

Annexe A: New/Revised Course Content in OBTL+ Format

Course Overview

The sections shown on this interface are based on the templates [UG OBTL+](#) or [PG OBTL+](#)

If you are revising/duplicating an existing course and do not see the pre-filled contents you expect in the subsequent sections e.g. Course Aims, Intended Learning Outcomes etc. please refer to [Data Transformation Status](#) for more information.

Expected Implementation in Academic Year	AY2024-2025
Semester/Trimester/Others (specify approx. Start/End date)	Semester 1 Semester 2
Course Author * Faculty proposing/revising the course	Rohit Bhatnagar, Wang Qinan
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Course Title	BUSINESS OPERATIONS & PROCESS
Course Code	BE1401
Academic Units	3
Contact Hours	39
Research Experience Components	Not Applicable

Course Requisites (if applicable)

Pre-requisites	
Co-requisites	
Pre-requisite to	
Mutually exclusive to	
Replacement course to	
Remarks (if any)	

Course Aims

This course seeks to provide business and accountancy undergraduates with a rigorous appreciation of the issues and methodologies necessary for ensuring the competitiveness of the operations function in a firm. The course takes an analytics-based “process management” viewpoint while addressing a range of strategic and tactical issues. After completing this course, you will be able to understand the key tradeoffs required for designing, managing, and improving operations and processes in both manufacturing and service industries. This will give you a sound analytical background for further courses in Business Analytics Specialization, which in turn will prepare you for a future business career where you will be responsible for either managing operations or its interface with other business functions such as marketing, finance, accounting, human resources, and information technology.

Course's Intended Learning Outcomes (ILOs)

Upon the successful completion of this course, you (student) would be able to:

ILO 1	Describe fundamental issues in operations such as process analysis and improvement, project management, forecasting, quality management, inventory management and supply chain management
ILO 2	Explain the key tradeoffs necessary for designing, managing and improving operations
ILO 3	Compute key performance measures related to the tradeoffs
ILO 4	Relate key performance measures with analysis and comparison of alternate systems to strategic goals of companies

Course Content

The course content will have as its backdrop the fundamental concepts and techniques necessary for designing, managing, and improving operations and processes in both manufacturing and service industries. The main topics covered include:
1. Introduction to Operations and the Strategic Importance of Operations
2. Introduction to Process Analysis – Little’s Law and Applications
3. Capacity Management and Bottlenecks in Processes
4. Impact of Setups and Interruptions on Processes
5. Queues and Service Systems
6. Project Management
7. Applications of Linear Programming in Operations and LP Practicum
8. Forecasting
9. Quality Management
10. Inventory Management
11. Supply Chain Management

Reading and References (if applicable)

Most of the assigned reading materials and class notes will be provided online on NTULearn (<http://ntulearn.ntu.edu.sg>). The main textbook which will be used for the course is: Required textbook/materials
1. Operations Management, 2nd Edition by Gerard Cachon and Christian Terwiesch, 2020, McGraw-Hill, ISBN: 978-1-260-54761-0
2. Introduction to Management Science, 6th Edition by Frederick Hillier and Mark Hillier, 2019 (available as a digital version with the main text).
Other Reference Materials
1. The course will use components of Technology Enabled Learning from McGraw-Hill Connect’s Learn Smart modules associated with the text Operations Management by Cachon and Terwiesch. This e-tool facilitates students’ learning at their own pace, both prior to and after the seminar. Prior to the seminar, the students are introduced to the concepts covered in the seminar. After the seminar, the students assimilate concepts at a deeper level and sharpen their analytical toolkit by doing quantitative exercises.
2. Operations Management, Eleventh Edition, Lee J Krajewski, Manoj K Malhotra, Larry P Ritzman, 2016, Pearson.

Planned Schedule

Week or Session	Topics or Themes	ILO	Readings	Delivery Mode	Activities
1	Course Introduction / Introduction to Operations and Process Analysis 1 (Little's Law and Applications)	1,2,3	Chapters 1 & 2, CT; Lecture Notes		
2	Process Analysis 2 (Capacity and Bottlenecks)	2,3,4	Chapters 3, 4, CT; Lecture Notes		
3	Process Analysis 3 (Set-up and Interruptions)	2,3,4	Chapter 7, CT; Lecture Notes		
4	Queues and Service Systems	2,3,4	Chapter 16, CT; Lecture Notes		
5	Project Management	2,3,4	Chapter 7, KMR, Lecture Notes		
6	Quiz #1/Applications of Linear Programming in Operations	2,3,4	Chapters 2 HH; Lecture notes		
7	LP Applications (contd.)/Linear Programming- Practicum	2,3,4	Chapters 2, 3 HH; Lecture notes		
8	Forecasting	2,3,4	Chapter 15 (Optional 15.5); Lecture Notes		
9	Introduction to Inventory Management	2,3,4	Chapters 10, 12 CT; Lecture Notes		
10	Quality Management (e-Learning)	2,3,4	Lecture Notes, Readings		
11	Quiz #2/ Inventory Management 2: Newsvendor Model	2,3,4	Chapter 13 (Omit 13.5); Lecture Notes		

Week or Session	Topics or Themes	ILO	Readings	Delivery Mode	Activities
12	Supply Chain Management	2,3,4	Lecture Notes		
13	Group Presentations	1,2,3,4			

Learning and Teaching Approach

Approach	How does this approach support you in achieving the learning outcomes?
Seminars	Please watch the seminar recordings prior to the class. The seminar sessions will have considerable opportunities for interaction and discussion on the conceptual questions raised in the class. This will allow you to think critically and share your ideas with the class. Deep thinking, reviewing materials and clarifying your doubts/questions will provide you a sound platform to do well in the course assessments.
Exercises/Assignments	You will be given exercises/assignments that will test how well you have absorbed the concepts after watching the seminar videos. These exercises will comprise short, simple questions (MCQ/True-False) and will have to be completed by the due date which will be prior to the class. You will be graded for these exercises.
In-Class activities	More detailed/complex exercises/case studies will be discussed in class and after allowing you some time for group discussion, I will call upon individuals to share their analysis. Practicing these exercises prior to the class will give you sound preparation for the course assessment. We will also discuss the real-life implications of this analysis. These exercises will not be graded.

Assessment Structure

Assessment Components (includes both continuous and summative assessment)

No.	Component	ILO	Related PLO or Accreditation	Weightage	Team/Individual	Rubrics	Level of Understanding
1	Summative Assessment (EXAM): Final exam(Final Examination)	ILO1, ILO2, ILO4	Acquisition of knowledge	25	Individual	Analytic	Multistructural
2	Continuous Assessment (CA): Test/Quiz(Quiz)	ILO1,ILO2,ILO4	Acquisition of knowledge_x000D_	30	Individual	Analytic	Multistructural
3	Continuous Assessment (CA): Assignment(Exercises/ Assignments)	ILO1,ILO2,ILO3	Acquisition of knowledge	10	Individual	Analytic	Multistructural
4	Continuous Assessment (CA): Project(Group Project (written report and in-class presentation))	ILO3,ILO4	Problem Solving & Decision Making Oral communication Teamwork and Interpersonal Skills	20	Team	Analytic	Multistructural
5	Continuous Assessment (CA): Class Participation(Class Participation)	ILO1,ILO3	Oral Communication_x000D_	15	Individual	Holistic	Multistructural

Description of Assessment Components (if applicable)

#A mandatory peer evaluation will be done for the Group Project at the end of the course. The peer evaluation forms are given in the Appendix/Outline. The project work marks will be adjusted for unequal contributions among members.

Formative Feedback

1. You will get feedback on quiz performance immediately on the conclusion of the quiz.
2. Feedback is central to the group project. You will be provided feedback on your project proposal to help you identify the strengths and weaknesses of your proposal. During the term, you will be provided verbal feedback on your analysis. Finally, you will be provided feedback on your project based on the rubric used for assessment.

NTU Graduate Attributes/Competency Mapping

This course intends to develop the following graduate attributes and competencies (maximum 5 most relevant)

Attributes/Competency	Level
Collaboration	Intermediate
Communication	Intermediate
Decision Making	Intermediate
Problem Solving	Intermediate
Critical Thinking	Advanced

Course Policy

Policy (Academic Integrity)

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values. As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. On the use of technological tools (such as Generative AI tools), different courses / assignments have different intended learning outcomes. Students should refer to the specific assignment instructions on their use and requirements and/or consult your instructors on how you can use these tools to help your learning. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Policy (General)

You are expected to complete all assigned pre-class readings and activities, attend all seminar classes punctually and take all scheduled assignments and tests by due dates. You are expected to take responsibility to follow up with course recordings and notes, assignments, and course related announcements for seminar sessions you have missed. You are expected to participate in all seminar discussions and activities.

Policy (Absenteeism)

Absence from class without a valid reason will affect your participation and overall course grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. If you miss a seminar, you must inform the course instructor via email prior to the start of the class.

Policy (Others, if applicable)

Good academic work depends on honesty and ethical behavior. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU HonorCode, a set of values shared by the whole university community. Truth, Trust, and Justice are at the core of NTU's shared values. As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion, and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

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