

HFT 4XXX AI-Driven Transformation in Modern Distribution & the Future of Food Supply Chains

Fall Term

Professor Information

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Office Hours:

Virtual office hours by appointment via Zoom.

Course Description and Purpose

This interdisciplinary course explores how artificial intelligence (AI), data analytics, and automation are transforming food supply chains, modern distribution, and consumer behavior by examining the intersection of AI-driven logistics, sustainability, marketing, and economic impact.

Course Goals

The successful completion of this course will:

- Equip participants with a comprehensive understanding of how AI revolutionizes distribution and food & beverage supply chains, focusing on improvements in inventory management, logistics, pricing strategies, and real-time monitoring to drive economic stability.
- Foster the ability to critically assess AI's influence on key economic indicators such as CPI, SCPI, and inflation, while evaluating its role in predicting market behavior and demand fluctuations across industries.
- Empower learners to explore AI-driven solutions for addressing food & beverage supply chain inefficiencies, optimizing storage and transportation, and minimizing food waste to contribute to environmental sustainability.

- Enable participants to apply AI technologies in developing data-driven marketing strategies, understanding consumer behavior, and personalizing customer experiences to maximize hospitality business impact.
- Build storytelling and media skills to effectively educate diverse audiences about the implications of AI in supply chains through journalism, data visualization, and investigative reporting.

Student Learning Outcomes/Objectives

1. Document the AI Revolution in Distribution & Supply Chains:

- Learn how AI improves inventory management, logistics, and pricing strategies.
- Explore AI's role in real-time monitoring of supply chains and its impact on economic stability.

2. Analyze AI's Influence on Economic Indicators & Market Behavior:

- Understand how AI-driven supply chain analytics influence CPI, SCPI, and inflation.
- Examine how AI predicts demand fluctuations and pricing adjustments in retail and hospitality.

3. Explore Sustainability & Food Waste Reduction Through AI:

- Analyze the environmental impact of food waste and supply chain inefficiencies.
- Learn how AI optimizes storage, transportation, and waste reduction for a more sustainable future.

4. Examine AI's Role in Marketing, Consumer Insights & Personalization:

- Understand targeted marketing strategies using AI-powered consumer behavior analysis.
- Learn how AI personalizes consumer experiences, pricing, and promotional campaigns.

5. Develop Storytelling & Media Strategies for AI-Powered Distribution:

- Examine the role of journalism in educating the public on AI's impact on supply chains.
- Learn how to communicate AI-driven trends through media, data visualization, and investigative reporting.

Expectations of the Course

1. **Active Participation** – Students are expected to engage in discussions, activities, and group assignments to enhance learning.
2. **Timely Submissions** – All assignments and projects must be submitted by their deadlines; late work may result in point deductions.
3. **Professionalism** – Students should demonstrate respect, professionalism, and ethical behavior in all communications and coursework.
4. **Academic Integrity** – Plagiarism and academic dishonesty will not be tolerated and may result in disciplinary action.
5. **Engagement with Course Materials** – Students should complete all readings, watch assigned lectures, and participate in experiential learning activities.
6. **Technology Preparedness** – Students must ensure access to a reliable internet connection and required software for online coursework.
7. **Self-Discipline** – As this is an online course, students must manage their time effectively and stay on track with assignments and discussions.

Assessments

Case 1 - Optimizing Inventory Management with AI at Amazon

Explore how Amazon leverages AI-powered algorithms to manage inventory in real-time, predict demand, and optimize warehouse operations.

Case 2 - Demand Forecasting in the Hospitality Industry

Review how hotels use AI to predict occupancy trends, adjust dynamic pricing, and manage revenue during peak and off-seasons.

Case 3 - Tackling Food Waste at Walmart with AI

Study Walmart's AI initiatives to track food expiration dates, optimize storage, and reduce waste.

Case 4 - Dynamic Pricing in E-Commerce

Investigate how online retailers use AI to adjust prices based on consumer behavior, market trends, and competitor analysis.

Case 5 - Investigative Journalism: Unintended Consequences of AI in Retail

Analyze a report on how AI-driven recommendations unintentionally reinforced bias in product visibility and pricing.

Case 6 – Future Trends

Critical thinking about the intersection of AI, innovative transportation technologies, and the future of global distribution. Combine real-world challenges with the excitement of futuristic possibilities.

Group Projects (Select one):

AI-Driven Supply Chain Simulation - Design and simulate a supply chain that uses AI for real-time decision-making in inventory management, logistics, and demand forecasting.

Predictive Analytics for Demand Forecasting - Develop a model or strategy for AI-driven demand forecasting in a specific industry (e.g., retail, hospitality, or food distribution).

AI Sustainability Innovation Challenge - Propose an AI-driven solution to reduce environmental waste or inefficiency in a supply chain.

Future of Autonomous Supply Chains - Design a roadmap for the implementation of autonomous supply chain technologies within the next decade.

AI Marketing & Consumer Insights Campaign - Create a targeted marketing campaign using AI-powered consumer behavior analysis.

Investigative Journalism on AI in Supply Chains - Produce a multimedia report exploring the benefits, challenges, and future implications of AI in supply chains.

AI-Enhanced Crisis Management Plan - Develop an AI-based crisis management plan to respond to supply chain disruptions, such as natural disasters, pandemics, or geopolitical events.

Grading

Assignments and evaluations will include:

Course Grading Table				
Course Requirements	Number of Items	Points for Each	Total Points Available	Weight
Weekly Case Studies	5	4	20	20%
Midterm Exam	1	20	20	20%
Class Participation	6	2.5	15	15%
Group Project	1	25	25	25%
Final Presentation	1	20	20	20%
Total			100	100

Grading Scale

A = 100-95% 4.00

A – = 94-90% 3.67

B + = 89-87% 3.33

B = 86-83% 3.00

B- = 82-80% 2.67

C+ = 79-77% 2.33

C = 76-70% 2.00

D = 69-60% 1.00

F = 59% and below 0.00

Textbook and Course Materials

Data-Driven Technologies and Artificial Intelligence in Supply Chain

Required/Recommended: Recommended

Authors: Chand, M., Jain V., & Ajmera P.

Publisher: Routledge Taylor & Francis Group

Publication Date: November 23, 2023

Copyright Date: 2023

ISBN 13: 9781003462163

Other Course Materials and Open Educational Resources (OER)

- LinkedIn Learning (free access provided through the university)
- Topsy (hospitality training platform, free access provided)

Course Communication

NETIQUETTE & COMMUNICATION

- Use respectful language in discussions.
- Follow professional email and discussion board etiquette.

Course Outline

Module 1: The AI Revolution in Food Distribution & Supply Chains:

Introduction to food supply chain management.

AI's impact on real-time inventory tracking and logistics optimization.

Case Study: AI-driven food distribution strategies in major retailers.

Module 2: Economic Impact – AI, Inflation & Supply Chain Pressure:

Understanding how AI-driven data influences CPI, SCPI, and inflation rates.

AI-powered demand forecasting and price elasticity modeling.

Case Study: AI's role in stabilizing food prices and preventing shortages.

Module 3: AI-Driven Logistics & Waste Reduction:

AI-powered logistics planning and transportation efficiency.

How AI reduces food waste and enhances sustainability.

Case Study: AI applications in food safety, storage, and shelf-life optimization.

Module 4: AI-Powered Marketing & Consumer Behavior:

How AI personalizes advertising, promotions, and digital engagement.
AI's role in real-time pricing, consumer segmentation, and dynamic marketing campaigns.
Case Study: AI-driven loyalty programs and promotional strategies.

Module 5: Media & Storytelling in AI-Driven Distribution:

The role of investigative journalism in AI and supply chain transparency.
How media can educate consumers and businesses on AI-powered logistics and sustainability.
Case Study: AI-powered journalism & reporting on food supply chain disruptions.

Module 6: Future Trends & Innovations in AI & Distribution:

Emerging trends in AI-powered retail execution & robotic automation.
AI's role in future supply chain resilience & global food security.
Final Project: Design an AI-driven distribution strategy for a major retailer or distributor.

Policies

Please review the [FIU's Policies webpage](#). The policies webpage contains essential information regarding guidelines relevant to all courses at FIU, as well as additional information about acceptable netiquette for online courses. For additional information, please visit [FIU's Policy and Procedure Library](#).

As a member of the FIU community, you are expected to be knowledgeable about the behavioral expectations set forth in the [FIU Student Conduct and Honor Code](#).

Technical Requirements and Skills

One of the greatest barriers to student success is a lack of basic computer literacy. By computer literacy, we mean being able to manage and organize computer files efficiently and learning to use your computer's operating system and software quickly and easily. Keep in mind that this is not a computer literacy course, but students enrolled in online courses are expected to have moderate proficiency in using a computer. Please go to the [What's Required webpage](#) to find out more information on this subject

Privacy Policy Statements for Partners and Vendors

- [Canvas](#)
- [Microsoft](#)
- [Adobe](#)
- [YouTube](#)
- [LinkedIn](#)
- [ProctorU](#)
- [HonorLock](#)
- [Turnitin](#)
- [OpenStax](#)
- [Zoom](#)
- [Respondus LockDown Browser](#)

Please visit our [Technical Requirements webpage](#) for additional information.

Accessibility and Accommodation

The Disability Resource Center collaborates with students, faculty, staff, and community members to create diverse learning environments that are usable, equitable, inclusive, and sustainable. The DRC provides FIU students with disabilities the necessary support to successfully complete their education and participate in activities available to all students. If you have a diagnosed disability and plan to utilize academic accommodations, please contact the Center at 305-348-3532 or visit them at the Graham Center GC 190.

For additional assistance please contact [FIU's Disability Resource Center](#).

Web Accessibility Statements for Partners and Vendors

- [Canvas](#)
- [Microsoft](#)
- [Adobe](#)
- [YouTube](#)
- [LinkedIn](#)
- [ProctorU](#)
- [HonorLock](#)
- [Turnitin](#)
- [OpenStax](#)
- [Zoom](#)
- [Respondus LockDown Browser](#)

Please visit accessibility.fiu.edu for additional information about accessibility at FIU.

Academic Integrity

Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Conduct and Honor Code.

Academic Misconduct includes:

Cheating

- The unauthorized use of any materials, information, study aids or assistance from another person on any academic assignment or exercise, unless explicitly authorized by the course Instructor;
- Assisting another student in the unauthorized use of any materials, information, study aids, unless explicitly authorized by the Instructor; and
- Having a substitute complete any academic assignment or completing an academic assignment for someone else, either paid or unpaid;

Plagiarism

- The deliberate use and appropriation of another's work without any indication of the source and the representation of such work as the Student's own.
- Assisting another student in the deliberate use and appropriation of another's work without any indication of the source and the representation of such work as the student's own.

Use of AI

All work submitted in this course must be your own. Contributions from anyone or anything else- including AI sources, must be properly quoted and cited every time they are used. Failure to do so constitutes an academic integrity violation, and I will follow the institution's policy to the letter in those instances.

Learn more about the [academic integrity policies and procedures](#) as well as [student resources](#) that can help you prepare for a successful semester.

Panthers Care & Counseling and Psychological Services (CAPS)

If you are looking for help for yourself or a fellow classmate, Panthers Care encourages you to express any concerns you may come across as it relates to any personal behavior concerns or worries you have, for the classmate's well-being or yours; you are encouraged to share your concerns with [FIU's Panthers Care website](#).

[Counseling and Psychological Services \(CAPS\)](#) offers free and confidential help for anxiety, depression, stress, and other concerns that life brings. Professional counselors are available for same-day appointments. Don't wait to call (305) 348-2277 to set up a time to talk or visit the online self-help portal.

Core Principles of this Course

This course will serve all students, encouraging collaboration by preparing students to value the differences in others. We appreciate the multiplicity of the lived experiences and perspectives of all students. We are committed to the ongoing education of our students and their open participation within the course.

Copyright

The following conduct is prohibited by the Student Conduct and Honor Code. Lack of familiarity with University policy is not a defense to a violation of this Code. Unless specifically noted, the intent is not a required element to establish a policy violation. The following conduct violation or any attempt to violate the Code will be used in charging all Students or Student Organizations;

Section 5 | Conduct Violations - g. Computer Misuse

- vii. Unauthorized distribution or downloading of copyrighted materials, including but not limited to, unauthorized peer-to-peer file sharing. This is a violation whether the user is using their own personal computer or the University's information technology system for unauthorized distributions.

Copyright Statement: The materials and content in this online course are provided solely for student use during the course. Course materials may not be shared outside of the course or with any third party without the explicit permission of the instructor or content publisher. [Visit FIU Library's Copyright Lib Guide](#) to learn more about copyright law and restrictions.

Additional Resources:

- [Student Conduct and Honor Code](#)
- [Digital Millennium Copyright Act Policy](#)
- [FIU - Copyright Guidance for Students](#)
- [FIU Library's Copyright Lib Guide](#)