

Branch Name:	Bachelor of Technology (Computer Engineering / Information Technology)
Program Code:	ET103/ET105
Course Title:	Elective -V Practical: Cyber Ethics and Responsible AI Practical
Course Code:	2ET1030709P
Pre-requisite Course:	Basic knowledge of Computer Networks, Operating Systems

Course Objectives: This laboratory course aims to provide students with practical exposure to the ethical, social, and responsible use of Artificial Intelligence technologies. Students will explore the capabilities and limitations of AI systems, evaluate issues related to bias, privacy, transparency, misinformation, and digital responsibility, and apply Responsible AI principles to assess real-world AI applications and emerging digital technologies.

Teaching and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								
					Theory (Marks)				Practical (Marks)				Total (Marks)
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
1	-	-	2	2	-	-	-	-	10	25	10	25	50

List of Experiments:

S.N.	Practical Exercise
1	Explore the Capabilities and Limitations of Generative AI Systems.
2	Evaluate the Accuracy and Reliability of AI-Generated Information.
3	Demonstrate Prompt Injection Attacks and Analyze Their Impact on Large Language Models.
4	Analyze AI Responses Across Different Demographic Scenarios to Identify Potential Bias.
5	Examine Ethical Issues Associated with AI-Generated Media.
6	Detect Indicators of AI-Generated and Manipulated Media.
7	Analyze Data Collection Practices through Mobile Application Permissions.
8	Examine Data Collection and Privacy Practices through Privacy Policies.
9	Assess an AI Application Using Responsible AI Principles and the NIST AI Risk Management Framework.
10	Explore Safety Mechanisms in Large Language Models and Analyze the Concept of AI Jailbreaking.

Reference Books:

1. Responsible Artificial Intelligence: How to Develop and Use AI in a Responsible Way by Virginia Dignum
2. Ethics for the Information Age by Michael J. Quinn
3. Weapons of Math Destruction by Cathy O'Neil
4. Atlas of AI by Kate Crawford

List of Open-Source Software/learning website:

1. Elements of AI
2. Google Responsible AI Resources
3. NIST AI Risk Management Framework
4. OECD AI Principles
5. UNESCO Recommendation on the Ethics of AI

Course Outcomes (CO):

Course Outcomes	Description	Bloom's Taxonomy Level
CO1	Demonstrate the capabilities, limitations, and practical applications of Generative AI systems through hands-on experimentation.	Understand (2)
CO2	Analyze AI-generated content to identify inaccuracies, hallucinations, bias, and ethical concerns in digital environments.	Analyze (4)
CO3	Apply responsible AI principles to evaluate the ethical use of AI technologies and assess privacy-related practices.	Apply (3)
CO4	Examine manipulated media, AI-generated content, and demographic response variations to evaluate fairness and transparency in AI systems.	Analyze (4)
CO5	Assess AI applications using Responsible AI frameworks and recommend measures for trustworthy and ethical 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