

SSC200:FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE

L:3 T:0 P:0 Credits:3

Course Outcomes: Through this course students should be able to

CO1 :: explain key concepts of Artificial Intelligence, identify its historical background, and recall everyday examples of AI.

CO2 :: differentiate between AI, ML, and automation.

CO3 :: illustrate how AI is applied in fields such as education, mental health, and public policy, especially within the context of social sciences.

CO4 :: analyze the applications of AI tools for summarizing, writing, designing, data analysis, CV preparation, and report writing.

CO5 :: evaluate ethical challenges of AI, including bias, surveillance, job displacement, misinformation, and human-rights concerns, to promote responsible AI use

CO6 :: create an AI-integrated career development plan for social science fields by incorporating emerging opportunities, tools, and trends in AI ethics, research, NGOs, mental health, and governance.

Unit I

Introduction to Artificial Intelligence : concept of intelligence, differences between weak AI and strong AI, history of AI from beginnings to present day, examples of today's real world applications of AI

Unit II

Nature of Data and Machine Learning : What is data?, how machines learn from data, what is Machine Learning (ML)? (No math or coding), examples of how AI learns: spam filters, shopping recommendations, difference between AI, ML, automation

Unit III

Expert systems : definition of expert systems, architecture of an expert system, knowledge bases and inference engines, the relevance of a user interface, the advantages and disadvantages of expert systems

Unit IV

AI Tools You Can Use : introduction to simple AI tools, AI for summarizing, writing, designing, or analyzing data, usage of AI to create CV and in process of report writing

Unit V

Ethics and Challenges of AI : ethical concerns: bias, surveillance, job loss, misinformation, AI and human rights, importance of responsible AI use, real-life problems caused by unethical AI

Unit VI

Future of AI and Careers for Social Science Students : AI and the future of work in social science fields, Career opportunities: AI Ethics Analyst,, Research Assistant with AI tools, AI in NGOs, Trends: Emotional AI,, AI and mental health, AI and governance

Text Books:

1. ARTIFICIAL INTELLIGENCE: CONCEPTS AND APPLICATIONS by LAVIKA GOEL, WILEY
2. ARTIFICIAL INTELLIGENCE: A MODERN APPROACH by RUSSELL/NORVIG, Pearson Education India

References:

1. THE ROUTLEDGE SOCIAL SCIENCE HANDBOOK OF AI by ANTHONY ELLIOTT, ROUTLEDGE

