DESIGNING LEARNER-CENTRIC E-LEARNING IN STEM DISCIPLINES

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INTENDED AUDIENCE : Teachers, students of any discipline, E-learning industry professionals.

INDUSTRIES APPLICABLE TO : E-learning companies

COURSE OUTLINE :

Instructional designers today have tremendous access to a variety of technology tools while designing e-learning. An important role for instructional designers is to integrate effective pedagogical strategies to promote students' engagement and learning. This course focuses on learner-centric principles and practices in the design of e-learning in STEM disciplines. Effective strategies and processes based on research from the learning sciences and educational technology will be discussed. Course participants will explore the application of e-learning design in various STEM topics in K-12 and higher education. The course will expose participants to some examples of basic and advanced technologies involved in designing e-learning.

ABOUT INSTRUCTOR :

Prof. Sahana Murthy is Professor in the Educational Technology interdisciplinary program at IIT Bombay. Her research interest is in developing students' problem-solving, design thinking and inquiry practices in STEM domains via interactive technology enhanced learning environments. Another area of focus is Teacher Use of Educational Technologies, which has led to the design of models and large-scale professional development workshops for for instructors. One such model, the learner-centric MOOC (LCM) model has formed the basis for several online and blended courses on NPTEL and IITBombayX platforms. Before joining IIT Bombay, she was a post-doctoral researcher in Physics Education Research at Rutgers University and MIT, USA. She received her Bachelor's degree from the University of Mumbai, Master's degree in physics from IIT Bombay, and PhD in physics from Rutgers University.

COURSE PLAN :

 Week 1**:** Overview of Learner-centric Approach in e-learning

 Week 2**:** Pedagogical Design: Learner Engagement and Active Learning

 Week 3**:** Pedagogical Design: Conceptual Understanding and Learner Connect

 Week 4**:** Integrating Technology, Pedagogy and Learner Experience