VSIT | Vidyalankar School of Information Technology

Internal Quality Assurance Cell
&
Department of Information Technology
Organizes

Short Term Training Program
on
"Integrating Lab activities and Virtual Labs in
Online Teaching-Learning"

Dates: 31st July to 4th September 2021

The virtual laboratories have been very recently developed as part of the NMEICT project by the Ministry of Human Resources and Development, India. The project started in 2009 with eleven institutes contributing to the development of content and deployment of the online virtual laboratories. Currently there are more than 1500 experiments available free of cost for use 24/7 over the Internet. There are two types of online laboratories – Simulation labs and Labs with remote triggered hardware.

Program Objective:

Use, design, develop and host virtual laboratory experiments/labs.

Learning Outcomes:

CO1: Use the existing Virtual labs & integrate lab activities in online teaching-learning processes.

CO2: Come up with effective virtual laboratory experiment designs.

CO3: Design the simulator incorporating the various design aspects and develop the

complete code using HTML5 and other open-source technologies.

CO4: Use Google web designer to create animations.

CO5: Upload the developed experiment code after thorough review on Virtual labs Server.

Course Modules:

Module No.	Day/Date	Time	Topic	Hrs.	Outcome
1	Saturday, 31st July 21	2 PM to 3 PM	Overview of Virtual Labs	01	CO1
2	Monday, 2nd Aug 21	2 PM to 4 PM	Hands on training on the use of Virtual labs.	02	CO1
3	Wednesday, 4th Aug 21	2 PM to 4 PM	Design effective virtual lab experiment	02	CO2
4	Friday, 6th Aug 21	2 PM to 3 PM	Story boarding for simulator. Develop storyboard of your experiment.	01	CO2
5	Saturday, 14th Aug 21	2 PM to 4 PM	Writing the code for the Simulator	05	CO3
	Saturday, 21st Aug 21	2 PM to 4 PM			
	Saturday, 28th Aug 21	2 PM to 4 PM			
6	Saturday, 4th Sept 21	2 PM to 5 PM	Google web designer	01	CO4
7			Developing the animations	01	CO4
8			Introduction to VR/AR Tools	01	CO4
9			Practice AR/VR Tools	01	CO4
10	Complete Development of the virtual lab experiment		Participants can do this offline; Review sessions will be there.	-	CO5
			Total Hours	15	

Note: Each module includes practice problems

Certification: Certificate will be issued after successful completion of the training and hosting of the lab experiment.

Resource Person-

Dr. Anita S. Diwakar, Designated Partner AIEE Edtech

- PhD in Educational Technology from Indian Institute of Technology (IIT Bombay). The topic of my thesis is "Development of guidelines for teaching and learning with virtual laboratories in Engineering Education" under the guidance of Prof.Santosh Noronha. The online SDVIcE tool available at the URL : http://vlabs.iitb.ac.in/vlab_tool_alpha/ is the part of outcome of my thesis. The tool helps users in designing effective virtual laboratory experiments.
- Masters and Bachelors in Electronics Engineering. 9th Merit holder in HSC. Have published many papers in International conferences and journals. Have attended and organized many workshops for engineering educators and students in the domain of design and development of Virtual laboratory experiments. Trained more than 6000 engineering teachers and more than 5000 engineering students from institutes from states of Maharashtra, Gujarat, Karnataka, Kerala, Uttar Pradesh and Goa and countries Malaysia and Indonesia in design and development of Virtual laboratories.
- Part of the TUET Teachers Use of Educational Technology Researchers group from IDP in ET IIT Bombay.
- Have 30 years of teaching experience in engineering education, 9 years in Industry and 10 years in Research.
- Designated Partner of AIEE Edtech for the past 9 years and have trained students and teachers. Designed and developed some Industry Applications in the Embedded Systems and Internet of Things domains with Industry Collaboration.
- Mentor and Investor in SINE IIT Bombay Incubated Startups (iCapotech and Holo Shiksha)
- Received Best Paper Award and (GOLC) Global Online Laboratory Consortium Best Online Virtual Laboratory Award for 2020.
- Life Member of ISTE, Member of CSI, IAOE, GOLC and Senior Member of IEEE. Chair of Educational activities committee IEEE Bombay section.
- Board of Studies Member for M.A. / M.Sc. e-learning Programme by School of Education and Research, MIT Art, Design and Technology University, Pune.
- Expert member in the National Education Policy Task Force, Symbiosis International (Deemed University), Pune.
- YouTube Channel for Educational Videos in Electronics Engineering domain.
- Details available on aieeedtech.in