

- a. **Course Code:** OTM 827
- b. **Title:** Supply Chain Analytics
- c. **Credit Hours:** 3
- d. **Objectives**

1. This course aims to achieve the following objectives:

- a. To provide foundational knowledge associated with the supply chain analytics
- b. To describe the various tools and techniques for implementation of analytics based on the supply chain drivers such as location, logistics and inventory
- c. To describe various techniques for analytics based on the Multi Attribute Decision Making (MADM) and risk
- d. To provide the applications of analytics in supply chain

**Outcomes**

2. Supply Chain Analytics focuses on data-driven decision-making in supply chain management. This course introduces and explains the analytical methods that logistics and supply chain practitioners generally use. Data, models, and available software have dramatically changed manufacturing, services, and logistics operations. The course introduces students to the role and relevance of analytical techniques in logistics and supply chain management. The focus is on applying these techniques and methodologies to problems in the supply chain space.

**3. Contents with suggested contact hours**

<b>Week</b>	<b>.Content</b>	<b>Contact hrs</b>
1	Introduction to data analytics, types of analytics, essential components of supply chain analytics	3
2	Asking the right questions to find data-driven solutions for supply chain problems.	3
3	Prepare data by converting raw data to clean data	3
4	Analyze data to extract meaningful insights and solutions for supply chain problem	3
5	Predictive analytics in supply chain management	3
6 & 7	Visualization of data driven solutions of supply chain	3

	problems	
8	Measuring and Reporting KPIs in Supply Chain Performance	3
9 & 10	Construct data driven models for demand management	3
11 & 12	Construct data driven models to improve inventory management	3
13	Using analytics to improve sourcing strategies	3
14	Big data in supply chain management	3
15	Emerging Trends in Supply Chain Analytics	3

4. **Details of lab work, and workshop practice (if applicable):** N/A

5. **Recommended Reading (including Textbooks and Reference books with dates).**

- a. Supply Chain Analytics: Concepts, Techniques and Applications 1st ed. 2022 Edition by Kurt Y. Liu
- b. Supply Chain Analytics and Modelling: Quantitative Tools and Applications 1st Edition by Dr Nicoleta Tipi
- c. Supply Chain 4.0: Improving Supply Chains with Analytics and Industry 4.0 Technologies 1st Edition, Kindle Edition by Emel Aktas, Michael Bourlakis, Ioannis Minis, Vasileios Zeimpekis
- d. Business Analytics for Managers, Taking Business Intelligence Beyond Reporting, Second Edition, Gert H. N. Laursen, Jesper Thorlund, 2017 by John Wiley & Sons, Inc.

6. **Assessments:** Exam, Assignment, Project, Quiz, Case Studies