National Institute of Technical Teachers Training and Research Bhopal

Programme Plan

Programme Title: Academic Education 4.0- Approach to Learning (Code: MRDE-3(2023))

1 Rationale

In this modern world, the Industrial Revolution 4.0 has a serious impact on the educational system of our country to pursue or adapt to the changing pattern of global Academic Education 4.0 (AE-4.0). Academic Education 4.0, is a learning approach associated with IR4.0 and aims to transform education through cutting-edge technology such as robotics, AI, smart technology, Augmented and Virtual Reality technologies (AVR) and increased use of technology in education. Today IR 4.0 is also forcing academia for re-engineering the education system according to AE 4.0 needs of the labor market for a technology-savvy generation called Generation Z.

Thus, this would require institutes to introduce an innovative blended educational learning and augmented training approach for engineering and vocational education. The blended learning approach would require a Learning Management System (LMS) that will help the educator to design and develop online courses. Such online courses can be delivered as a Small Private Online Course (SPOC) and blended into campus sessions for adding to the quality of classroom-based teaching or fully online in order to reach out to learners anytime and anyplace.

In this programme, explores cutting-edge technologies such as Virtual and Augmented Reality will also be discussed for creating a near-to-real industrial experience. These technologies can transform laboratories and workshop practices of engineering education into augmented learning. This type of training is also called an augmented training approach.

This program also focuses on Learning Management System and its function for offering Online Learning courseware, that can typically be delivered in blended or fully online mode. Therefore, a popular LMS -MOODLE will be used that will enable - to manage, administer and offer a web-based course.

2. Programme Outcomes

The participants of the programme will be able to:

- Deliberate challenges of IR-4.0 to transform engineering education as per Academic Education 4.0
- Examine the innovative 'Blended Education Learning and Augmented Training Approach (BELATA)' for engineering and vocational education.
- Apply the Instruction Design Model for preparing a sample Online Course/courseware on a topic in your discipline
- Manage the sample Online Course/ Courseware using a Learning Management System (MOODLE)

3. Programme Contents

Challenges of IR-04 for Academic Education – 4.0, Generation Z students, Innovative 'Blended Education Learning and Augmented Training Approach (BELATA)', Emerging Technology era and AC-4.0, Key Benefits in Learning Landscape, Introduction to Open-source philosophy, Differentiate CMS, Google Class, and LMS & its features, Overview of MOOCs and SPOCs, Selecting LMS for your organization, Introduction to Open-source philosophy, Differentiate CMS, Google Class, and LMS & its features, Overview of MOOCs and SPOCs, Ethics in writing andavoiding Plagiarism, IPR and copyright issues, Instructional System Design Model of an Online course, Setup and Configure LMS MOODLE, apply course Layout and Blocks, Changing Your Profile Course Settings, Authentication methods, Editing Your Course, Adding Resources, Creating Forums, chat session and interacting tools, Manage, Administer and Schedule a SPOC, Sensitization of Augmented training approach using Virtual and Augmented Reality technologies

4. Instructional Strategy: Lecture cum hands-on practice

6. Dates and Venue: 05-09 June 2023

7. Target Group: Faculty members of any discipline working in Engineering/Polytechnic Colleges have fairly good skills in handling computers and applications.

- 8. Coordinator: Dr.K. James Mathai, Professor, DMRDE, NITTTR, Bhopal M.P
- Faculty: Prof.S.S.Kedar, Professor, DMRDE, NITTTR, Bhopal M.P.
 - Prof.A.A.Khajanchee, Associate Professor, DMRDE, NITTTR, Bhopal M.P

9. Tentative Schedules

| DAY | SESSION I 9.30- 11.00 | SESSION II 11.15-1.30 | SESSION III 2.00-3.3.30 | SESSION IV 3.45- 6.00 |
|-------|--|--|--|---|
| Day 1 | Registration, Welcome & Program Brief Challenges of IR-04 for Academic Education – 4.0, Innovative 'Blended Education Learning and Augmented Training Approach (BELATA)' | Emerging Technologies, AE-04 Learning environment, and content design | Introduction to Open- source philosophy, Differentiate CMS, Google Class, and LMS & its features Overview of MOOCs and SPOCs Selecting LMS for your organization | Task 1 Identify & prepare a list of LMS useful to design & develop web- based courseware Prepare a List of OER resources for teaching-learning and give their purpose |
| Day 2 | Smart Class, Webcast Lecture & Modes, Methods for Online T-L- Blended & Flipped Learning | Ethics in writing andavoiding Plagiarism IPR and copyright issues | Overview of Online Courseware Development Process | Task 2 Instructional Script Preparing Online Courseware –I (Identifying a topic for Courseware: Internet) |
| Day 3 | Demonstration of Courseware Content and Assessment questions prepared Task 3: Submission of eContent in the Template | LMS Moodle Setup and Customization-Site, Theme Setting | Course Setting & Authentication/Enrollment methods | Course Setting & Authentication/Enrolment methods Task-4: Submission of setup & config steps of Moodle LMS |
| Day 4 | Managing/Creating Users, roles & Editing Profiles | Creating Course Layout & adding Activities & Blocks | Creating Course Layout & adding Learning Resources-I Uploading Files Creating Webpages Using Multimedia | Task 4 Creating Course Layout & adding Learning Resources-II |
| Day 5 | Creating Moodle Activities: • Assignment, Forum, Quiz Task-5: Submission of LMS- Courseware link & Screen Shot | Sensitization of Augmented training approach using Virtual and Augmented Reality technologies | Course Management & Administration Tools, Course scheduling and Moodle support Achievement Test | Programme Feedback and Valedictory |

10. Assessment method

- Quiz's and tasks
- Prepare a sample Courseware on a topic of your discipline

11. References

- <u>https://moodle.org/, MOODLE- A Learning Management System to develop online learning courseware</u>
- https://swayam.gov.in/, SWAYAM- An Initiative of MHRD, Government of India
