESA NETRA as a foundation course for its partner institutions.

CONTACT DETAILS

NETRA PARTNER ENGINEERING INSTITUTIONS:
Ms. Swapna Ankola
Email: swapna.ankola@gmail.com)

OTHER ENGINEERING INSTITUTIONS:
Ms. Preethi Baligar
Email: preethi.b@kletech.ac.in

IESA –NETRA

Master Trainers Workshop on Engineering Exploration Course

Centre for Engineering Education Research, KLE Tech., Hubballi, India

Schedule-IESA -KLE Tech Engineering Exploration Master Trainers Training

Nov 29-Dec 01,2017 at CEER, KLE Tech, Hubballi

Time	**Day 1**	**Day 2**	**Day 3**
8.30am	**Introduction, Context Setting, Need for innovations in Engineering Education: Freshman Context**	Team presentations on module design	Team presentations on Course Projects Design
9.00am	Engineering Exploration : An overview	Team presentations on module design	Team presentations on Course Projects Design
10.30am	Discussion and Tea		
11.00am	Elements of Course Design, : Elements of Outcome Based Education, Writing Cos, TLOs, Active Learning, Assessment of student learning	Engineering Design : Session 1	Best practices of Project Monitoring and Mentoring: Design and Implementation of Project Clinic, Tinkering Lab
12.30pm	Lunch		
1.30pm	Demonstration of a module of Engineering Exploration course	Engineering Design : Session 2	Best practices of Course Monitoring and Course Assessment:
3.00pm	Discussion and Tea		
3.30pm	Project 1: Design a module for a given theme / topic of Engineering Exploration course	Project 2: Design a Course Project for Engineering Exploration	Action Plan and valedictory

IESA –NETRA

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Details of Projects

	Project 1 on Day 1	**Project 2 on Day 2**
Assignment Objectives	To understand, interpret and enrich the assigned module of the course engineering exploration / To design a module on a given topic of Engineering Exploration Course	Develop the framework for implementation of course project
Outcomes	The faculty will be able to :- 1. Interpret the context of the module in the engineering profession 2. Identify the concepts related to the module 3. Frame the course structure, assessment and evaluation plans 3. Design content and activities related to the each of the identified concepts 4. Formulate rubrics for assessment of activity/ies 5. Develop worksheet/s to structure student learning 6. Identify resources for activities	The faculty will be able to:- 1. Formulate need statements for the course project 2. Identify strategies for team formation 3. Develop templates/worksheets for structured mentoring for the phases of engineering design 4. Prepare a course delivery schedule aligned to the institution's academic term 5. Frame the course project assessment plan 6. Develop in-semester and end-semester assessment rubrics for the course project
Background Tasks	*1. Form 6 teams. The team will be multidisciplinary and comprise of faculty members from different institutions* *2. Provide soft copy of a module for reference*	*1.Each Institution has one team* *2. Provide the following documents:-* *Need statements of previous four semesters (2015-16, 2016-2017 even and odd semesters), Course project schedule, Assessment plan and rubrics, Lesson plans*
Task	*Each Team will get 15 minutes time for presentation.*	*Each Team will get 15 minutes time for presentation.*

KLE Technological University

IESA –NETRA

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Sl.No	Name of Participant	Institute	Discipline	Day1 (29/11/2017)	Day2 (30/11/2017)	Day3 (01/12/2017)
1	Dr. Aditya Abburi	Bennett University	Electronics & Comm			
2	Dr. Mohammad Danish	Bennett University	Mechanical			
3	Dr. Gaurav Singal	Bennett University	Computer Science			
4	Prof Ankit Dixit	AK Garg Engineering College	Electronics/electrical			
5	Prof Rahul Mahajan	AK Garg Engineering College	Mechanical			
6	Prof Rahul Sharma	AK Garg Engineering College	Information Technology			
7	Vinay Kukreja	Chitkara University Research & Innovation Network (CURIN)	Computer Science			
8	Amit Pandey	Chitkara University Research & Innovation Network (CURIN)	Electronics and Comm			
9	Aarik Khanna	Chitkara University Research & Innovation Network (CURIN)	Electrical			
10	Suraj Bagla	Chitkara University Research & Innovation Network (CURIN)	Mechanical			
11	Jyotsna Kaushal	Chitkara University Research & Innovation Network (CURIN)	Applied Science			

KLE Technological University
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S No	Name of Participant	Institute	Department	Day 1	Day2	Day3
12	Rohit Verma	Chitkara University Research & Innovation Network (CURIN)	Applied Science			
13	Mr Umesh Dutta	Manav Rachna Innovation & Incubation Centre	Electronics &Comm			
14	Mr. Sunny Dagar	Manav Rachna Innovation & Incubation Centre	Computer Science			
15	Mr. Ashish Saxena	Manav Rachna Innovation & Incubation Centre	Mechanical			
16	Dr. Brij Bihari Dubey	BML Munjal University	Computer Science			
17	Dr. Mangal Raj P	BML Munjal University	Computer Science			
18	Dr Surya Prakash	BML Munjal University	Mechanical			
19	Prof. Ashish Mani	Amity University	Electronics and IT			
20	Dr Basant Singh Sikarwar	Amity University	Mechanical			
21	Prof. S. S. Ingaleshwar	RIT				
22	Prof. Sachin Khot	RIT				
23	Dr. Kumar Manoj	MIT	ECE			
24	Dr. Bharanidharan	MIT	CSE			
25	Dr. Girish Chandran V	MIT	ME			

Master Trainers Workshop on Engineering Exploration -01

India Electronics and Semiconductors association is promoting Electronics System Design and Manufacturing and entrepreneurship in India through select educational institutes and universities in India. This is being pursued through NETRA (National ESDM Training and Research Academy) which has been created for this aforementioned purpose.

As a part of this program, MoU has been signed between IESA-NETRA and CEER, KLE Tech to take Engineering Exploration to develop ESDM skills in select universities / engineering colleges in India. This collaboration covers:-

1. Sharing of curriculum content with select institutes
2. Empowering faculty members through workshops
3. Mentoring to create a required learning environment in these institutes
4. Periodic review and impact assessment

This collaboration signed during September 2017 is for a three-year period. Master Trainers Workshop on Engineering Exploration was conducted during 2017-2018 the details of which are shown in table .

Table 1 Master Trainers workshop for Engineering Exploration conducted during 2017-2018

FDP	Institutes	Number of participants	Date
First	8	25	Nov 29-Dec 1, 2017

The workshop was conducted by the lead designers of the course Engineering Exploration:

- Dr. Gopalkrishna Joshi, Director, Centre for Engineering Education Research, KLE Tech.
- Ms. Preethi Baligar, Assistant Professor, Centre for Engineering Education Research, KLE Tech.
- Mr. Sanjeev Kavale, Assistant Professor, School of Mechanical Engineering, KLE Tech.
- Mr. Kaushik M, Assistant Professor, School of Electronics and Communication Engineering, KLE Tech.

The objectives of the workshop was to

1. Frame the course structure, assessment and evaluation plans
2. Interpret the context of each module in the engineering profession
3. Identify the concepts related to the module
4. Design content and activities related to the each of the identified concepts

5. Identify resources for activities
6. Develop worksheet/s to structure student learning
7. Formulate rubrics for assessment of activity/ies

The participants were from the following institutes

1. Bennett University, Greater Noida
2. Ajay Kumar Garg Engineering College, Ghaziabad
3. Chitkara University Research and Innovation Network, chandigarh
4. BML Munjal University
5. Amity University
6. Rajarambapu Institute of Technology
7. Manav Rachna University
8. Maharashtra Institute of Technology Aurangabad

Figure 1 Master Trainers Workshop 1

Centre for Engineering Education Research,
KLE Tech., Hubballi, India

Faculty in action