About the Institute

The National Institute of Engineering (NIE), established in the year 1946, today stands in the band of 151 to 200, among top engineering colleges in the country that include IITs and NITs as per National Institution Ranking Framework (NIRF-2023) announced by Ministry of Human Resources Development (MHRD). It is ranked 17th among India’s top Engineering Colleges, as per survey conducted by The Week. NIE is managed by a registered society and nine out of ten current directors are distinguished alumni of the institute.

NIE is a grant-in-aid Institution and approved by the All India Council for Technical Education (AICTE), New Delhi. NIE got autonomous status from Visvesvaraya Technological University, Belagavi in 2007. It has been accredited by NAAC. All Seven Undergraduate Programmes – Civil Engineering, Mechanical Engineering, Electrical & Electronics Engineering, Electronics & Communication Engineering, Industrial & Production Engineering, Computer Science & Engineering, Information Science & Engineering and three PG Programme – Structural Engineering, Machine Design and Hydraulics have been accredited by the National Board of Accreditation, New Delhi, under Tier-I. It is one of the 14 colleges in Karnataka that has been recognized under MHRD-World Bank sponsored Technical Education Quality Improvement Programme (TEQIP) in all the three phases. All the Departments of NIE are recognized as Research Centre under VTU and AICTE for QIP.

PATRONS
Dr. Ranganath M.S, President, NIE, Mysuru.
Mr. S. B. Udayshankar, Hon. Secretary, NIE, Mysuru.
Dr. R Dattakumar, Hon. Treasurer, NIE, Mysuru.
Dr. Rohini Nagapadma, Principal, NIE, Mysuru.
Dr. M. S. Ganeshprasad, Vice Principal, NIE, Mysuru.
Dr. K. R. Prakash, Professor & Head Department of Mechanical Engineering, NIE, Mysuru.

PROGRAMME COORDINATORS
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Associate Professor
Department of Mechanical Engineering,
The National Institute of Engineering, Mysuru.

Mr. P. K. Samal
Assistant Professor Department of Mechanical Engineering,
The National Institute of Engineering, Mysuru.

ORGANIZING TEAM
Dr. H N Divakar, Chief Mentor NIE AICTE IDEA Lab
Dr. Imran M Jamadar, Coordinator NIE AICTE IDEA Lab
Dr. Anand A, Co-Coordinator NIE AICTE IDEA Lab
Dr. Madhusudan B M, Tech Guru NIE AICTE IDEA Lab
Dr. Rohit K Mathew, Tech Guru NIE AICTE IDEA Lab
Dr. Salila Hegde, Tech Guru NIE AICTE IDEA Lab
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Mr. Nelli Mallikarjuna, Tech Guru NIE AICTE IDEA Lab
Dr. Prithvi C., Assistant Professor, NIE Mysuru
Mr. Allwin Y., Project Associate, NIE Mysuru

The National Institute of Engineering
(An Autonomous Institute under VTU Belagavi)
Mysuru-570008

ISTE Approved One Week Short Term Training Program on
“Design Thinking, Prototyping and Product Commercialization”
(In Hybrid Mode)

4th March to 8th March, 2024

Organized by
NIE-AICTE- IDEA Lab &
Department of Mechanical Engineering
The National Institute of Engineering, Mysuru
(An Autonomous Institute under VTU Belagavi) Mananthavadi Road, Vidyaranyapura, Mysuru, Karnataka–570008
About the Department of Mechanical Engineering

In addition to the B.E. programme, the Department of Mechanical Engineering presently runs three M.Tech programmes under the Autonomous scheme, namely, Industrial Automation & Robotics, Machine Design, and Nanotechnology. The department is recognized as a "Research Centre" by VTU. The highly qualified faculty is actively engaged in research and consultancy works, with their initiative and efforts, the department has secured funding from reputed funding agencies such as the Department of Science & Technology (DST), TEQIP, UGC, AICTE, KCTU, VTU, etc., which has resulted in the establishment of several centers of excellence. Some of the notable ones are the Centre for Materials Research (CMR), Centre for Renewable Energy and Sustainable Technologies (CREST), Centre for Nanotechnology (CNT), Centre for Automation Technologies (CAT), CNC Training Centre, etc. NIE started the M. Tech programme in "Machine Design" in the year 2014. The uniqueness of this programme lies in the curriculum and pattern of education along with state-of-the-art facilities. This Programme is accredited by NBA, New Delhi in 2022.

About NIE-AICTE - IDEA Lab

AICTE-IDEA (Idea Development, Evaluation & Application) Lab is being established at the NIE for encouraging students for application of Science, Technology Engineering and Mathematics (STEM) fundamentals towards enhanced hands-on experience, learning by doing and even product visualization. NIE AICTE IDEA Lab will provide all facilities under one roof, for conversion of an idea into a prototype and these facilities will be available 24x7 in the campus. Students and faculty will be encouraged to take up creative work in and the process, get training on creative thinking, problem solving, collaboration etc.

About the STTP

A short-term training program on Design Thinking, Prototyping, and Product Commercialization is designed to provide participants with skills and knowledge to innovate, prototype, and bring products to market efficiently.

Objectives of the STTP

- To gain a solid understanding of the principles and methodologies of design thinking, emphasizing empathy, ideation, prototyping, and testing
- To cultivate creative thinking and problem-solving skills by engaging participants in hands-on activities and exercises that challenge conventional approaches.
- To understand the importance of rapid prototyping and iteration in the design process, allowing participants to quickly test and refine their ideas based on feedback
- To explore the fundamentals of commercialization, including market analysis, business modeling, and the steps involved in bringing a product or service to market.

Topics to be Covered

- Introduction to Design Thinking, Designing for Empathy
- Design Thinking Process
- Prototyping & Validation
- Implementation & Application
- Commercialization

Who can Participate

Faculty members of the AICTE approved Institutions, Ph.D. Scholars, P.G. Scholars, Participants from Government, Industry (Bureaucrats/Technicians/Participants from Industry etc.) and staff of host Institution may attend the programme.

Resource Persons

- Dr. Bala Ramadhorai, Author – Karmic Design Thinking, International Visiting Professor
- Prof. Sumer Singh, Department of Design IIT, Delhi
- Prof. Harlal Singh Mali, MNIT, Jaipur
- Prof. Charu Monga, Department of Design, IIT Delhi
- Prof. Kiran Tuplondhe, I/C H.O.D. Transportation Design, MIT Institute of Design
- Prof. Kanagaraj, IIT Guwahati

Registration Details

The participants' can register for the programme by making an online payment of Rs. 472/- (400+18% GST),

Account Details:

Beneficiary Name: The National Institute of Engineering,
Account No: 923010025119177
RTGS/NEFT IFSC: UTIB0003705
Account Branch: J P Nagar- Mysuru

Please upload the details of fee paid and participant details in the following Google-form: https://forms.gle/xjxi9hqY8aLnfrKH8

Follow this link to join the WhatsApp group https://chat.whatsapp.com/CUNVKPeTbHuL30xtdjuflG

Participants need to fill the feedback form of all the sessions and complete the test on the last day to avail the certificate.

Important Dates

Last date for registration: 2nd March, 2024

Programme Date: 4th March to 8th March, 2024

Contact Details

Feel free to contact the following faculties for any queries

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ISTE Approved One Week Online STTP on
“Design Thinking, Prototyping and Product Commercialization”
4th March to 8th March 2024

Resource Persons

Session 1: 04/03/2024 [F/N]
Dr. Harlal Singh Mali
Department of Mech. Engg. MNIT, Jaipur

Expertise: Design Thinking for Society-Specific Products and Processes

Session 2: 04/03/2024 [A/N]
Dr. Charu Monga
Department of Design, IIT Delhi

Expertise: Design pedagogy, social innovation, cross-cultural researches on communication, creativity methods

Session 3: 05/03/2024 [F/N]
Dr. Akash Rajan
Founder and CEO @TIERA PVT. LTD.

Expertise: Product design, development & Testing

Session 4: 05/03/2024 [A/N]
Dr. Sumer Singh
Department of Design IIT, Delhi

Expertise: Product Design and Development, Commercialization & Startup

Session 5: 06/03/2024 [F/N]
Dr. Bala Ramadhorai
International Visiting Professor IIT Madras, IIT Gandhinagar, IIT Hyderabad, Symbiosis and IISc Bangalore

Expertise: Karmic Design Thinking
ISTE Approved One Week Online STTP on “Design Thinking, Prototyping and Product Commercialization”
4th March to 8th March 2024

Resource Persons

Session 6: 06/03/2024 [A/N]
Dr. Bala Ramadhorai
International Visiting Professor IIT Madras, IIT Gandhinagar, IIT Hyderabad, Symbiosis and IISc Bangalore

Expertise: Karmic Design Thinking

Session 7: 07/03/2024 [F/N]
Dr. Pradeep Yammiyavar
Dean (Student Welfare), IIT Dharwad

Expertise: Industrial Product Design & Innovation

Session 8: 07/03/2024 [A/N]
Dhanasekar Venkatesan
Senior Manager, System Dynamics, Indo-Pacific Region, Hexagon

Expertise: Design & Engineering, ADAMS

Session 9: 08/03/2024 [F/N]
Suraj Gouda C PolicePatil
Design Engineer, Abhyudaya Tech System, Bengaluru

Expertise: Product Design

Session 10: 08/03/2024 [A/N]
Dr. Kiran Tuplondhe
MIT Institute of Design, MIT-ADT University Pune

Expertise: Transportation Design
The one week Short Term Training Programme (STTP) on “Design Thinking, Prototyping and Product Commercialization” was approved by Indian Society for Technical Education (ISTE) and was being organized by the NIE-AICTE- IDEA Lab & Department of Mechanical Engineering, Machine Design (MMD), NIE, Mysuru. Which provided a platform to understand the concept of Design Thinking Process, Prototyping & Validation, Implementation & Application, and Commercialization etc. The major outcomes of achieved by the participants through this STTP are as follows,

Outcomes of the STTP

- Gained a solid understanding of the principles and methodologies of design thinking, emphasizing empathy, ideation, prototyping, and testing
- Cultivated creative thinking and problem-solving skills by engaging participants in hands-on activities and exercises that challenge conventional approaches.
- Understood the importance of rapid prototyping and iteration in the design process, allowing participants to quickly test and refine their ideas based on feedback
- Explored the fundamentals of commercialization, including market analysis, business modeling, and the steps involved in bringing a product or service to market.
ISTE approved short term training program (STTP) on

**Design Thinking, Prototyping and Product Commercialization**

(ISTE/Proceedings/STTP-SF-KAR-04/2023-24)

Session 1: 04/03/2024 [F/N] Dr. Harlal Singh Mali Department of Mech. Engg. MNIT, Jaipur
Miro https://miro.com/

Ideation Tool: Scamper
What is a startup?

Eric Ries defines it as “a human institution designed to deliver a new product or service under conditions of extreme uncertainty”
INTRO

What do you teach, do research in or study?

Waiting for responses

STARKY OR THANOSHREE?

Which approach do you think you would like to adopt for your teaching?
IDEAS ARE MEANT TO SOLVE PROBLEMS

Mock Scenarios

- Target Customer
- Out of town student
- Principal/Head of your org
- Cleaner/Guard in your org
- Local student
- Dignitary visiting your org
Session 6: 06/03/2024 [A/N] Dr. Bala Ramadhorai
Session 7: 07/03/2024 [F/N] Dr. Pradeep Yammivavar Dean (Student Welfare), IIT Dharwad

Why were there so many spid.
None of the sixty-one courses gives a true picture of either ‘Design’ or ‘Thinking’. 99% is distorted information on D.T.

- Student of a Professor at MIT (US) associated with Design Thinking center, who was at Stanford Design school. Which student is named as the designer of the Stanford innovation process.
- Also a student of Technical University of Berlin, a part of (United States) Stanford Graphene 300.

Cognitive scientist and Nobel Prize winner Herbert A. Simon was the first to mention design as a way of thinking in his 1969 book. The concept of Artificial, Artificial Intelligence and whether human forms of thinking can be synthesized into a topic which is very present in the design world today. AI

Design Thinking lies at the intersection of Desirability, Feasibility, and Viability. Simply put, what this means is that:
1. The first axiom of D.T. is the center as well as the reference for all designing decisions. 
2. The designer mindset is different from the engineering mindset.
3. Customer centered innovation is different from Material centered engineering innovation.
4. Design Thinking is a way of thinking that combines empathy, optimism, iteration, creative confidence, experimentation, and an embrace of ambiguity and failure.

From the website: "Design thinking" to describe the elements of the practice we found the most memorable and teachable -- empathy, optimism, iteration, creative confidence, experimentation, and an embrace of ambiguity and failure.
Design is Problem Solving

What is a Problem in Design?
- It could be a turbine blade in a jet engine?
- It could be a new material with superconducting properties
- It could be a T-shirt for IIT Delhi Culture Club
- It could be a Mobile Interface
- It could be your wedding card
- It could be a pair of sneakers
- It could be a humanoid
- It could be a Building, a garden, a hospital interior
- It could be a new drug molecule.

Design is innovating through problem-solving

A social engineering problem
- It could be the set of ethics for AI
- A Hostel maintenance & repair information system
- It could be a new song, music

Design = Art?
‘Design’ itself is NOT Art.
Art is for self
Design is done for others & is mass produced by manufacture

Design has Art INTEGRAL to it.
Good design is aesthetic, beautiful
Design is neither Engineering, nor art nor social science nor architecture alone
Design is the creative seed contained in all the disciplines
Design has an origin that predate Art and Engineering.
Design is both multidisciplinary as well as interdisciplinary.
Design is an independent trans-discipline
There is as much engineering in Design as there is Design in engineering.
Design Thinking, Prototyping, and Product Commercialization

Transforming ideas into Marketable Products

at NIE, Mysore, 7th March 2024

Dhanasekar Venkatesan
Senior Manager
System Dynamics & Autonomous Hexagon

Indo-Pacific Region, Hexagon Expertise: Design & Engineering, ADAMS
Design Thinking in the Automotive Industry

- Design thinking is a problem-solving methodology that focuses on understanding users' needs and preferences. In the automotive industry, this approach is crucial for creating vehicles and experiences that resonate with customers.