

Semester VII

Discipline Specific Elective:- DSE-I -7.1

Artificial Intelligence in the Tourism Industry

Offered by Department of Tourism, College of Vocational Studies

Credit Distribution, Eligibility and Pre-requisites of the Course

Course Title & Code	Credits	Components of the course			Eligibility criteria	Pre-requisites of the course
		Lecture	Tutorial	Practical		
Artificial Intelligence in the Tourism Industry	4	3	1	0	Pass in class XII	NIL

Learning Objectives:

The course aims to introduce students to the fundamentals of Artificial Intelligence (AI) and its diverse applications within the tourism and hospitality sectors. It explores how AI technologies are transforming the industry by enhancing operational efficiency, improving customer experiences, and supporting data-driven strategic decision-making. Additionally, the course focuses on developing practical knowledge and hands-on skills in using AI tools and systems relevant to tourism services, such as chatbots, recommendation engines, and predictive analytics. It also emphasizes the importance of critically evaluating the ethical and social implications of AI, including issues related to privacy, algorithmic bias, and the future of human roles in the tourism industry.

Learning Outcomes:

After completing this course, the learners would be able to:

1. Understand the role and importance of AI in tourism management and marketing.
2. Identify and evaluate AI-powered tools used in tourism (e.g., chatbots, recommendation engines).
3. Create/Design simple AI-based tourism solutions using available platforms or software.
4. Analyze case studies of AI implementation in global tourism companies.
5. Evaluate ethical, legal, and sustainability concerns in AI-driven tourism systems.

Unit I:- Fundamentals of Artificial Intelligence in Tourism (10 Hours)

Introduction to AI: History, evolution, and core concepts, Machine Learning, Deep Learning, and Natural Language Processing (NLP), Role of AI in Tourism and Hospitality, Overview of AI adoption trends in the global tourism industry.

Unit II :- AI in Tourism Operations and Customer Experience (10 Hours)

Chatbots and Virtual Assistants for customer service, Personalized recommendations and itinerary planning, AI in airline, hotel, and travel agency operations, Voice and facial recognition in tourism services.

Unit III:- Smart Destinations and AI-Driven Marketing (15 Hours)

Smart tourism destinations and Internet of Things (IoT), AI in digital marketing and customer engagement, Predictive analytics for demand forecasting, Big data in tourist behaviour analysis.

Unit IV:- Ethics, Sustainability, and Case Studies in AI Tourism (10 Hours)

Ethical and legal issues in AI: privacy, surveillance, and data use, AI's role in sustainable tourism and environmental monitoring, Case studies of AI in tourism: Hilton's "Connie", Expedia, Airbnb, Future of AI in tourism: challenges and opportunities.

Exercises:

The learners are required to:

1. conduct AI basics quiz and discussion.
2. explore AI-powered travel platforms (e.g., Google Travel, Hopper).
3. build a basic chatbot using Dialogflow.
4. create a sample AI-based travel recommendation flow.
5. analyze tourism trends using Google Trends or basic ML tools (Orange, Excel).
6. design AI-based social media campaign simulation for a tourism product.
7. perform Group presentation: "AI for sustainable tourism in your city"
8. conduct debate on ethical use of facial recognition in hotels/airports.

Suggested Readings:

- Buhalis, D., & Amaranggana, A. (2015). Smart tourism destinations: Enhancing tourism experience through personalisation of services. In I. Tussyadiah & A. Inversini

(Eds.), *Information and Communication Technologies in Tourism 2015* (pp. 377–389). Springer.

- Dwivedi, Y. K., et al. (2021). Artificial intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57, 101994.
- Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: Foundations and developments. *Electronic Markets*, 25(3), 179–188.
- Guevara Plaza, A. J., Cerezo Medina, A., & Navarro Jurado, E. (Eds.). (2024). *Tourism and ICTs: Advances in data science, artificial intelligence and sustainability: Proceedings of the TURITEC 2023 Conference, October 19–20, 2023, Málaga, Spain*. Springer.
- Pencarelli, T. (2020). The digital revolution in the travel and tourism industry. *Information Technology & Tourism*, 22(4), 455–476.
- Shukla, V. K., Verma, A., & Lacap, J. P. G. (Eds.). (2024). *Artificial intelligence for smart technology in the hospitality and tourism industry*. Apple Academic Press.
- Tussyadiah, I. P. (2020). A review of research into automation in tourism: Launching the Annals of Tourism Research curated collection on AI and robotics in tourism. *Annals of Tourism Research*, 81, 102883.
- Vinod, B. (2023). *Artificial intelligence and machine learning in the travel industry: Simplifying complex decision making*. AI Startups.

Notes:

1. **Suggested Readings will be updated and uploaded on college website from time to time.**
2. **Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.**