BACKGROUND OF THE GURUKUL

Indo Universal Collaboration for Engineering Education (IUCEE) has played a key role in enhancing the quality of engineering education in India since its inception in 2007. A variety of workshops and webinars have been offered for faculty in more than 200 engineering colleges, with the help of a network of experts from academia and industry from around the world. More recently annual conferences and a journal have provided platforms for faculty to connect and share their experiences in transforming engineering education at their institutions. Now there is a need for these transformations to become institutionalized. The IUCEE Gurukuls for Learning and Outcomes Based Education (iGLOBE) program addresses this vital need for institutions to develop self-reliance towards achieving excellence in engineering education. IUCEE will facilitate these Gurukuls (i.e. Centers for Excellence) which will be modeled as a blend of the Centers for Engineering Education and Centers for Teaching and Learning around the world.

MISSION AND OBJECTIVES OF IUCEE GURUKUL

The primary role of the Gurukul in an institution is to provide an ecosystem for faculty development in a manner that will directly contribute to enhance students’ learning experience. The mission of the Gurukul is to guide and mentor its faculty in improving their teaching and learning methods, in implementing outcomes based education and in conducting engineering education research.

ABOUT SITE VISIT

The meeting started with the floral felicitation of Dr. Yogesh Velankar, Director, IUCEE Gurukul Program followed by brief introduction of each internal stakeholder present at the meeting. Dr. Velankar outlined about the IUCEE Gurukul Program and he further added that it’s been taken up by 15 other institutes across India.

Dr. Rajul Gajjar, Principal VGEC & Director GTU; Dr. Rupesh Vasani. Dean GTU; Dr.
OBJECTIVES OF MEETING

- To ensure a common understanding of the concepts related to “engineering education” (e.g. papers, conferences and certification in this field)
- To identify and prioritize the Gurukul Domains in which your institution has potential to build initial strength and/or elevate existing domains to the next level
- To explore the potential for seeking assistance from existing networks of experts at your Institution and its advisory groups
- To review existing infrastructural support for the program and plans
- To ensure commitment of your leadership team
- To address any issues or concerns, if any

Dr. Velankar briefed about the outcome based education is one of the main components of IUCEE Gurukul with an objective to improve the engineering education by conducting webinar and FDPs. The IUCEE Gurukul welcomes multi-disciplinary perspectives. Dr. Velankar then started explaining detailed application and its various dimensions.

Dr. Akshai Aggarwal, Vice Chancellor, GTU described about GTU’s functioning, GTU’s PG Research Centres, ALVCOM, design engineering, confluence and other initiatives taken up by GTU. He said that there is a need application for New Technology for teaching mathematics. There is a shortage of faculties and teachers are overloaded with teaching and then expecting them to adapt and teach a new methodology is a big question. He also shared that one of the GTU faculty give extra lectures of Mathematics to the students and increased the passing rate from 25% to 60% and FDPs should be properly organized and it should keep increasing. There is a need to learn the Good Practices from other institutes like Georgia Tech, there they teach CE at a very beginning where students has to design a program so that the robot can move here and there.

Dr. Chanchal Dass, Advisor GTU suggested that there should be ratings of any workshop conducted and teachers are there at the colleges where they can assist the experts and that more and more teachers should themselves come forward and take initiatives in making learning easier. We can develop a good methodology for making mathematics easy for the students.
Dr. Rajul Gajjar, Director GTU suggested that one of the important component is setting up a question paper and that is need to be revamped according to the needs of industry.

Dr. Dilip Ahir, Dean GTU suggested that the induction and training to the teachers is an important and more number of FDPs to be organized in order to keep them active about the teaching methodologies and we need to work with the Industries to offer FDPs in different areas.

Dr. Siddharth Jadeja, Student Regional Advisor, Asia Pacific, ASME and Executive Director, BHGCET talked about the activity done in flipped class room and design engineering. He said that for new subjects we have new faculties but they don’t have confidence to deal with the industry for design engineering.

Dr. Rupesh Vasani, Dean GTU also said that there is a need to train and give induction to the teachers and minimum of 3 weeks training should be compulsory for the teacher in order to get increment and lastly he emphasized on the educational research.

Dr. Yogesh Velankar urge that the GTU should identified the key areas or program that it is running successfully and start with it initially and take the help of IUCEE Gurukul for making further progress and for that GTU should develop short, medium and long term quantifiable goal and setting prioritie.

At the end, the internal stakeholders have identified FDP (Induction and training), Confluence (Setting Question paper), Active learning program and Designing Engineering as a key areas initially to start with.

WEBINAR with Dr. Krishna Vedula, Executive Director, Indo Universal Collaboration for Engineering Education (IUCEE) and Professor and Dean Emeritus, University of Massachusetts Lowell. He briefed about IUCEE and its inception and aims to build an ecosystem for engineering and improving the quality of engineering education, conducting FDPs and workshops. He then informed about IUCEE Consortium and members of consortium, IUCEE courses for in depth leaning (i) International Engineering Educator Certification Courses (ii) Outcome Based Courses (OBE) (iii) Intergrating Projects and design into core engineering courses (iv) Project management courses, Goals of Institutionalizing transformation in engineering education. He further informed that IUCEE Gurukul for learning and outcome based education (iGlobe) Launched in March 2016.

He answered various questions raised while conducting webinar like GTU should initially start small and like taking the activities in which they have excelled and then concentrate on the activities which needs to be improved. He also suggested that GTU should organized a summit which inspires the faculties in designing the questions papers and good practices of the faculties. Dr. Akshai Aggarwal, VC GTU also told that GTU is affiliating Type University and the faculty needs to start thinking and small way IUCEE can contribute to the GTU to take up a particular
model as education institute is dominated by IITs and NITs which are having less than 3% of the students as compared to GTU. Dr. Vedula also suggested that GTU needs to focus upon the critical areas and arrange monthly meetings with the stakeholders and IUCEE Gurukuls in order to share their best practices. Dr. Akhsai Aggarwal, Hon. Vice Chancellor of GTU, and Dr. Rajul Gajjar, Dean, GTU finally urge that there is need to start an E-Course on Principles of Engineering Education.

Meeting ended with the vote of thanks to the Dr. Yogesh Velankar and all the other participants on behalf of GTU for gracing the meeting and sharing and discussing their views about the Gurukul.