

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING - CYBER SECURITY

COURSE MODULE OF THE SUBJECT TAUGHT FOR THE SESSION 2026-27 - (ODD SEM)

Course Syllabi with CO's

Faculty Name: Prof. Yogesh N				Academic Year: 2026 - 2027			
Department: Computer Science & Engineering – Cyber Security							
Course Code	Course Title	Core / Elective	Prerequisite	Contact Hours			Total Hrs/
				L	T	P	
BRMK557	Research Methodology & IPR	Core		3	0	0	40 Hrs
Course Objectives	1. To Understand the knowledge on basics of research and its types. 2. To Learn the concept of Literature Review, Technical Reading, Attributions and Citations. 3. To learn Ethics in Engineering Research. 4. To Discuss the concepts of Intellectual Property Rights in engineering.						
Topics Covered as per Syllabus							
Module-1 Introduction: Meaning of Research, Objectives of Engineering Research, and Motivation in Engineering Research, Types of Engineering Research, Finding and Solving a Worthwhile Problem. Ethics in Engineering Research, Ethics in Engineering Research Practice, Types of Research Misconduct, Ethical Issues Related to Authorship.							
Module-2 Literature Review and Technical Reading: New and Existing Knowledge, Analysis and Synthesis of Prior Art Bibliographic Databases, Web of Science, Google and Google Scholar, Effective Search: The Way Forward Introduction to Technical Reading Conceptualizing Research, Critical and Creative Reading, Taking Notes While Reading, Reading Mathematics and Algorithms, Reading a Datasheet. Attributions and Citations: Giving Credit Wherever Due, Citations: Functions and Attributes, Impact of Title and Keywords on Citations, Knowledge Flow through Citation, Citing Datasets, Styles for Citations, Acknowledgments and Attributions, What Should Be Acknowledged, Acknowledgments in, Books Dissertations, Dedication or Acknowledgments.							

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING - CYBER SECURITY

Module-3

Introduction To Intellectual Property: Role of IP in the Economic and Cultural Development of the Society, IP Governance, IP as a Global Indicator of Innovation, Origin of IP History of IP in India, Major Amendments in IP Laws and Acts in India.

Patents: Conditions for Obtaining a Patent Protection, To Patent or Not to Patent an Invention, Rights Associated with Patents. Enforcement of Patent Rights, Inventions Eligible for Patenting, Non-Patentable Matters, Patent Infringements, Avoid Public Disclosure of an Invention before Patenting, Process of Patenting.

Process of Patenting: Prior Art Search, Choice of Application to be Filed, Patent Application Forms, Jurisdiction of Filing Patent Application, Publication, Pre-grant Opposition, Examination, Grant of a Patent, Validity of Patent Protection, Post-grant Opposition, Commercialization of a Patent, Need for a Patent Attorney/Agent, Can a Worldwide Patent be Obtained? Do I Need First to File a Patent in India? Patent Related Forms, Fee Structure, Types of Patent Applications, Commonly Used Terms in Patenting, National Bodies Dealing with Patent Affairs, Utility Models.

Module-4

Copyrights and Related Rights: Classes of Copyrights, Criteria for Copyright, Ownership of Copyright, Copyrights of the Author, Copyright Infringements, Copyright Infringement is a Criminal Offence, Copyright Infringement is a Cognizable Offence, Fair Use Doctrine, Copyrights and Internet, Non-Copyright Work, Copyright Registration, Judicial Powers of the Registrar of Copyrights, Fee Structure, Copyright Symbol. Validity of Copyright, Copyright Profile of India, Copyright and the word 'Publish', Transfer of Copyrights to a Publisher, Copyrights and the Word 'Adaptation', Copyrights and the Word 'Indian Work', Joint Authorship, Copyright Society, Copyright Board, Copyright Enforcement Advisory Council (CEAC), International Copyright Agreements, Conventions and Treaties, Interesting Copyrights Cases.

Trademarks: Eligibility Criteria, Who Can Apply for a Trademark, Acts and Laws, Designation of Trademark Symbols, Classification of Trademarks, Registration of a Trademark is Not Compulsory, Validity of Trademark, Types of Trademark Registered in India, Trademark Registry, Process for Trademarks Registration, Prior Art Search, Famous Case Law: Coca-Cola Company vs. Bisleri International Pvt. Ltd.

Module-5

Industrial Designs: Eligibility Criteria. Acts and Laws to Govern Industrial Designs, Design Rights, Enforcement of Design Rights, Non-Protectable Industrial Designs India, Protection Term, Procedure for Registration of Industrial Designs, Prior Art Search, Application for Registration, Duration of the Registration of a Design, Importance of Design Registration, Cancellation of the Registered Design, Application Forms, Classification of Industrial Designs, Designs Registration Trend in India, International Treaties, Famous Case Law: Apple Inc. vs. Samsung Electronics Co.

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING - CYBER SECURITY

Geographical Indications: Acts, Laws and Rules Pertaining to GI, Ownership of GI, Rights Granted to the Holders, Registered GI in India, Identification of Registered GI, Classes of GI, Non-Registerable GI, Protection of GI, Collective or Certification Marks, Enforcement of GI Rights, Procedure for GI Registration Documents Required for GI Registration, GI Ecosystem in India.

Case Studies on Patents: Case study of Curcuma (Turmeric) Patent, Case study of Neem Patent, Case study of Basmati patent. IP Organizations In India. Schemes and Programmes.

List of Textbooks

Textbook:

1. Dr. Santosh M Nejekar, Dr. Harish Bendigeri "Research Methodology and Intellectual Property Rights", ISBN 978-93-5987-928-4, Edition: 2023-24.

Reference Book:

1. David V. Thiel "Research Methods for Engineers" Cambridge University Press, 978-1-107-03488-4.
2. Intellectual Property Rights by N.K.Acharya Asia Law House 6th Edition. ISBN: 978-93-81849-30-9.

Course Outcomes

1. Know the meaning of engineering research.
2. Know the procedure of the literature Review and Technical Reading.
3. Understand the fundamentals of the patent laws and drafting procedure.
4. Understanding the copyright laws and subject matters of copyrights and designs.
5. Understanding the basic principles of design rights.

Internal Assessment Marks:

- The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%.
- The minimum passing mark for the CIE is 40% of the maximum marks (20 marks out of 50) and for the SEE minimum passing mark is 35% of the maximum marks (18 out of 50 marks).
- The student is declared as a pass in the course if he/she secures a minimum of 40% (40 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together.

Continuous Internal Evaluation:

- There are 25 marks for the CIE's Assignment component and 25 for the Internal Assessment Test component.
- Each test shall be conducted for 25 marks. The first test will be administered after 40-50% of the coverage of the syllabus, and the second test will be administered after 85-90% of the coverage of the syllabus. The average of the two tests shall be scaled down to 25 marks.

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING - CYBER SECURITY

- Any two assignment methods mentioned in the 220B2.4, if an assignment is project-based then only one assignment for the course shall be planned. The schedule for assignments shall be planned properly by the course teacher. The teacher should not conduct two assignments at the end of the semester if two assignments are planned. Each assignment shall be conducted for 25 marks. (If two assignments are conducted then the sum of the two assignments shall be scaled down to 25 marks).
- The final CIE marks of the course out of 50 will be the sum of the scale-down marks of tests and assignment/s marks.

The Correlation of Course Outcomes (CO's) and Program Outcomes (PO's)

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Subject Code:	BMRK557	Title: Research Methodology & IPR						Faculty Name:	Prof. Yogesh N			
List of Course Outcomes	Program Outcomes											Total
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	
CO-1	2	-	-	-	-	2	-	-	-	-	2	6
CO-2	2	2	-	-	-	2	-	-	-	-	2	8
CO-3	2	-	2	-	-	2	2	-	-	-	3	11
CO-4	2	-	2	-	-	2	2	-	-	-	3	11
CO-5	2	-	-	2	-	2	2	-	-	-	3	11
Total	10	2	4	2	-	10	6	-	-	-	13	47

Note: 3 = Strong Contribution, 2 = Average Contribution, 1 = Weak Contribution, - = No Contribution

The Correlation of Course Outcomes (CO's) and Program Specific Outcomes (PSO's)

Subject Code:	BRMK557	Title: Research Methodology & IPR			Faculty Name:	Prof. Yogesh N
List of Course Outcomes	Program Specific Outcomes				Total	
	PSO-1	PSO-2	PSO-3			
CO-1	-	-	-	-		
CO-2	-	-	-	-		
CO-3	-	-	-	-		
CO-4	-	-	-	-		
CO-5	-	-	-	-		
Total	-	-	-	-		