

OPERATIONS MANAGEMENT

Course code	<i>MNG152</i>
Course title	<i>Operations Management</i>
Type of course	<i>Main</i>
Stage of study	<i>Undergraduate</i>
Year of study	<i>Third</i>
Semester	<i>Spring</i>
ECTS	<i>6; 24 hrs. of lectures, 24 hrs. of workshops; 112 hrs. of individual study</i>
Lecturer	<i>Visiting Professor Dr. Gurram Gopal</i>
Study form	<i>Full-time</i>
Course prerequisites	<i>-</i>
Language of instruction	<i>English</i>

THE AIM OF THE COURSE:

The aim of this course is to familiarise students with the principal operational issues that managers confront, and provide students with language, concepts, and tools to deal with these issues in order to gain competitive advantage through operations. Also, this course aims to develop skills for modelling and analysis for performance improvement of business processes.

This course provides a general introduction to operations management, which is the management of the recurring activities of a firm. Together with finance and marketing, operations is one of the three primary functions of any firm.

Students are familiarised with conceptual analyses of business processes and methods for improvement in all major areas of operations, starting with operations planning, implementation, and control, and ending with operational improvements.

Course learning outcomes

Course level learning outcomes (objectives)	Degree level learning objectives (Number of LO)	Learning methods	Assessment methods
CLO1. Ability to operate the main concepts, laws, and techniques of business process management	BLO 1.1 BLO 1.2	Lectures, tutorials, exercises, examples, simulation, homework assignments	Homework presentations, final examination, simulation, retake
CLO2. Ability to apply these concepts, laws and techniques in business process modelling	BLO 1.2 BLO 1.1.	Lectures, tutorials, exercises, examples, simulation, homework assignments	Homework presentations, final examination, simulation, retake
CLO3 Ability to analyse the process models, and control process drivers to improve performance of any business process	BLO 3.1, BLO 3.2	Lectures, tutorials, exercises, examples, simulation, homework assignments	Homework presentations, final examination, simulation, retake
CLO4 Ability to see an organization as a system of interrelated processes	BLO 1.1 BLO 4.1 BLO 4.3	Lectures, tutorials, exercises, examples, simulation, homework assignments	Homework presentations, final examination, simulation, retake

ACADEMIC HONESTY AND INTEGRITY

Applying critical thinking skills. Regular group and individual feedback.

COURSE OUTLINE

No.	Topics (Chapters in R.Anupindi, S.Chopra et al.)	Lecture hours	Workshop hours	Readings & exercises
	The process view on organizations. Operations management and strategy. Strategic positioning and operational effectiveness. Production process efficiency measures.	2	2	Ch.1–3

	Little's law. Production process flow time analysis. Levers for managing theoretical flow time. Production process flow rate and capacity analysis. Theoretical capacity. Process bottleneck. Factors affecting theoretical capacity. Capacity utilization. Levers for managing throughput	2	2	Ch.3–5
	Inventory analysis. Theoretical inventory. Inventory cost. Inventory dynamics in batch purchasing. Inventory ABC and XYZ classification. Fixed quantity inventory management system.	4	2	Ch. 6
	Batch sizing of a production run. Effect of centralization. Fixed period inventory management system Managing process flow variability in case of uncertain demand. Safety inventory and service level. Inventory management under uncertain demand.	2	2	Ch. 6-7
	Mid-term Exam: Chapters 1-5 Managing process flow variability in case of uncertain demand. Safety inventory and service level. Inventory management under uncertain demand.	2	2	Ch.7
	Service process and its performance. Make-to-order process analysis. Effect of variability on process performance. Optimal service level. Service process simulation	4	4	Ch.8
	Managing process flow variability. Single-channel models. Multi-channel model. Resource pooling. Make-to-order process improvement levers.	2	4	Ch.8-Ch.9
	Managing process flow variability: process control and capability. Tools for process variability analysis: check sheets, Pareto principle, histograms, and run charts. Feedback control principle.	2	2	Ch.9
	Process control charts. Mean and range charts. Process capability. 6 sigma capability. Lean operations: Process synchronization and improvement	4	4	Ch.9-10
	Total	24	24	

FINAL GRADE COMPOSITION

Type of assignment	%
<i>Group Components 20%</i>	
Homework assignments, (2 assignments, each accounts for 5% of the final grade)	10
Simulation	10
<i>Individual Components 80%</i>	
Mid-term	30
Final Exam	50
Total:	100

- Homework assignments will be uploaded to the e-learning system after the current lecture. The homework assignment has to be prepared before the next defense according to the timetable (in one or two weeks) and uploaded to the e-learning system a day before the workshop. For the homework to be graded, it is necessary: 1) to upload it to the e-learning system, 2) to take part in the corresponding workshop, and 3) to answer questions, if invited. Bonus point (up to 10% of the final mark) can be added for the active participation (questions, comments, discussions) in the workshops.
- Rules for the simulation will be announced in the first lecture and posted in e-learning as a separate document.
- Mid-term and final exams are open book exams. Final exam covers chapters 6–10. Stand-alone calculators and dictionaries are welcome.
- Retake Policy



The retake exam will cover all chapters in the course and will replace the midterm and final exam marks. It will account for 80% of the overall marks for the course.

Textbook

1. Ravi Anupindi, Sunil Chopra et al. Managing business process flows. Pearson Prentice Hall, Upper Saddle River. 2006 (or later edition).

Additional Recommended Readings

1. The Goal: A Process of Ongoing Improvement, and the Theory of Constraints (TOC), by Eli Goldratt.
2. The Theory of Constraints (TOC), by Eli Goldratt.
3. The Six Sigma Way: How to Maximize the Impact of Your Change and Improvement Efforts. by Peter Pande, Robert Neuman, and Roland Cavanagh.
4. Reengineering the Corporation: A Manifesto for Business Revolution, by Michael Hammer and James Champy.
5. Competing Against Time: How Time-Based Competition is Reshaping Global Markets, by George Stalk, Jr., and Thomas M. Hout.
6. Execution: The Discipline of Getting Things Done, by Larry Bossidy and Ram Charan.



DEGREE LEVEL LEARNING OBJECTIVES

Learning objectives for the Bachelor of Business Management

Programmes:

International Business and Communication,

Business Management and Marketing,

Finance,

Industrial Technology Management,

Entrepreneurship and Innovation

Learning Goals	Learning Objectives
Students will be critical thinkers	BLO1.1. Students will be able to understand core concepts and methods in the business disciplines
	BLO1.2. Students will be able to conduct a contextual analysis to identify a problem associated with their discipline, to generate managerial options and propose viable solutions
Students will be socially responsible in their related discipline	BLO2.1. Students will be knowledgeable about ethics and social responsibility
Students will be technology agile	BLO3.1. Students will demonstrate proficiency in common business software packages
	BLO3.2. Students will be able to make decisions using appropriate IT tools
Students will be effective communicators	BLO4.1. Students will be able to communicate reasonably in different settings according to target audience tasks and situations
	BLO4.2. Students will be able to convey their ideas effectively through an oral presentation
	BLO4.3. Students will be able to convey their ideas effectively in a written paper

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Learning objectives for the Bachelor of Social Science

Programmes:

Economics and Data Analytics,

Economics and Politics



Learning Goals	Learning Objectives
Students will be critical thinkers	ELO1.1. Students will be able to understand core concepts and methods in the key economics disciplines
	ELO1.2. Students will be able to identify underlying assumptions and logical consistency of causal statements
Students will have skills to employ economic thought for the common good	ELO2.1.Students will have a keen sense of ethical criteria for practical problem-solving
Students will be technology agile	ELO3.1. Students will demonstrate proficiency in common business software packages
	ELO3.2. Students will be able to make decisions using appropriate IT tools
Students will be effective communicators	ELO4.1.Students will be able to communicate reasonably in different settings according to target audience tasks and situations
	ELO4.2.Students will be able to convey their ideas effectively through an oral presentation
	ELO4.3. Students will be able to convey their ideas effectively in a written paper