SYLLABUS

QM401E_0108_26

Operations Management

ACADEMIC AREA :	**OPERATIONS AND ANALYTICS**
PROGRAMME :	**MASTER IBNG / MASTER LSCP / PGE / PGTC LEVEL 4**
PERIOD :	**FALL**
COORDINATOR :	**Mr. Jason BIAN**
INSTRUCTOR(S) :	**Mr. Arnaud POISSON** **Mr. Jason BIAN** **Ms. Suzhen LIANG**
CONTACT HOURS :	**24.0 hours**
STUDY TIME :	**95 hours (Class preparation, homework and assessments)**
CREDITS :	**4.0 ECTS**
AOL :	**NO**

PRE-REQUISITE MODULES :

Basic knowledge in Management

MODULE DESCRIPTION :

The main objective of this module is to provide students with a sound conceptual understanding of Operations Management (OM), its strategic importance, and its links with other business functions. The course emphasizes OM applications by using theory in conjunction with problem solving tools, so that students may apply their acquired knowledge to real business problems, and work better with people from other departments of the firm.

CONTRIBUTION TO PROGRAMME LEARNING OBJECTIVES :

- Create solutions by integrating disciplinary expertise to design and drive transformation projects #CreateSolutions

MODULE INTENDED LEARNING OUTCOMES (ILOs) :

1. Understand the OM function and the relevant theories that underpin it (Knowledge Outcome) 2. Understand the strategic role of OM for both manufacturing and service organizations in maintaining an organization's competitive edge. (Knowledge Outcome) 3. Participate as team members in an OM department in undertaking various operational activities. (Ability Outcome) 4. Apply OM methods that they have learnt to their work in other departments, such as marketing. (Ability Outcome)

TOPICS COVERED :

- Operations Strategy - New Product/ Service Development and Process - Delivering services - Location analysis and network design - Layout/ flow design and production systems - Managing capacity: defining capacity - Inventory planning and control - Quality Management - Maintenance management:

RESEARCH-LED TEACHING :

The lecture has extensively published journal papers and textbooks in various OM subjects. Therefore, each component's state of the art is taught in the class. Besides, the module applies to any organization regardless of its ownership (private or public) and sector.

CSR AND SUSTAINABLE DEVELOPMENT GOALS :

The nature of the module initially focuses on the economic aspects of an enterprise to survive in a competitive market. Therefore, any measure primarily minimizes cost or profit, which are financial objectives. However, the fundamentals of the OM are based on improving productivity, which means scarce natural and human resources must be consumed efficiently and responsibly. Therefore, all CSR initiatives, including environmental, philanthropic, ethical, and economic responsibility, are implicitly or explicitly addressed.

CSR NB HOURS :

SUSTAINABLE DEVELOPMENT GOALS COVERED :

- 04 - Quality education
- 09 - Industry, innovation and infrastructure
- 17 - Partnership for the goals

TEACHING METHODS :

The primary method of instruction will be classroom lectures and presentations on the part of the instructor. This will be supplemented and reinforced through the use of timely and current written case studies and video case studies, with associated questions and exercises. Students will be exposed to various software packages, which will be used in conjunction with practical examples. Theory and taught concepts will also be reinforced through the use of inclass problems and examples, homework and an obligatory group project. Students will also have made available to them optional study sessions managed and given by the instructor.

METHODS OF ASSESSMENT :

Continuous/Final	Group/Individual	Assessment	Weight	Duration	ILOs assessed
Continuous	Individual	Participation or task completion	10%		1, 2, 3, and 4
Continuous	Individual Final Exam in class	Written assessment at home	50%		1, 2, 3, and 4
Continuous	Group	Written assessment at home	40%		1, 2, 3, and 4

Assessment 3 details:

Group Project Presentation:
Your mark for the presentenation will be based on:

o Presentation skill and style / Interaction with audience 10%
o Logic of presentation 20%
o Command / understanding of the material 30%
o Quality of arguments and recommendations 40%

ACADEMIC INTEGRITY :

Academic integrity at Rennes SB is about sharing a set of values and practices promoting intellectual honesty, trust, fairness, respect and responsibility in all aspects of learning, studying and researching. Upholding academic integrity is key to maintaining the reputation of the student and the ultimate value of Rennes SB Degrees. Students are expected to demonstrate these values when submitting assessed work.

Academic misconduct is defined as gaining or attempting to gain an unfair academic advantage for yourself or for others during formal assessments. The following are examples of academic misconduct:

· Cheating
· Plagiarism
· Falsification
· Gaining an unfair advantage
· Assisting others in committing academic misconduct, such as by using generative AI
· Falsification of records or official documents
· Unauthorised access to restricted information or data
· Unauthorised or unethical use of generative AI

Academic misconduct is a serious offense and can result in consequences such as module failure, research project failure, or even exclusion from Rennes SB. To prevent unintentional academic misconduct, it is essential to read and comply with the Rennes SB Academic Integrity Policy for Assessments (available on RISE). Regarding use of AI in learning and assessment please consult your professor for specific instructions pertaining to this module.

BIBLIOGRAPHY :

-> Slack, N. and Chambers, S. et al. (2022). Operations management. (10th ed). Prentice Hall. Ebook[https://urls.fr/-XU72H].
-> Heizer, J. and Render, B. (2020). Principles of operations management. (11th ed). Upper Saddle River, Prentice Hall. Ebook [https://urls.fr/KFM1Xw].
-> Krajewski, L.J. & Ritzman, L.P. (2024). Operations Management. (14th ed). Prentice Hall. Ebook available.
Taghizadegan, S. (2007). Essentials of lean six sigma. Butterworth-Heinemann.

Additional Reading

-> [1] Chopra, S., & Meindl, P. (2015). Supply Chain Management: Strategy, Planning and Operation, (6th edn). Pearson Education.
-> [2] Ivanov, D., Tsipoulanidis, A. & Schoenberger, J. (2019). Global Supply Chain and Operations Management : A Decision-oriented Introduction to the Creation of Value, (2nd edn). Springer.
-> [3] Johnsen, T., Howard, M., & Miemczyk, J. (2014). Purchasing and Supply Chain Management: A Sustainability Perspective. Routledge. [eBook available].
-> [4] Stevenson W. J., (2014). Production/Operations Management. (12th edn). McGraw-Hill.
-> [5] Van Weele, A.J. (2018). Purchasing and supply chain management. (7th edn). Andover : Cengage Learning.

MODULE PLAN SESSIONS :

Plan Session 01 :

S01 Introduction to OM

Plan Session 02 :

S02 Operations Strategy, Product and Service Innovation

Plan Session 03 :

S03 The Structure & Scope of Operations Process

Plan Session 04 :

S04 Process Technology and People in Operations

Plan Session 05 :

S05 Planning and Control, Capacity Management

Plan Session 06 :

S06 Inventory and Supply Chain Management

Plan Session 07 :

S07 Planning and Control Systems and Lean Operations
After this session students will be able to understand the principles of Lean Operations, focusing on waste elimination, process efficiency, and value creation. Learn to apply tools such as Just-in-Time, Kaizen, and value stream mapping to streamline workflows, reduce lead times, enhance product quality, and improve customer satisfaction, fostering continuous improvement and agile, cost-effective operational practices.

Plan Session 08 :

S08 Quality Management in Operations
Quality and TQM; JIT; Lean; Agile; Six sigma, etc.
The objective is to understand the principles of Six Sigma, including defect reduction, process variability control, and quality improvement. Learn to apply DMAIC and DMADV frameworks, use statistical tools for root-cause analysis, and implement data-driven strategies to enhance efficiency, reduce errors, and improve customer satisfaction across manufacturing and service processes.

Plan Session 09 :