

Branch Name:	Bachelor of Technology (Computer Engineering / Information Technology)
Program Code:	ET103/ET105
Course Title:	Elective -V Theory: Cyber Ethics and Responsible AI
Course Code:	2ET1030709T
Pre-requisite Course:	Basic knowledge of Computer Networks, Operating Systems

Course Objectives: This course aims to develop students' understanding of ethical principles, responsible digital behavior, and the societal impact of emerging technologies, particularly Artificial Intelligence. It enables students to identify and evaluate ethical, privacy, security, and fairness issues in AI-driven systems while promoting responsible decision-making. The course also introduces students to AI governance, transparency, accountability, and best practices for the ethical development and use of intelligent technologies.

Teaching and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								Total (Marks)
					Theory (Marks)				Practical (Marks)				
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
3	3	-	-	3	24	60	16	40	-	-	-	-	100

Course Contents:

Unit No	Topics	Total Hours	Weightage (%)
1	Foundations of Cyber Ethics and Digital Society: Introduction to Ethics and Applied Ethics, Moral Philosophy for Technology, Consequentialism, Deontology, Virtue Ethics, Cyber Ethics: Meaning, Scope and Importance, Digital Citizenship and Digital Responsibility, Ethics in Information Systems, Professional Ethics in Computing, Ethical Decision-Making Models, Impact of Emerging Technologies on Society Case Studies: Cambridge Analytica Facebook Data Misuse Pegasus Surveillance Controversy	8	18%
2	Privacy, Security and Ethical Challenges in Digital World: Information Privacy Concepts, Data Collection and Data Ownership, Consent and User Rights, Digital Surveillance and Monitoring, Cybercrime and Ethical Implications, Ethical Hacking vs Malicious Hacking, Social Engineering and Manipulation, Dark Patterns in User Interface Design, Data Breaches and Corporate Responsibility, Intellectual Property Rights in Digital Environments, Ethical Issues in Social Media Platforms	9	20%
3	Introduction to Responsible AI: Evolution of Artificial Intelligence Types of AI, AI Development Lifecycle, Introduction to Responsible AI?, Core Principles of Responsible AI, Human-Centered AI, Trustworthy AI Concepts, Ethical Risks in AI Systems	10	22%
4	Bias, Fairness and Explainability in AI: Understanding Algorithmic Bias, Sources of Bias, Fairness Metrics, Discrimination in AI Systems, Explainable AI (XAI), Interpretable Machine Learning, Human Oversight in AI Systems, Ethical AI Design Strategies, AI Auditing and Risk Assessment Case Studies: Amazon AI Recruitment Bias COMPAS Recidivism Prediction System Facial Recognition Misidentification Cases	9	20%

5	AI Governance, Law and Future Challenges: AI Governance Frameworks, Risk-Based AI Regulation, AI Ethics Guidelines, International AI Policies, AI and Human Rights, Deepfakes and Synthetic Media, AI Generated Content and Copyright, AI in Healthcare, Finance and Criminal Justice, Autonomous Systems and Ethical Concerns, AI Safety and Alignment, Future of Artificial General Intelligence (AGI), Sustainable and Responsible Innovation	9	20%
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Reference Books:

1. Cyberethics: Morality and Law in Cyberspace by Richard A. Spinello and Herman T. Tavani
2. Ethics of Artificial Intelligence and Robotics by Vincent C. Müller
3. Artificial Intelligence: A Modern Approach by Stuart Russell
4. Ethics for the Information Age by Michael J. Quinn

List of Open-Source Software/learning website:

1. NIST AI Risk Management Framework
2. OECD AI Principles
3. UNESCO Recommendation on the Ethics of AI

Course Outcomes (CO):

Course Outcomes	Description	Bloom's Taxonomy Level
CO1	Explain cyber ethics principles, digital responsibility, and professional conduct in computing environments.	Understanding (2)
CO2	Analyze privacy, security, surveillance, and ethical challenges in digital ecosystems.	Analyze (4)
CO3	Apply Responsible AI principles to identify and mitigate risks in AI systems.	Apply (3)
CO4	Evaluate AI bias, fairness, transparency, and explainability mechanisms in intelligent systems.	Evaluate (5)
CO5	Assess AI governance frameworks, legal regulations, and societal impacts to promote trustworthy AI deployment.	Evaluate (5)

Mapping of CO with PO and PSO

Course Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
CO1	H	M	-	-	L	M	-	H	-	-	-	M	M	L	L	H
CO2	M	H	-	H	H	-	-	M	-	M	-		H	M	L	M
CO3	M	H	-	H	H	-	-	-	-	-	-	L	H	M	M	L
CO4	M	H	M	H	H	-	-	-	-	-	-	L	H	H	H	L
CO5	M	H	H	H	H	L	-	-	M	M	M	M	H	H	H	M

H: High, M: Medium, L: Low