



DECISION MAKING WITH SPREADSHEET

PROF. RAMESH ANBANANDAM

Department of Management Studies
IIT Roorkee

TYPE OF COURSE : New | Core | UG/PG
COURSE DURATION : 12 Weeks (24 Jan' 22 - 15 Apr' 22)
EXAM DATE : April 24, 2022

INTENDED AUDIENCE : Undergraduate and Post Graduate students interested in operations management.

INDUSTRIES APPLICABLE TO : All analytics companies

COURSE OUTLINE :

This course aims to provide Undergraduate and Graduate students with a sound conceptual understanding of the role that management science plays in decision-making process. This course is applications oriented and continues to use the problem-scenario approach. A problem is described in conjunction with the management science model being introduced. The model is then solved to generate a solution and recommendation to management.

ABOUT INSTRUCTOR :

Prof. Ramesh Anbanandam is working as an Associate Professor in the Department of Management Studies, IIT Roorkee, India. He is also Joint faculty of the Center of Transportation Systems, IIT Roorkee. He did Ph.D. from IIT Delhi and M.Tech from NIT Trichy. His research area includes humanitarian supply chain management, multimodal freight transportation, sustainable mobility, healthcare waste management, and data-driven decision-making modeling. He has published more than 40 research papers in reputed journals and conferences. He was also organized international conferences, TEQIP training sessions, and NPTEL online courses. He is a regular reviewer of many peer-reviewed journals and actively participating in various seminars, talks, and conferences in India and abroad.

COURSE PLAN :

Week 1: Introduction to Decision making in spreadsheet – 1

Week 2: Minimisation Problem and special cases of LPP - 2

Week 3: LP Applications in Finance - 1, LP Applications in Finance - 2

Week 4: LP Applications in Operations

Week 5: Portfolio models and Asset allocation Game theory - 1

Week 6: A production and inventory application of LPP Integer linear programming

Week 7: Constructing an index fund problem with LPP

Week 8: Project scheduling considering uncertain activity times

Week 9: Inventory model with planned shortages

Week 10: Waiting Line Models Structure of a waiting line system

Week 11: Simulation Risk analysis, Inventory simulation, Other simulation issues, Decision Analysis

Week 12: Multi criteria Decisions, Time Series Analysis and Forecasting Time Series Patterns Moving Averages and Exponential Smoothing, Seasonality Conclusion

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