



**CENTER FOR
EXPERIENTIAL LEARNING**
NITTTR BHOPAL



**NATIONAL INSTITUTE OF
TECHNICAL TEACHERS' TRAINING
AND RESEARCH (NITTTR) BHOPAL**

INNOVATING AND TEACHING INTERDISCIPLINARY SKILLS THROUGH TRANSFORMATIVE EXPERIENTIAL LEARNING

The Centre for Experiential Learning is inviting proposals for the development of teaching aids to enhance the learning experience in the classroom. The goal of this initiative is to encourage collaboration between teachers and students to create innovative and effective tools for teaching science and engineering concepts.

The use of teaching aids can enhance the learning experience in the classroom by making the material more interactive and engaging for students. By involving both teachers and students in the development process, we can ensure that the teaching aids are relevant and effective for the curriculum, and that students have a sense of ownership and investment in their learning.

VISION

Innovating and teaching interdisciplinary skills through transformative experiential learning.

MISSION

Our mission will be to explore resources and workshops to help integrate different experiential pedagogical practices into their teaching so that students feel ownership of their learning process in an interconnected world and teachers innovate continuously improving their pedagogical skills.

OPPORTUNITIES

To provide leadership in experiential learning, NITTTR, Bhopal has established a Centre for Experiential Learning (CEL) where all teaching faculty and instructors from technical institutions will be given opportunities to collaborate with us to develop/improve various learning models for effective learning of various scientific and technical topics of interest. These developed modules can essentially be used for experiential learning by the host and other institutions. Once the module's production feasibility is established. The Intellectual Property Rights (IPR) will be registered for NITTTR, and if the faculty member decides to patent it, NITTTR will be one of the recipients/inventors.

OBJECTIVES

The primary objective of experiential learning is to help complete students' preparation for their chosen careers, reinforcing course content and theory, which is the most vital ingredient in modern technical education.

The centre would work with the following objectives;

1. to develop experiments for hands-on experience in choosing and using common scientific, engineering or trades equipment appropriately;
2. to develop motor skills in using scientific, engineering or industrial tools or creative media;
3. to give participants an understanding of the advantages and limitations of laboratory experiments;
4. to enable students to see science, engineering or trade work in action
5. to allow teachers and students to test hypotheses or to see how well concepts, theories, and procedures work when tested under laboratory conditions
6. to train participants on how to design and conduct experiments
7. to design and create objects or equipment in different physical media.



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SCOPE

The academic institutions' most important point in fulfilling the core requirement of experiential learning in technical education is identifying difficulties/deficiencies in any course curriculum's current theoretical and experimental requirements with an open mind. Once such difficulties are identified, some instructors may have a better solution to address this problem, and our goal will be to encourage those instructors who are willing to either provide solutions for missing experiential learning components that he considers necessary to complete effective learning or have any ideas to improve current experimental learning resources that can give students more opportunities to innovate and better learning to make them industry ready. In addition, a modular program on Tinkering, Internships and a Senior Design programme/Design thinking training module for design institutions will be developed.

CENTRE STRUCTURE

- As current faculty members of various departments are supposed to supervise selected projects, the centre of faculty member requirement may be revised if the centre feels the need for direct supervision of projects or development.
- These technical staff will be needed one each in each Prototype laboratory / Test laboratory / Assembly Station / Workshop planned.
- The professor of practice with mixed/versatile experience of Industry/academia will help inventor-teacher in assessing raw materials components and its assembly, technical testing etc.

The Prof I/c CEL will be responsible for getting the proposals examined by an expert committee and arranging the raw material, components, rescaling fabrication related assembly, testing, documentation/IPR creation in coordination with Inventors- Teacher of experiential learning project.

TARGET BENEFICIARIES

Our faculty and staff are already engaged in teaching and learning pedagogy for technical education; therefore, it is expected that they will be leading primary beneficiaries of its highest-end outcome like a registered trade mark and patenting of targeted modern experiential learning teaching aids and at least 2 patents/year are expected as an outcome from local faculty. Faculty and staff members of technical institutions can match this IPR. Still, their contribution is expected to be at least 5 projects/year per discipline in the first and third years of operation. Every year after that, the centre should contribute improvement in at least one project per paper of all science and engineering disciplines with at least five trademarks/patenting in the IPR section. M.Tech. and research scholars at NITTTR will also be encouraged to take on project work related to experiential learning aids related to specialisation topics of their discipline-specific having direct relevance on current demands of those industries or students' interest to go for their start-up in providing teaching aids to their own discipline.

PATRON

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