

Course Code	Course Name	Credits
26HS513	INFORMATION REVOLUTION: TRANSFORMATION THROUGH AI	04

Course Objectives

- To understand the evolution of the Information Revolution from early communication systems to modern digital technologies.
- To introduce the fundamental concepts of Machine Learning, neural networks, and Generative AI.
- To examine the role and impact of AI in economy, employment, governance, and various sectors.
- To study the ethical, social, and political issues related to AI, including bias, privacy, and misinformation.
- To understand future developments in AI with emphasis on human–AI collaboration and emerging challenges.

Learning Outcomes

Upon successful completion of this course it is intended that a student will be able to:

- Explain the evolution of information systems from early human societies to the digital age and examine the role of myths, religion, ideologies, and Dataism in shaping human networks.
- Differentiate and apply key Machine Learning approaches (supervised, unsupervised, reinforcement learning) and explain neural networks and Generative AI.
- Evaluate the socio-economic transformations driven by AI, including automation, personalization, predictive analytics, employment, and inequality.
- Analyze ethical, political, and societal challenges of AI such as bias, surveillance, misinformation, and data power concentration.
- Develop future perspectives of AI including multimodal systems, agentic AI, and human–AI collaboration, with attention to sustainability and global challenges.

Unit 1 - Foundations of Information Revolution (12 Hrs.)

Meaning of Information Revolution; Historical Evolution of Information; Technologies: Stone Age Stories to Printing Press; large-scale human networks: myths, religion and ideologies; Dataism.

Unit 2 – Introduction to Machine Learning (12 Hrs.)

Meaning: types: supervised, unsupervised and reinforcement learning; Neural Networks and Generative AI: Mass production of stories, thoughts and ideas; AI as agent vs. Tool: Self-learning, creativity and ability to deceive.

Unit 3 - Transformation across society and economics (12 Hrs.)

Automation, personalization, predictive systems, and rise of a new “useless class” (AI outperforming humans); AI in governance, transportation, agriculture and environment.

Unit 4 – Societal, Ethical and Political impacts (12 Hrs.)

Economic and social Disruption: job displacement vs new opportunities; Ethical challenges and bias: privacy, deepfakes and misinformation; threats to democracy and human agency; Data as a new source of political power; existential and long-term risks.

Unit 5 - Future of AI and Information Revolution (12 Hrs.)

Emergence Trends in AI: Multimodal AI, Robotics AI and Agentic AI, Augmented intelligence: Human & AI collaboration; sustainability and global challenges.

Reference Books:

1. Agrawal, A., Gans, J., & Goldfarb, A. (2018). Prediction machines: The simple economics of artificial intelligence. Harvard Business Review Press.
2. Crawford, K. (2021). Atlas of AI: Power, politics, and the planetary costs of artificial intelligence. Yale University Press.
3. Domingos, P. (2015). The master algorithm: How the quest for the ultimate learning machine will remake our world. Basic Books.
4. Goodfellow, I., Bengio, Y., & Courville, A. (2016). Deep learning. MIT Press.
5. Harari, Y. N. (2015). Sapiens: A brief history of humankind. Harper.
6. Harari, Y. N. (2016). Homo Deus: A brief history of tomorrow. Harper.
7. Lee, K.-F. (2018). AI superpowers: China, Silicon Valley, and the new world order. Houghton Mifflin Harcourt.
8. Mitchell, M. (2019). Artificial intelligence: A guide for thinking humans. Farrar, Straus and Giroux.
9. O’Neil, C. (2016). Weapons of math destruction: How big data increases inequality and threaten democracy. Crown.
10. Russell, S., & Norvig, P. (2021). Artificial intelligence: A modern approach (4th ed.). Pearson.
11. Shane, J. (2019). You look like a thing and I love you: How artificial intelligence works and why it’s making the world a weirder place. Little, Brown.
12. Tegmark, M. (2017). Life 3.0: Being human in the age of artificial intelligence. Knopf.
13. Zuboff, S. (2019). The age of surveillance capitalism: The fight for a human future at the new frontier of power. PublicAffairs.

COs and Bloom's Taxonomy Mapping – 26HS513

Course Outcomes	On successful completion of this course, students will be able to:	BTL
CO1	Recall and describe the evolution of information systems from early human societies to the digital age, and explain the role of myths, religion, ideologies, and Dataism in shaping human networks	K1, K2
CO2	Apply and differentiate key Machine Learning approaches—supervised, unsupervised, and reinforcement learning—and explain the functioning of neural networks and Generative AI.	K3
CO3	Analyze the socio-economic transformations driven by AI, including automation, personalization, predictive analytics, employment patterns, and inequality.	K4
CO4	Evaluate ethical, political, and societal challenges of AI such as bias, surveillance, misinformation, and concentration of data power.	K5
CO5	Design and develop informed perspectives on the future of AI, including multimodal systems, agentic AI, and human–AI collaboration, with attention to sustainability and global challenges.	K6

BTL (Bloom's Taxonomy Level) - K1 – Remembering, K2 – Understanding, K3- Applying, K4 – Analyse, K5- Evaluate and K6 - Create

Relationship Matrix – 26HS513

Course Outcomes	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)						Mean Score of Cos
	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	
CO1	2	2	1	3	2	1	2	2	1	2	3	3	2
CO2	3	2	1	1	2	1	1	1	1	1	1	1	1.33
CO3	3	2	2	1	1	1	3	1	1	1	1	1	1.5
CO4	2	3	2	2	2	1	1	1	1	2	1	3	1.75
CO5	3	2	3	1	3	3	1	1	1	1	1	3	1.91
Total													1.69

Mean Score: 3- High, 2- Medium/Moderate, 1-Low