Course Code & Name	26CAVA2001 Professional Ethics & Sustainability		
Teaching Hours /week (L: T:P: R)	3:0:0:0	Credits	1
CIE Marks	100	ESE Marks	0
Course Type	Value Added Course (VAC)	Exam Hours	-
Prerequisites (if any)	-		

Course Objectives:

1. To familiarize students with the fundamental principles of professional ethics and moral responsibility.
2. To promote awareness of sustainable practices and their importance in professional and personal life.
3. To develop ethical decision-making skills in organizational and environmental contexts.
4. To understand the interconnection between ethics, sustainability, and social responsibility.

Course Outcomes (COs)

At the end of the course students should be able to:

CO#	Course Outcome	Bloom's Knowledge Level (KL)
CO 1	Explain the principles of professional and computer ethics and their application in digital environments.	2
CO 2	Apply ethical frameworks to real-world IT issues such as privacy, cybersecurity, and AI bias.	3
CO 3	Describe sustainability concepts relevant to computing—energy efficiency, e-waste, and green IT	2
CO 4	Analyze the role of IT professionals in promoting ethical, inclusive, and sustainable technological development.	4

Note: *K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create*

CO-PO Mapping Table (Mapping of Course Outcomes to Program Outcomes)

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1	-	1	-	-	1	-	3	1
CO 2	-	3	2	-	1	-	3	2
CO 3	-	1	3	-	1	-	2	2
CO 4	-	2	2	-	2	-	3	3

Note: *1: Slight (Low), 2: Moderate (Medium), 3: Substantial (High), - : No Correlation*

Course Assessment Method

(CIE: 100 marks)

Continuous Internal Evaluation Marks (CIE)

Attendance	Assignment/ Micro-project	Internal Examination-1 (Written)	Internal Examination- 2 (Written)	Total
15	**25**	**30**	**30**	**100 Marks**

SYLLABUS

Module #	Syllabus Description	Contact Hours
1	Professional Ethics in the Digital Era Fundamentals of ethics: morality, values, and responsibility. Professional ethics in computing: ACM/IEEE Code of Ethics. Integrity in software development, research, and innovation; plagiarism and intellectual honesty. Cyber ethics: privacy, data protection, intellectual property, digital piracy. Gender equity and diversity in technology professions; ethical workplace practices.	**6**
2	Ethical Decision-Making and Responsible Technology Ethical theories and frameworks: utilitarianism, deontology, virtue ethics, rights theory. Ethical decision-making models in IT and AI. Case studies: data misuse, AI bias, cybercrimes, whistleblowing,	**6**

	algorithmic accountability. Digital citizenship and social responsibility in online communities. Ethical issues in social media, big data, and surveillance.	
3	Sustainability in Computing and Digital Infrastructure Introduction to sustainability and the triple-bottom-line concept. Green computing and energy-efficient technologies. E-waste management and circular economy in IT hardware. Sustainable software design and green data centres. Case studies: green cloud computing, sustainable campus IT practices.	**6**
4	Ethics, Technology, and Sustainable Development Role of IT in achieving Sustainable Development Goals (SDGs). Digital inclusion, accessibility, and bridging the digital divide. Climate change, environmental monitoring, and ICT solutions. Corporate Social Responsibility (CSR) and ESG in technology firms. Case studies: ethical and sustainable technology initiatives in India and globally.	**8**

Reference Books

Sl. No	Title of the Book	Name of the Author/s	Name of the Publisher	Edition & Year
1	Professional Ethics	R. Subramanian	Oxford University Press, India	2nd Ed., 2017
2	Ethics in Information Technology	George W. Reynolds	Cengage Learning	4th Ed., 2018
3	Ethics in Engineering Practice and Research	Caroline Whitbeck	Cambridge University Press	2nd Ed., 2011
4	Professional Ethics and Human Values	R. S. Naagarazan	New Age International	2006
5	Harnessing Green IT: Principles and Practices	San Murugesan & G. R. Gangadharan	Wiley India	1st Ed., 2012
6	Sustainability Science	Bert J. M. de Vries	Cambridge University Press	2nd Ed., 2023

Web References/ Video Links (NPTEL, SWAYAM…)	
Sl. No	**Link ID**
1	NPTEL. (n.d.). Ethics in Engineering Practice. Indian Institute of Technology Kanpur. Retrieved from https://nptel.ac.in/courses/109/104/109104068
2	SWAYAM. (n.d.). Ethics in Artificial Intelligence and Data Science. Indian Institute of Technology Madras. Retrieved from https://swayam.gov.in/AICTE-NPTEL
3	NPTEL. (n.d.). Environmental Sustainability. Indian Institute of Technology Madras. Retrieved from https://nptel.ac.in/courses/120/108/120108006
4	SWAYAM. (n.d.). Corporate Social Responsibility (CSR). Indian Institute of Technology Madras. Retrieved from https://swayam.gov.in/nd1_noc23_mg13
5	SWAYAM / NPTEL. (n.d.). Sustainability through Green Manufacturing Systems. Indian Institute of Technology Kharagpur. Retrieved from https://nptel.ac.in/courses/110/105/110105151
6	IGNOU e-GyanKosh. (n.d.). Environmental Studies and Sustainability. Indira Gandhi National Open University. Retrieved from https://egyankosh.ac.in
7	Spoken Tutorial (IIT Bombay). (n.d.). Professional Ethics and Computer Responsibility. Retrieved from https://spoken-tutorial.org
8	United Nations. (n.d.). Sustainable Development Goals (SDGs) – Knowledge Platform. United Nations Development Programme (UNDP). Retrieved from https://sdgs.un.org/goals

Course Level Assessment Questions

Course Outcome 1 (CO1):

1. Explain the differences between personal ethics and professional ethics in the context of computing. Provide an example from workplace practice.
2. The ACM/IEEE Code of Ethics outlines principles such as “avoid harm” and “be honest and trustworthy.” Discuss how these can be applied when developing or maintaining a software product.

Course Outcome 2 (CO2):

1. Using the utilitarian and deontological approaches, evaluate a scenario where a social media platform collects user data for targeted advertising.
2. An AI recruitment tool is found to favor certain groups over others. Apply an ethical decision-making model to suggest corrective actions.

Course Outcome 3 (CO3):

1. What is green computing? Explain how adopting green IT practices can contribute to sustainability in a computer lab or data center.
2. Discuss the environmental impact of electronic waste (e-waste). Suggest sustainable methods for its reduction and recycling within IT industries.

Course Outcome 4 (CO4):

1. Imagine you are part of a software development team working on a government e-service platform. How would you ensure inclusivity, data privacy, and sustainability throughout the project?
2. Examine the contribution of IT professionals in achieving Sustainable Development Goals (SDGs) through responsible innovation and digital inclusion initiatives.

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