[A-3]COURSE SYLLABUS

1. Course Description (Approximately 100 words)

This Supply Chain Analytics course gives us an idea of the role of Supply Chain Analytics as a process enhancer in Digital Transformation, Smart Factories, and Industrial Revolution 4. There are different types of Supply Chain Analytics approaches employed like Descriptive Analytics, Predictive Analytics, Prescriptive Analytics, and Cognitive Analytics. Data Analytics is being used to optimize transportation management. Companies are using simulation techniques for supply chain management activities. Data analytics is used to plan facility location, design supply chain networks, and to evolve various metrics. In this course, students will learn discrete choice modeling to forecast demand-supply. The use of machine learning approaches to simplify bottlenecks in the supply chain is elaborated. Time Series Analysis and Data Visualization also are included as part of the course curriculum. This course will show how existing analytical techniques and methods can be enhanced by Data Science and Machine Learning techniques to better design and manage the supply chains. Supply chains

2. Course Goals and Objectives (Approximately 100 words)

Most people think that simply having quality products and savvy marketing is enough to have a thriving business, but according to Market Watch article, having a robust supply chain is equally important. The article further goes on to elaborate on the importance of Big Data powered Supply Chain Analytics Course in streamlining and improving supply chains. Another Business Wire article puts in unambiguous terms that integrating AI and ML capabilities into the supply chain drives the market growth. As such, there is a growing demand for professionals with these skills. Supply Chain Management can also be enhanced by the use of Data Analytics. In this Supply Chain Analytics course, the participant will gain an understanding of Supply Chain Analytics training in Digital Transformation, Smart factories, and Industrial Revolution 4.0. The student will appreciate the use of Data Analytics in managing transportation in the most optimized manner. An entire module is devoted to the application of Operations Research in supply chain management. The Supply Chain Operation

3. Textbook (Title, Author, Publisher, Year of Publication, etc.)

1. Supply Chain Analytics: Beginner's Guide by Gerardus Blokdyk

4. Reference

1. Different materials and journals.
2. Statistics and Econometric Models: Volume 1, General Concepts, Estimation, Prediction and Algorithms (Themes in Modern Econometrics) by Gourieroux/Monfort/Vuong (Author)

5. Course Requirements and Grades

The combination of coursework and the end of module examination will provide appropriate assessment vehicles for this module ' s various learning outcomes. The coursework is formative and to this extent tests a subset of the learning outcomes. The end of module examination is essentially summative and assesses further the learning outcomes assessed in the coursework. Weight: 30%.
The end of module examination is an appropriate testing. The final examination primarily tests the ability of students to elaborate on particular concept or theory in the context of modern microeconomic and macroeconomic models, and to distinguish between different theoretical approaches. Weight: 70%.
In-module assessment: Coursework 30% - formative and summative. It assesses whether

6. Course Calendar

Week	Main Content
1	Supply chain
2	Application of data science and AI in supply chain
3	Operation research primer - Optimization and simulation
4	Introduction to Supply chain analytics
5	Supply chain operations reference model
6	Supply chain measures of performance
7	Designing a robust supply chain network
8	Transportation management in supply chain
9	Machine learning in modelling discrete choices
10	Coordination in Supply Chain under uncertainty
11	Neural network in supply chain
12	Time series analysis
13	Forecasting in supply chain
14	Conclusion