

EFFECTIVE ENGINEERING TEACHING IN PRACTICE

MULTI-FACULTY

TYPE OF COURSE : Rerun | Elective | PG
COURSE DURATION : 4 weeks (18 Jan' 21 - 12 Feb' 21)
EXAM DATE : 21 Mar 2021

PRE-REQUISITES : None

INTENDED AUDIENCE : All engineering teachers and aspiring teachers

INDUSTRIES APPLICABLE TO : Any industry or start-up interested in education

COURSE OUTLINE :

Traditionally, teachers are not trained to teach professional courses. Thus, they learn even the essential principles of teaching through experience, 'on the job'. This leads to a less than satisfactory in-class learning experience for most students in many courses, except if the teacher has a natural orientation to teaching. This course is aimed to introduce the essentials of facilitation of student learning ('teaching') in an interesting way to any teacher of professional courses, with a special focus on engineering.

ABOUT INSTRUCTOR :

Prof. G. K. Suraishkumar is a Professor in the Department of Biotechnology, Indian Institute of Technology Madras (IITM). He has been at IITM as a Professor since May 2004, and was earlier a faculty member in the Department of Chemical Engineering at the Indian Institute of Technology Bombay (IITB) from April 1993 until mid-May 2004. He was also an Associate Faculty member in the erstwhile Centre for Biotechnology, which is now the Department of Biosciences and Bioengineering, at IITB, between 1995 and 2004.

Prof. E. PRASAD, Head, Teaching Learning Centre (TLC) and Associate Professor, Department of Chemistry, Indian Institute of Technology Madras, Chennai
Educational Qualification: BSc., & MSc. From Calicut University, Kerala, India during 1990-1995; Ph.D. from NIIST, Thiruvananthapuram, Kerala, India in Photophysical Chemistry in 2000. Post Doctoral Research Experience: (2001 to 2006) Texas Tech University & Lehigh University, USA and University of Bonn, Germany (Alexander von Humboldt Fellow)

Prof. Richa Verma (TLC) : Currently I work as Senior Project Officer, at Teaching Learning Centre- IIT- Madras. For last 4 years I was faculty in Vision Science at the School of Medicine, Deakin University, Australia. I have also received formal training in Designing, Teaching and Assessing Higher Education Programs My area of research is Visual neuroscience with specific focus on retinal physiology. I completed my PhD at The University of Melbourne and post-doctoral fellowship in Visual Neuroscience at Monash University, Australia.

COURSE PLAN :

Week 1: An inexperienced engineering teacher's vie; From traditional lecturing to helping students learn; Better learning (Bloom's taxonomy); Problem based learning and problem solving.

Week 2: Learning outcomes; Active learning; Co-operative group learning

Week 3: Flipped classroom; Lab courses; Evaluations/assessments

Week 4: How can we use research in education; Class composition, Psychological type and learning, Models of cognitive development, Learning theories