VIGNAN'S
FOUNDATION FOR SCIENCE, TECHNOLOGY & RESEARCH
(Deemed to be University) · Estd. u/s 3 of UGC Act 1956

Department of Electronics and Communication Engineering

Date: 09.01.2025

Minutes of Board of Studies Meeting

Board of Studies (BoS) meeting of B. Tech Electronics and Communication Engineering, B. Tech Electronic Engineering (VLSI Design and Technology), M. Tech VLSI and M. Tech IoT programs was conducted on 08.01.2025 in blended mode from 3.00pm to 4.00pm. The venue for the meeting is VSF-08, CoE, H Block, VFSTR and the virtual meeting link is https://teams.microsoft.com/l/meetup-join/19%3ameeting_OGJlMDJjNmQtMzBmNS00YTQ1LTk3ZjgtN2JhZWE2OTczNjA0%40thread.v2/0?context=%7b%22Tid%22%3a%223b0993d8-31db-4db6-b617-64ac193c7ace%22%2c%22Oid%22%3a%224e5f452c-1e37-411f-99c9-5bfff849fadf%22%7d

Agenda of the BoS Meeting:

1. Ratification of MOOCS/NPTEL Courses for B. Tech & M. Tech Programs
2. B. Tech EE (VLSI Design & Technology) Intake and Future Activities
3. Closure of M. Tech Embedded System
4. CO-PO Attainment Process and Target Fixation
5. Introduction of New Course "DESIGN THINKING AND ENGINEERING ORIENTATION" in C-24
6. Any other points with the permission of Chairperson.

The following members were present either thorough offline or online.

S.No.	Name and designation of the Member	Position	Signature
1.	Dr. P. Sambiaih, Associate Professor and Head, ECE Department, VFSTR	Chairperson	
2.	Prof. Sreehari Rao Patri Professor Department of Electronics & communication Engineering, National Institute of Technology, Warangal - 506004, Telangana, INDIA	External Member (Academic)	Attended in online

	Ph: 9441342324Mail: patri@nitw.ac.in		
3.	Dr. K. Krishna Naik, Associate Professor, Department of Electronics and Communication Engineering, Indian Institute of Information Technology, Design and Manufacturing, Kurnool. Ph: +91-8275203259, Mail: krishnanaik@iiitk.ac.in	External Member (Academic)	Attended in online
4.	Dr. B. Seetha Ramanjaneyulu, Professor, ECE Department, VFSTR	Internal Member	Attended in online
5.	Dr. N. Usha Rani, Professor & Dean-School of Electrical, Electronics and Communication Engg, VFSTR.	Internal Member	Attended in online
6.	Dr. T. Pitchiaiah, Professor, ECE Department, VFSTR	Internal Member	
7.	Dr. M. Sarada, Professor, ECE Department, VFSTR	Internal Member	
8.	Dr. M. Pachiyanan, Assoc. Professor, ECE Department, VFSTR	Nominee (Dean-R&D)	
9.	Dr. K. Annapurna, Assoc. Professor, ECE Department, VFSTR	Internal Member	
10.	Dr. P. J. Reginald, Assoc. Professor, ECE Department, VFSTR	Internal Member	
11.	Dr. P. Vijayalakshmi, Asst. Professor, ECE Department, VFSTR	Internal Member	Attended in online
12.	Dr. P. Krishna Chaitanya, Assoc. Professor, ECE Department, VFSTR	Internal Member	
13.	Dr. B. Jayalakshmi, Asst. Professor, ECE Department, VFSTR	Nominee (Dean-SEECE)	
14.	Dr. G. Pradeep, Asst. Professor, ECE Department, VFSTR	Member Secretary	

The following members have taken leave of absence:

1. Dr. M. S. S. Rukmini, Professor, ECE Department, VFSTR.
2. Dr. Sk. Jakeer Hussain, Professor, ECE Department, VFSTR.
3. Dr. Y. Ravi Sekhar, Professor, ECE Department, VFSTR

Chairperson Dr. P. Sambiaih, Associate Professor and Head, Department of Electronics and Communication engineering, VFSTR opened the meeting by welcoming and introducing the external members. Chairperson presented about the discussion points which emphasis on ratification of MOOCS/NPTEL courses for B.Tech and M.Tech students and increase in the intake of B.tech-EE (**VLSI Design & Technology**) from 30 sets to 60 seats. In addition, closure of . Tech Embedded and syllabus content of the Introduction of New Course "DESIGN THINKING AND ENGINEERING ORIENTATION" in C-24.

The following points were discussed in the BoS meeting:

1. MOOCS/NPTEL Courses for B. Tech & M. Tech Programs
   - In the NPTEL list courses related to Communication systems like MIMO are missing and if it is possible add into the choice basket. With the clarity given by the chairperson that the course suggested by the External Member is 8-week course and not suitable for 3 credit transfer and finally External Members convinced with chairperson explanation.
   - Alternatively, Internal Members took approval from External Members to consider 8-week NPTEL course could compensate the remaining credits with a capstone project for a duration of 4 weeks.
2. B. Tech Electronics Engineering (VLSI Design and Technology) Intake and Future Activities.
   - The intake of B. Tech EE (VLSI Design & Technology) have been increased form 30 seats to 60 seats keeping the demand from the both ends; students interest as well as government initiatives to strengthened the semiconductor industry in INDIA.
   - In line with seats intake increase, the institution initiated an "Industry-Immersion program" to enrich the faculty skills in par with industry demands by sending them to VLSI based Industries over a period of six months and get trained in the advanced tools and emerging areas by providing the necessary arrangements.
3. Closure of M. Tech-Embedded System Program.
   - Chairman inform to the External BoS members that we have started a M. Tech IoT program in align with Industry (Efftronics System Pvt. Ltd, Vijayawada) support and as to the above program covers most of the content of M. Tech-Embedded System and advanced topics are cover in M.Tech IoT program.
   - Prof. Sreehari Rao Patri initially questioned for the close of M.Tech- Embedded Systems program specifying Embedded Systems is a broad area where students will explore more, but with the clarity given by the internal members that more job opportunities in IoT field, External members satisfied.
4. CO-PO Attainment Process and Target Fixation
   - Chairman informed to External Members that CO-PO attainment and Target fixation are in process and finalized shortly.

5. Introduction of New Course "DESIGN THINKING AND ENGINEERING ORIENTATION" in C-24

   As a part of C-24 (Curriculum), we introduced a new course titled with "DESIGN THINKING AND ENGINEERING ORIENTATION" in the 3rd semester for the 2024 batch. The course objectives, COs and POs are discussed with External Members. Prof. Sreehari Rao Patri suggesting few changes in the syllabus content emphases towards Electronics and Communication Engineering.

The following resolutions made after the discussion:

1. BoS Members approved the NPTEL course list. This course list can is provided in Appendix-I.
2. The External members appreciated the initiative step on Industry-Immersion program
3. The M. Tech Embedded Systems course closure is approved.

Based on the suggestions given by the members, the Chairperson of BoS told that, those fruitful suggestions would be incorporated appropriately in the modified syllabus of "DESIGN THINKING AND ENGINEERING ORIENTATION" this will be recommended to the Academic Council of VFSTR for the approval.

There being no further points for discussion, the Chairperson thanked all the external, internal, invited members and announced that the meeting was adjourned.

Member Secretary

Chairperson

HoD, ECE
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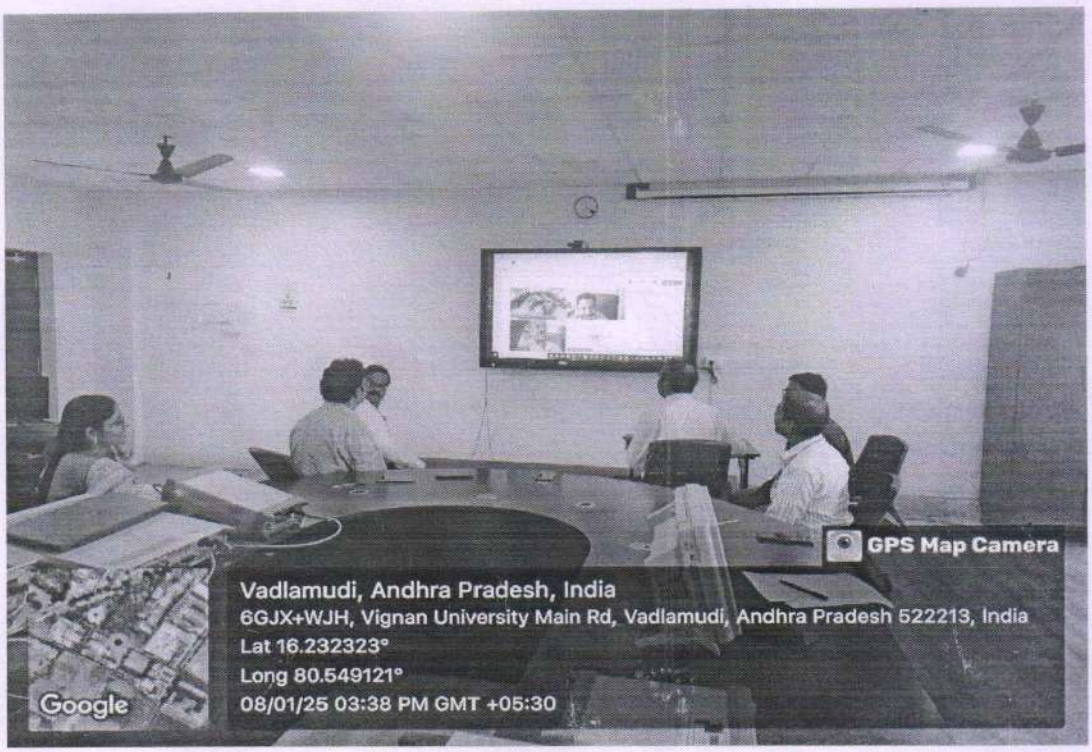
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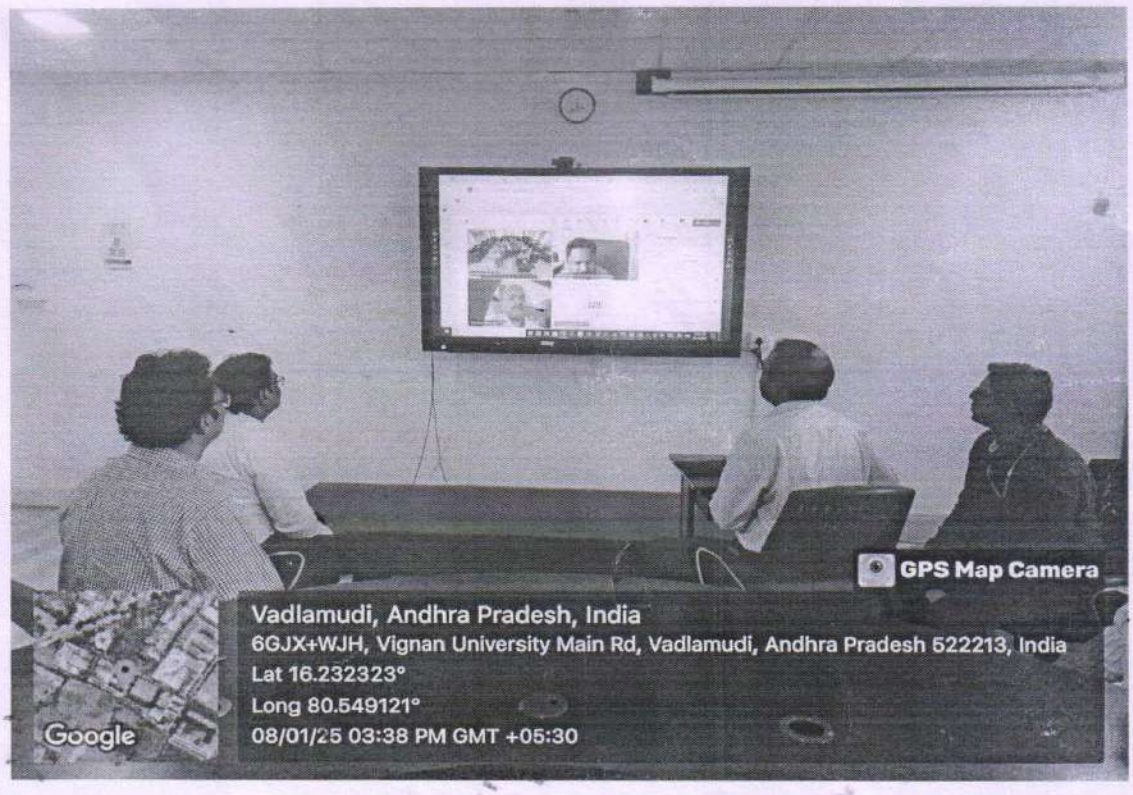
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Appendix-I

NPTEL COURSE LIST

S.No	Course Code	Course Name	Prof. Name & Institution	No of Weeks	No of Credits	Allocation of Course (Year)
1	noc25-cs25	Digital Design with Verilog	Prof. Chandan Karfa & IIT Guwahati	12	3	II
2	noc25-ee18	Design and Analysis of VLSI Subsystems	Prof. Madhav Rao & IIIT Bangalore	12	3	III/IV
3	noc25-ee25	Digital VLSI Testing	Prof. Santanu Chattopadhyay & IIT Kharagpur	12	3	III/IV
4	noc25-cs73	VLSI Physical Design	Prof. Indranil Sengupta & IIT Kharagpur	12	3	IV
5	noc25-ee83	VLSI Physical Design with Timing Analysis	Prof. Bishnu Prasad Das & IIT Roorkee	12	3	M.Tech
6	noc25-ee23	Digital Signal Processing and its Applications	Prof. V. M. Gadre & IIT Bombay	12	3	III
7	noc25-ee52	Multirate DSP	Prof. R. David Koilpillai & IIT Madras	12	3	IV
8	noc25-ee77	Signal Processing Techniques And Its Applications	Prof. Shyamal Das Mandal & IIT Kharagpur	12	3	IV
9	noc25-ee76	Sensors and Actuators	Prof. Hardik Jeetendra Pandya & IISc Bangalore	12	3	II
10	noc25-ee31	Embedded Sensing, Actuation and Interfacing Systems	Prof. Banibrata Mukherjee & IIT Kharagpur	12	3	III

S.No	Course Code	Course Name	Prof. Name & Institution	No of Weeks	No of Credits	Allocation of Course (Year)
11	noc25-ee12	Communication Networks	Prof. Goutam Das & IIT Kharagpur	12	3	IV
12	noc25-ee13	Computer Vision And Image Processing - Fundamentals And Applications	Prof. M. K. Bhuyan & IIT Guwahati	12	3	II
13	noc25-ee51	Modern Computer Vision	Prof. A. N. Rajagopalan & IIT Madras	12	3	III
14	noc25-cs22	Deep Learning for Natural Language Processing	Prof. Pawan Goyal & IIT Kharagpur	12	3	IV
15	noc25-ee73	RF Transceiver Design	Prof. Darshak Bhatt & IIT Roorkee	12	3	III

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24ECXXX - DESIGN THINKING AND ENGINEERING ORIENTATION

Hours per Week:

L	T	P	C
0	0	2	1

PREREQUISITES KNOWLEGE:

- Basics of Circuits, Electronics, and Systems
- Familiarity with problem-solving techniques in engineering.

COURSE DESCRIPTION:

Design Thinking and Engineering Orientation course is a human-centered method of innovation and problem-solving that emphasis on empathy, brainstorming, and experimenting. The foundations of this course, which applies them to the field of electrical and electronic engineering. The goal of the course is to improve students' abilities to design solutions that satisfy user demands while taking sustainability, usability, and functionality into account. In order to improve their ideas for practical uses, students will also learn how to prototype and test them.

MODULE I
INTRODUCTION TO DESIGN THINKING AND PROBLEM DEFINITION

0L+0T+16P = 16 Hours

UNIT - 1

INTRODUCTION TO DESIGN THINKING

Definition of Design Thinking, need for Design Thinking, Objective of Design Thinking, Concepts & Brainstorming, Stages of Design Thinking Process (explain with examples) – Empathize, Define, Ideate, Prototype, Test.

UNIT - 2

PROBLEM DEFINITION AND USER RESEARCH

- Problem Framing: Identifying challenges and defining the scope of the problem.
- User Research Techniques: Interviews, surveys, observations, and persona creation.
- Creating a Problem Statement: Clearly defining the problem and the user needs.
- Understanding Constraints: Technological, economic, and societal constraints in engineering design.

ACTIVITIES:

- Introduction and briefing
- Ice-breaker activity
- Introduction to Design Thinking
- Building empathy for the user

MODULE II
IDEATION AND SKILLS FOR DESIGN

0L+0T+16P = 16 Hours

UNIT - 1

IDEATION AND CONCEPT GENERATION

- Brainstorming Techniques: Divergent and convergent thinking.
- Creative Problem Solving: Tools like SCAMPER, mind mapping, and sketching.

- Selecting and Prioritizing Ideas: Evaluating ideas based on feasibility, viability, and desirability.
- Collaborative Ideation: Working in teams to generate and refine solutions.

UNIT -2
COMMUNICATION SKILLS FOR DESIGN

- Communicating using various media to express an idea in print, electronic, mobile, web, and social media: Visuals, Text, Voice and Audio, Infographics
- General Guidelines for a Good Presentation: Target Audience, Slideshow Templates, Appropriate Visual Elements and Aesthetics, Typography, Presentation Styles.
- General Guidelines for a Good Report: Documentation Classification, Standards, Styles, and Templates.

ACTIVITIES:

Ideation part 1:

Generate ideas and potential solutions (1 hour)
Presentation (5 minutes): What is ideation?
Activity—worst possible idea (10 minutes)
Activity—coming up with solutions (10 minutes)
Activity—sharing ideas and getting feedback (10 minutes)
Activity—refining your solution (10 minutes)
Reflection and discussion (5 minutes)

Ideation part 2:

Presentation (10 minutes): What is a user journey map?
Activity—define the activities and steps in the customer 's experience (15 minutes)
Activity—group the steps into phases (10 minutes)
Activity—adding goals and pain-points (15 minutes)
Sharing user journey maps, reflection and discussion (10 minutes)

COURSE OUTCOMES:

Upon successful completion of this course, students will have the ability to:

CO No.	Course Outcomes	Blooms Level	Module No.	Mapping with POs
1	Understand the key principles of Design Thinking and its importance in engineering design.	Understand	1	1, 2, 3, 10
2	Apply Design Thinking techniques to solve complex engineering problems.	Apply	1	4,7,9
3	Evaluate Develop user-centered solutions for electronic and communication systems.	Evaluate	2	5,6,12

4	Develop project management skills in a multidisciplinary environment.	Create	2	1, 2, 3, 6, 11, 12

TEXT BOOK:

1. E. Balagurusamy, Developing Thinking Skills (The Way to Success), Khanna Publishing House, 2024.

REFERENCE BOOKS:

1. Dieter, G. E, Engineering design: A materials and processing approach. McGraw-Hill Education, 6th Edition,2022.
2. Norman, D. A, Design of Everyday Things: Revised and Expanded. New York: Basic Books, 2013.

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