Subject Code	LGT5945
Subject Title	Operations
Credit Value	3
Level	5
Normal Duration	1-semester
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	This subject introduces both philosophy and techniques of operations management to students. The course content is designed to help students understand basic concepts, learn about basic tools in operations management, understand the rationale behind the scientific methods used in daily management, understand how a firm's operations strategies determine its competitive position in the market, and gain insights into designing and managing operations systems in practice. This subject contributes to the following Intended Learning Outcomes for the MBA programme: Outcome 1: Critical Thinking and Decision Making Outcome 5: Global Outlook
Intended Learning Outcomes	Upon completion of the subject, students will be able to: (a) understand the terminology and basic concepts of operations management (b) understand some basic data science and modelling approaches for operations management (c) build basic quantitative models that can be used for decision-making in operations management; be aware of the assumptions and limitations of the models (d) apply these models to solve practical management issues and develop critical and creative thinking in analyzing and solving real life problems (e) beware of ethical issues in business
Subject Synopsis/ Indicative Syllabus	**Introduction to Operations System** Concepts, the operations functions and its relation with other business functions, particularly, the strategic importance of operations management. **Business Process Design and Reengineering** Process concepts; process design methods; process effectiveness and efficiency; business process reengineering. **Forecasting**

	Objective of forecasting; logic of forecasting; qualitative and quantitative methods for forecasting; measurement and monitoring of forecasting systems; use of machine learning techniques in forecasting. **Capacity Planning** Strategic capacity planning; equipment management; concept of total cost of ownership; volume analysis; breakeven models; decision tree analysis. **Service Processes and Queueing Systems** Characteristics of service processes, service system design, examples of queueing systems; performance measures; single/multiple servers models; priority rules; economic analysis. **Inventory Management** Functions and costs of inventory management; ABC analysis; economic ordering quantity model; vendor managed inventory system; inventory replenishment systems. **Quality Management, Quality Control, Just-in-Time and Lean Operations** Total quality management; quality measurement; quality cost; quality inspection; statistical quality control; Philosophy and concept of JIT systems; pull versus push production systems; lean operations. **Supply Chain Management** Concept of supply chain management; information coordination; cost and benefit of postponement; quick response; worldwide sourcing. **Project Management** Project and its working team; project breakdown; Gantt charts; project time and cost; critical tasks in projects, critical path method. **Sustainable and Socially Responsible Operations** Ethical issues in operation management; codes of ethics; worker safety; product safety; the environment and quality; employees' right; closing facilities; socially responsible operations. **Data-driven Operations Management** Data-driven operational decision-making, introduction of big data concepts and applications, artificial intelligence and machine learning. **Industry 4.0 and Sharing Economy** Industry 4.0; new technologies including Blockchain in operations management; features of various sharing business models; the opportunities and challenges in these new models.
Teaching/Learning Methodology	Concepts and techniques will be introduced through lectures. Students are required to apply the knowledge and skills to analyse and solve various realistic operations management problems in class discussions, assignments, quizzes, and case studies.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a	b	c	d	e	
1. Class participation	20 %	✓	✓	✓	✓	✓	
2. Quiz	20 %	✓	✓	✓	✓		
3. Group case study	20%	✓	✓	✓	✓	✓	
4. Group assignments	20%	✓	✓	✓	✓		
5. Individual case study	20%	✓	✓	✓	✓	✓	
Total	100 %						

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Students will develop critical thinking and decision-making skills with knowledge on operations and supply chain management (Outcome 1) through preparing for the term quiz (item 2), conducting analyses when completing the group assignments (item 4), and analyzing the complex issues involved in the case assignment (items 3 and 5). Meanwhile, students will develop a global outlook (Outcome 5) through class discussions (item 1), and in understanding the global operations and supply chain issues in case studies (items 3 and 5).

To reflect the significant technology content in this subject, 10% (or more) of the overall weighting of this subject is based on individual assessment concerning technology-related knowledge.

Student Study Effort Expected

Class contact:	
▪ Lectures / Tutorials	39 Hrs.
Other student study effort:	
▪ Reading and doing exercises	87 Hrs.
Total student study effort	126 Hrs.

Reading List and References

Books

Krajewski, L. J., Ritzman, L. P., Malhotra, M. K., (2022), *Operations management: processes and supply chains* (13th ed.), Pearson/Prentice Hall.

	Jacobs, F. R., and Chase, R. B., (2021), *Operations and Supply Chain Management*, 16th ed., McGraw-Hill. Schroeder, R. G., Rungtusanatham, M. J., Goldstein, S. M., (2021), *Operations management in the supply chain: decisions and cases*, McGraw-Hill. Anupindi, R., et. al. (2012), *Managing Business Process Flows – Principle of Operations Management*, 3rd ed, Prentice Hall Cachon, G. & Terwiesch, C. (2013), *Matching Supply with Demand* (3rd ed.), McGraw-Hill. ***Other Relevant Books*** Klassen, R. D., Menor, L. J. (2006), *Cases in Operations Management*, Sage publication, Johnston, R. (2003), *Cases in Operations Management*, Finance Times Prentice Hall. Heizer, J., Render, B., Munson C., (2022), *Operations Management: Sustainability and Supply Chain Management* (14th ed.), Pearson. Stevenson W.J., *Operations Management*(14th ed.), McGraw Hill. ***Journals*** Management Science Journal of Operations Management Manufacturing & Service Operations Management Harvard Business Review MIT Sloan Management Review

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