Vidya Pratishthan's
Kamalnayan Bajaj Institute of Engineering and Technology, Baramati.
(An Autonomous Institute)

Faculty of Science and Technology

Board of Studies

Computer Engineering

Syllabus

Open Elective

(Pattern 2025)
(w.e.f. AY: 2026-27)

Syllabus: Open Electives Computer Engineering

(Pattern 2025) w.e.f. AY:2026-2027

Course Code	Courses Name	Teaching Scheme			Examination Scheme and Marks						Credits			
		TH	PR	TUT	Activity	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
OE25008	Intellectual Property Rights	2	-	-	-	-	50	-	-	-	50	2	-	-	2
OE25015	Design Thinking	2	-	-	-	-	50	-	-	-	50	2	-	-	2

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Academic Coordinator

Dr. A. M. Jagtap
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28/03/2026
Dr. S. M. Bhosle
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Dr. S. B. Lande
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Principal
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VPKBIET BARAMATI
Affiliated to S.P.P.U: Pune
Id No./PU/PN/Engg./152/2000
PUNE (MS.)

OE2508: Intellectual Property Rights

Teaching Scheme:	Credit: 02	Examination Scheme:
TH: 02 Hrs/Week		End-Semester: 50 Mark

Course Objective:

1. To encourage research, scholarship, and a spirit of inquiry
2. To encourage students at all levels to develop patentable technologies.
3. To provide environment to the students of the Institute for creation, protection, and commercialization of intellectual property and to stimulate innovation.

Course Outcomes: Students will be able to

1. Understand the fundamental legal principles related to confidential information, copyright, patents, designs, trademarks and unfair competition
2. Identify, apply and assess principles of law relating to each of these areas of intellectual property
3. Apply the appropriate ownership rules to intellectual property you have been involved in creating

Course Contents

Mapping of Course Outcomes for Unit I		CO1
UNIT I	**Introduction to Intellectual Property Law**	**06 Hours**

Introduction to Intellectual Property Law – The Evolutionary Past , The IPR Tool Kit, Para Legal Tasks in Intellectual Property Law, Meaning of property, Origin, Nature, Meaning of Intellectual Property Rights,
Kinds of Intellectual property rights—Copy Right, Patent, Trade Mark, Trade Secret and trade dress, Design, Layout Design, Geographical Indication, Plant Varieties and Traditional Knowledge

Mapping of Course Outcomes for Unit II		CO1
UNIT II	**Introduction to Trade mark**	**06 Hours**

Introduction to Trade mark— Origin, Meaning & Nature of Trade Marks, Types, Registration of Trade Marks, Infringement & Remedies, Offences relating to Trade Marks, Passing Off, Penalties Trade mark Registration Process, Post registration Procedures, Trade mark maintenance, Transfer of Rights, Inter parts Proceeding , Infringement , Dilution Ownership of Trade mark

Mapping of Course Outcomes for Unit III		CO2
UNIT III	**Introduction to Copyrights**	**06 Hours**

Introduction to Copyrights, Origin, Definition &Types of Copy Right, Registration procedure , Principles of Copyright Principles, The subjects Matter of Copy right, The Rights Afforded by Copyright Law, Copy right Ownership, Transfer and duration , Right to prepare Derivative works

Mapping of Course Outcomes for Unit IV		CO3
UNIT IV	**Introduction to Trade Secret and IT Act 2000**	**06 Hours**

Introduction to Trade Secret, Maintaining Trade Secret, Physical Security, Employee Limitation, Employee confidentiality agreement,
Basic of Information Technology Act-2000 – IT Act - Introduction E-Commerce and legal provisions E- Governance and legal provisions Digital signature and Electronic Signature. Cybercrimes,

Books and Other Resources

Text Books:

1. Debirag E. Bouchoux: “Intellectual Property” Cengage learning , New Delhi, ISBN10:1111648573

2. Ferrera, Reder, Bird, Darrow, “Cyber Law. Texts & Cases”, South-Western‘s Special Topics Collections, ISBN:0-324-39972-3
3. Prabhuddha Ganguli: “Intellectual Property Rights” Tata Mc-Graw –Hill, New Delhi, ISBN10:0070077177
4. Intellectual Property Rights and the Law, Gogia Law Agency, by Dr. G.B. Reddy
5. Law relating to Intellectual Property, Universal Law Publishing Co, by Dr. B.L.Wadehra

OE25015: DESIGN THINKING		
Teaching Scheme: TH: 02 Hrs/Week	**Credit: 02**	**Examination Scheme:** End-Semester: 50 Mark

Course Objective:

- To impart knowledge on design thinking process for understanding complex designs.
- To provide design skills to analyse design thinking issues and apply the tools and techniques of design.
- To inculcate attitude to solve societal problems using design thinking tools.

Course Outcomes: Students will be able to

CO1: Analyse design thinking concepts and principles to perform human centered design process for creative problem solving.

CO2: Create empathy maps to visualize user attitudes and behaviour for gaining insights of customers and convert into actionable problem statement.

CO3: Utilize ideation techniques to design and develop innovative products or services tailored to meet the needs of a specific customer base.

CO4: Design, prototype, and test user-centered solutions through iterative cycles

Course Contents

Mapping of Course Outcomes for Unit I	CO1	
UNIT I	**INTRODUCTION TO DESIGN THINKING**	**06 Hours**

Design Thinking Process: Types of the thinking process, Common methods to change the human thinking process.

Introduction to Design Thinking: Definition and Importance, History and Evolution of Design Thinking, Importance of design thinking, Design vs Design thinking, Traditional vs. Design Thinking Approach, the need of design thinking; An approach to design thinking, Design thinking Process model

Mapping of Course Outcomes for Unit II	CO2	
UNIT II	**EMPATHIZE AND DEFINE**	**06 Hours**

Introduction to Empathy in Design Thinking: Importance of empathy in problem-solving, Understanding user-centric design. User Research Techniques-Conducting interviews and surveys, Observation techniques (shadowing, contextual inquiry). Empathy Mapping & Persona Development.

Define: Synthesizing Research Findings, Framing the Problem Statement, Tools and Techniques for Problem Definition

Mapping of Course Outcomes for Unit III	CO3	
UNIT III	**IDEATION**	**06 Hours**

Challenges in idea generation, need for systematic method to connect to user, Visualize, Empathize, and Ideate method, Importance of visualizing and empathizing before ideating, Applying the method, Ideation Tools: How Might We? (HMW), Brainstorming, Mind Mapping, SCAMPER, and Crazy 8s

Mapping of Course Outcomes for Unit IV	CO4	
UNIT IV	**PROTOTYPING AND TESTING**	**06 Hours**

Definition of Prototype- Prototyping as a mindset, prototype examples, prototyping for products; Why we prototype? Fidelity for prototypes, Process of prototyping- Minimum Viable prototype

Testing: Definition and purpose of testing in the design process, the relationship between testing and prototyping, Methods for testing prototypes (Usability testing, A/B testing, etc.), Collecting feedback from real users.

Books and Other Resources

Text Books:

1. S.Salivahanan, S.Suresh Kumar, D.Praveen Sam, "Introduction to Design Thinking",Tata Mc Graw Hill, First Edition,2019.
2. Kathryn McElroy, "Prototyping for Designers: Developing the best Digital and Physical Products", O'Reilly,2017
3. Michael G. Luchs, Scott Swan , Abbie Griffin,"Design Thinking – New Product Essentials from PDMA", Wiley, 2015.
4. Vijay Kumar, "101 Design Methods: A Structured Approach for Driving Innovation in Your Organization", 2012.

Reference Books:

1. Design Thinking: Understanding How Designers Think and Work by Nigel Cross.
2. Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation" by Tim Brown
3. Design Thinking for Visual Communication" by Ranjan Nayar and Jaidip Subedi.
4. The Design of Everyday Things" by Don Norman• "Design Thinking: Creativity and Innovation" by S. Balaram.
5. Creative Confidence: Unleashing the Creative Potential Within Us All" by Tom Kelley and David Kelley (with a foreword by Ratan Tata)

ADDITIONAL LEARNING RESOURCES:

1. https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process
2. https://www.ibm.com/design/thinking/page/toolkit
3. https://www.interaction-design.org/literature/article/define-and-frame-your-design-challenge-by-creating-your-point-of-view-and-ask-how-might-we
4. https://hbr.org/2018/09/design-thinking-is-fundamentally-conservative-and-preserves-the-status-quo
5. https://hbr.org/2018/09/why-design-thinking-works
6. https://hbr.org/2015/09/design-thinking-comes-of-age
7. https://www.culturepartnership.eu/en/article/ten-tools-for-design-thinking
8. https://nptel.ac.in/courses/109/104/109104109/
9. https://nptel.ac.in/courses/110106124/