Post-graduate Research Centre for Industrial Design

OPEN DESIGN SCHOOL

Report on

54th FACULTY DEVELOPMENT PROGRAM (FDP)

DESIGN ENGINEERING

(3rd + 4th + 5th + 6th Semester)

Date: 8th June to 11th June 2020 (54th FDP – Level 1)

Time: 10.00 am to 1.30 pm; Everyday

Venue: Online over WebEx/Zoom Platform

Brief About Design Engineering:

GTU introduced courses of Design Engineering through Design Spine, during the academic year 2014-15, beginning from the 3rd semester. Design Engineering is a very unique and pioneering initiative of GTU and it is based on **"Design Thinking"** methodologies developed and used by engineers and designers all over the globe. One of the key objectives of this initiative is to infuse the methodology of Design Thinking into the mind-set of the students and the Faculty Members so that it is used in the study of all the core subjects of every branch. Other main objectives include; To stimulus thought process and creativity among the students, to learn problem-solving techniques, To lessen the copy-pasting in the Project work etc.

GTU's Centre for Industrial Design – OPEN DESIGN SCHOOL has taken up the challenge to help implement this course in all the affiliated engineering colleges of GTU. From AY 2014-15, *Centre for Industrial Design* – OPEN DESIGN SCHOOL has organized 53 Faculty Development Programs (FDPs) since 2014, in which more than 4000 Faculty Members from 139 Engineering colleges across the state, from more than 15 branches, have been trained for Design Thinking at various level.

Now, as we all are facing difficult time due to this COVID-19 virus OUTBREAK AND TRYING to fights this situation through lockdown at our home. Let us utilize time to develop the skills in design thinking and innovation by developing mind-set and attitude of innovators and entrepreneurs. During this tough time, the Centre for industrial design in collaboration with EXPLORRA – IRF is bringing Design Engineering FDPs for faculty members with new and refined hands-on exercise, presentations, examples, and techniques of Design Thinking and that is also through ONLINE Modules. The revised guidelines published on the website (Link : http://goo.gl/xZ2L1S) talk about little change in the approach for projects that students will take from 3rd to 6th semester, but the Design Thinking process would remain same.

The basic introductory level 1 FDP will cover the whole Design Thinking process and approach to be taken from 3rd to 6th Semester for Design Engineering suitable for all the faculty members who want to acquaint with design engineering subject and never attend FDP before. However, we encourage institute to allow faculty members who already attended basic level to attend this FDP to refine their learning and for more practice.

Exclusive features of FDP:

- Online live lectures (i.e. not recorded video) learning throughout lots of hands-on, exercises, video, case studies and examples.
- E-Workbook to support the online learning.
- Working on real life issues with practical based learning
- Expert master class during FDP by eminent academicians and industry partners.
- Recording of the session will be available after FDP.

Workshop Program: (Level 1 – Basic - Online)

Day 1:

- **Welcome and orientation session** – Introduction to design Engineering course
- **Design Thinking** – Introduction, Its importance, Socio-economic relevance
- **Design thinking** – WHY, WHAT AND HOW
- **Hands-on** – Experience and Design Thinking Process Yourself

Assignments post session: Find out the challenge that you would like to work on and form a team with colleague for any participants.

Examples for Challenges:

- Social to fight corona virus outbreak (any topic you may choose like mask, sensitization, social distancing, testing kit and ways etc.)
- Traffic, parking, pollution, public transportation related issues.
- Health care for rural people.
- Cleanliness and hygiene issues.
- Online and remote learning (Education).
- Agriculture issues.

Etc (Faculty members can also select a domain of their choice)

Day 2:

- **Empathy** – Observation, immersion and interview techniques.
- **Hands-on Exercises** to understand tools and techniques for observation and empathy.
- **Summarization of Data** - Analysis of Data gathered during Observations through Mind Mapping, AEIOU
- **Empathy Mapping & Problem Definition** – Canvas Preparation

Assignment Post session: Gather the data from the field and through secondary research, preparation of various Frameworks and Canvases as discussed during session.

Day 3:

- **Ideation** – Brainstorming techniques to Innovation
- **Ideation Canvas** – Canvas Preparation
- **Product Development** – Form, Function, Features
- **Product Development Canvas** – Canvas Preparation

Assignment Post session: Generation of lots of Ideas, Conceptualization, Developing product architecture and Preparation of various canvases.

Day 4:

- **Reverse Engineering** – Selection of Branch Specific artefact/component/product
- **Disassembly & Identify Technical aspects**
- **Prototyping techniques**
- **Building rough prototype (Hands-on activity)**
- **Recap on FDP and reflect learning**

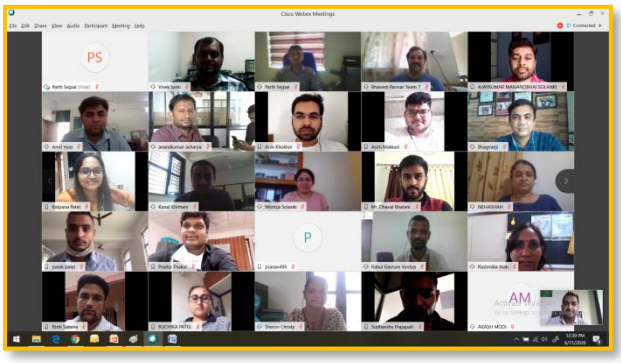
Assignment Post session: To avail certificate of FDP, kindly complete and submit below work within one week on design@gtu.edu.in.

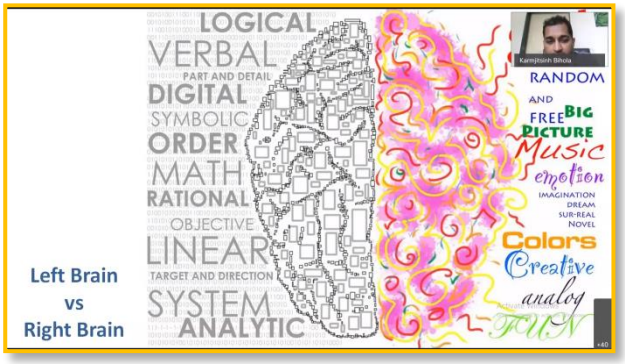
About Experts:

Post inaugural session, Mr. Karmjitsinh Bihola explained the objective and efforts of GTU in introducing Design Engineering subject across disciplines along with all 4 courses curriculum. Then he explained Design Thinking process, its socio-economic importance, mindset, tools and techniques. Design Thinking is a Human Centered, Iterative, Multidisciplinary approach of problem solving. Design Thinking comprises of phases like Observation, Empathy, Ideation, Product Development, Prototype and Test.

Mr. Rohit Swarup has taken Master Class on Observation and Empathy phases of Design Thinking and explained how problem finding is equally important like problem solving. Then other phases were explained by the expert and for each phase participants were given tools & techniques to come up with needs of user and innovative ideas to those needs.

Glimpse of FDP:





FDP Coordinator: Ms. Kavita Kripalani, Dy. Director, GTU.

For more information, kindly visit: http://www.de.gtu.ac.in

Should you have any query, kindly write us on: desisn@gtu.edu.in