LOG309 Industry 4.0 Logistics Applications

Level: 3

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JULY

Synopsis:

The world we live in today is at an inflexion point and it is propelling towards new norms at a formidable rate. Technology will be disrupting entire value networks and this will chart a direction for the future. Fulfilling the requirements of the right product at the right time at the right place and in the right condition is getting more complex in a dynamically changing logistics environment. The highly dynamic markets and advancing complexity of logistics networks require new methods, products and services. When a supply chain is agile and quick to move products from the source to the consumer, this brings about a competitive advantage for the firm. The firm will be demand-driven and extremely market-responsive, replenishing the warehouse quickly in a short period, and pushing products to fulfilment in a similar time frame. In this course, students will learn how to ride the wave of this industrial revolution through different mental models and understand the fundamentals of "smart" in smart logistics. This will be done through hands-on class activities for both the Internet of Things (IoT) and robots.

Topics:

- Industry 4.0 and the Supply Chain
- Innovation and Systems Thinking
- Living Supply Chains and IoT: System Dynamics
- Living Supply Chains and IoT: Hands-on Session
- Living Supply Chains and Data Analytics: Sense-Making
- Living Supply Chains and Data Analytics: Hands-on Session
- Smart Warehouses: Implementation and Challenges
- Smart Warehouses and Robots: Hands-on Session
- Industry 4.0 Technology Solutions
- Industry 4.0 Technology Solutions: Hands-on Session
- System Integration and Interoperability
- Best Practices in Managing Industry 4.0 Logistics Applications

Learning Outcome:

- Demonstrate the importance of Industry 4.0 and systems thinking in the supply chain.
- Examine appropriate strategies to manage supply chain dynamics.
- Apply data analytics to make sense of dynamic supply chain data.
- Set up a smart warehouse using Industry 4.0 technology.
- Propose solutions that significantly impact productivity of logistics activities.
- Analyse best practices in managing Industry 4.0 logistics applications.

Assessment Strategies (Evening Class):

Components	Description	Weightage Allocation (%)

Overall Continuous Assessment	PRE-COURSE QUIZ 1	2
	PRE-CLASS QUIZ 1	2
	PRE-CLASS QUIZ 2	2
	TUTOR-MARKED ASSIGNMENT 1	18
	GROUP BASED ASSIGNMENT 1	20
	PARTICIPATION 1	6
Overall Examinable Components	ECA-REPORT	32.50
	ECA-VIDEO	12.50
	ECA-POWERPOINT	5
Total		**100**