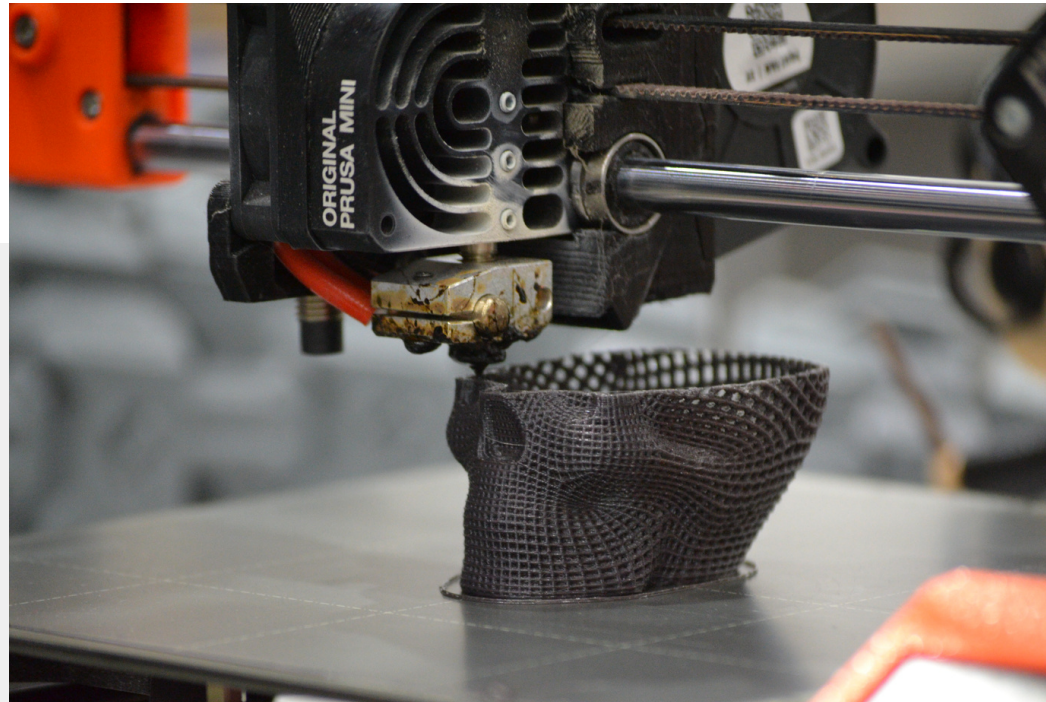


2 Days Workshop on PLM Software & 3D Printing Technology

APRIL 11-12 ,2024



Organised by
Department of Mechanical Engineering
&
In association with



BACKGROUND AND RATIONALE

3D printing or Additive Manufacturing has proved to have the potential to revolutionize the manufacturing process while lowering the time frame, cost and risks of production. 3D Printing refers to the process of producing a physical part from a computer-aided design model by adding materials successively, in a layer by layer fashion. The technology is helping shape up many people's ideas by allowing them to make their own custom products within a very short span of time. The technology is a major contributor in Industry 4.0 and many engineering jobs will require 3D printing skills. This trillion-dollar industry is being perceived as the future of manufacturing. 3D printing is ideal for addressing dynamic technological trends and industrial demands. It gives enormous design freedom as complexity is not a constraint with the technology. Due to its numerous advantages, the technology is used by various industries such as aerospace, automobile, biomedical, electronics, fashion, and even the education sector. The purpose of this workshop is to introduce this cutting edge technology to the participants and to provide hands-on experience in the entire process flow from developing a CAD model to finally printing of the same.

LEARNING OUTCOMES

The participants will develop the capacity to:

- Understand the working principle of 3D printers
- Apply design considerations for developing a CAD model
- Prepare data (Orientation, Slicing, Selecting process parameters) for 3D printing
- Understand how to print a part and calibrate the machine

INVITED ATTENDEES

E2, E3 and E4 students

PEDAGOGY

- Hands-on training
- Interactive and participative
- Individual supervision

RESOURCE PERSONS



Mr. G Naveen Prabhu is manager at CITE TITAN. He has 12 years industrial experience. His areas of interest are Metal 3D Printing.



Mr. P Charan is the Founder and Chairman of Ignited Minds Organisation, Andhra Pradesh. He was the Founder & CEO of VC Technologies Pvt. Ltd. He is the Researcher at OrbitX India Pvt. Ltd., Rajasthan Working on AtalYaan Mission. He is the Executive Director for Sri Guruji Educational Institutions, Proddutur. He is the Project Lead at Atoms Education Pvt. Ltd. He was the Trainee Design Engineer Pioneer Design, Bangalore at He is the Science Communicator at Futuristic Photons and Sky Line

WORKSHOP SCHEDULE

CAD DESIGN SEGMENT

Sl No	Name of the Topic
1.	Introduction to CAD, CAD Software, Introduction to UGNX12
2.	Basic Sketcher & Constrains
3.	Part modelling / 3D Modelling
4.	Parametric Modelling
5.	Assembly Design
6.	Drafting
7.	Sheet Metal
8.	Surface Modelling
9.	Discussion

3D PRINTING SEGMENT

Sl No	Name of the Topic
1.	Introduction to Industry 4.0 Revolution, Manufacturing
2.	Types of 3D Printing Technology Technologies
3.	Understanding a 3D printer
4.	3D Modelling & file Conversion
5.	Post processing Techniques
6.	Future Trends in 3D Printing Technology
7.	Case Studies
8.	Live Demonstation

VENUE

CLH-3, Champavathi Block, RGUKT Srikakulam

CERTIFICATION

Participation certificates will be awarded subject to meeting participation criteria i.e. 100% attendance and Post Training Evaluation

ABOUT THE HOST INSTITUTION

The primary objective of establishing RGUKT was to provide high quality educational opportunities for the aimed rural youth of Andhra Pradesh. The initial goal was that at least the top 1 % of the rural graduates would be given the opportunity to study at RGUKT.

The top 1% of rural graduates is around 6,000 to 7,000 per year. Thus, the three campuses would need residential accommodation for about 36,000 students for the six year integrated program.

At present, most universities in India and in Andhra Pradesh follow the affiliated college structure model where the main role of the university is to set the curriculum and conduct examinations to ensure that the students have indeed learned the material prescribed in the curriculum. Most colleges have an entering class of 100-300. Having an entry class of 6,000 students leads to issues of scale. This is unique to RGUKT and is being attempted for the first time in India. In the US, several of the larger universities do have enrolments of 20,000 to 30,000. However not all of them tend to be residential universities. Thus RGUKT, as a green field university, represents a unique experiment in the educational arena. The assumption is that ICT (Information and Communication Technologies), will permit the scaling of the learning environments by one to two orders of magnitude is currently possible.

Another key educational objective of RGUKT is to use advances in learning sciences and explore the use of modern cognitive science tools in education and learning.

Phrases such as "Learning by Example", "Learning by Doing", "Problem-Based Learning", "Self-Paced Learning", etc become facilitated when every student can be assured to have a personal computer that does not have to be shared with anyone else.

ORGANIZING COMMITTEE

PROGRAM CONVENER

**Mr.Ch.T.Surya Prakash, MTech
Asst. Professor**

PROGRAM COORDINATOR