

TRINE

UNIVERSITY

Course Syllabus

Course Title: Designing Operations

Term and Year:

Course and Section Number: MGT 353

Time and Place: Online

Number of Credit Hours: 3

Instructor:

Office Hours:

Office Phone:

Email:

Course Description: This course examines the central concepts of designing operations in both manufacturing and service enterprises. Topics include process strategy, location and layout strategy, job design, quality management, planning, productivity, and the design of goods and services.

Prerequisites: MA 173 Essential Calculus

Learning Outcomes: Upon completion of this course, the student should be able to:

1. Assess how an effective operations strategy helps a company or organization improve operational productivity in order to create and maintain competitive advantage in a global economy.
2. Demonstrate competency in analyzing critical decisions in manufacturing and service organizations and discover how to reduce costs with effective operations management principles.
3. Evaluate location and facility layout strategies in relation to the success of every organization.
4. Analyze how product design, quality, and process strategy impacts productivity and profitability of a business.
5. Analyze operational management situations and demonstrate an ability to make ethical management decisions.
6. Demonstrate effective analytical and communication skills.

Required Text: OER / No text required.

References: N/A

Other Materials: N/A

Course Requirements:

Attendance/Participation: All students are expected to log in to their courses regularly throughout the week to receive instruction, materials, and updates from the instructor. It is your responsibility to check in and submit your assignments, complete your discussion board postings, and finish quizzes and exams by the due dates.

If you do not participate in the course, you will be counted absent. Simply logging in is not enough; you must submit/complete an assignment, post to a discussion board, or other similar assignment tasks to avoid being counted absent. Instructors are required to submit attendance the Monday following each week of class.

This attendance is reported to the Financial Aid Department and may result in the loss of any financial aid refund you are expecting if you have not been participating in your courses. **In addition, you will be administratively dropped from the course if you are reported absent a total of three weeks.**

Student “attendance” in online courses will be defined as active participation in the course as described in the course syllabus.

Grading/Evaluation:

The undergraduate course grading scale is as follows:

90-100% A	75-79% C+	60-64% D
85-89% B+	70-74% C	59% and below F
80-84% B	65-69% D+	

<u>Assignments</u>	<u>Occurrence</u>	<u>Points</u>	<u>Percentage</u>
Discussion Forums	8 at 20 points each	160	40%
Assignments	12 at 20 points each	240	60%
Total Points		400	100%

Other Policies:

Artificial Intelligence Policy: (Pick one below)

Artificial Intelligence (AI) is prohibited: All work submitted by students in this course must be generated by the student. Students may not have another person or entity contribute to an assignment for them, which includes using AI. Students may not incorporate any part of an AI-generated response in an assignment, use AI to formulate arguments, use AI to generate ideas for an assignment, or submit work to an AI platform for improvement. Using an AI tool to generate content may qualify as academic misconduct in this course.

OR

Artificial Intelligence (AI) is allowed: Students may use AI tools on instructor-identified assignments in this course. To adhere to our scholarly values, students must cite any AI-generated material that informed their work. Using an AI tool without proper attribution may qualify as academic misconduct in this course. It is the responsibility of the student to verify the accuracy, reliability, and ethical implications of AI-generated content.

Academic Misconduct:

The University prohibits all forms of academic misconduct. Academic misconduct refers to dishonesty in examinations (cheating), presenting the ideas or the writing of someone else as one’s own (plagiarism) or knowingly furnishing false information to the University by forgery, alteration, or misuse of University documents, records, or identification. Academic dishonesty includes, but is not limited to, the following examples: permitting another student to plagiarize or cheat from one’s own work, submitting an academic exercise (written work, printing, design, computer program) that has been prepared totally or in part by another, acquiring improper knowledge of the contents of an exam, using unauthorized material during an exam, submitting the same paper in two different courses without knowledge and consent of professors, or submitting a forged grade change slip or computer tampering. The faculty member has the authority to grant a failing grade in cases of academic misconduct as well as referring the case to Student Life.

Plagiarism:

You are expected to submit your own work and to identify any portion of work that has been borrowed from others in any form. An ignorant act of plagiarism on final versions and minor projects, such as attributing or citing inadequately, will be considered a failure to master an essential course skill and will result in an F for that assignment. A deliberate act of plagiarism, such as having someone else do your work, or submitting someone else's work as your own (e.g., from the Internet, fraternity file, etc., including homework and in-class exercises), will at least result in an F for that assignment and could result in an F for the course.

Electronic Devices:

Use of electronic devices including smart watches and cell phones is prohibited during exams or quizzes unless directly allowed by the instructor.

Course Mapping:

Week One: Operations and Productivity (LO1) (LO4) (LO6)	
Learning Activities and Materials	Assessments
<p>Read: Faramarzi, H. & Drane, M. (n.d.) Introduction to Operations Management. Chapter 1. Introduction to Operations Management (20 pages) (LO1) (LO4)</p> <p>Pavy, J., et. al. (2022). Strategies for Effective Business Communication. Section 2.1.3. Considering Your Relationship to the Audience and Their Position (2 pages) (LO6)</p> <p>Watch: Woods, W. (2017) The business benefits of doing good (15:24 minutes) (LO4)</p> <p>Listen: Ward, D. A. (2022) Podcast for OPS Professionals. (41:48 minutes) (LO1) (LO4)</p>	<p>Discussion Forum - Introduction: This discussion forum is an opportunity for you to share some information about yourself and get to know others in the course. It's important for online learners to create connections with other classmates as well as their instructor, so that they don't feel isolated in an online course.</p> <p>Please take a moment to introduce yourself to other participants in the course. Feel free to share where you're from, hobbies, professional/personal experiences or anything else that might help others get to know you. If you have a nickname (informal name used in place of your formal name), please share. (LO6)</p> <p>Discussion Forum:</p> <p>Select an organization you are familiar with and explain the optimization of people, processes, and craft incorporated to strengthen the operational design. (LO4)</p> <p>Written Assignment:</p> <p>Activities that Design Operations is concerned with include: organize, collaborate, humanize, standardize, harmonize, prioritize, measure, socialize, and enable. Explain how the relationship and prioritization of these components work together within the organization you</p>

	selected in this week's discussion forum. (LO1)
Week Two: Strategy, Competitiveness, and Forecasting (LO1 – LO6)	
Learning Activities and Materials	Assessments
<p>Read: Twin, A. (2023). Competitive Advantage Definition with Types and Examples (18 pages) (LO1)</p> <p>Nimbly Technologies. (2022). 10 Essential Decisions in Operations Management and Its Role in Your Business (7 pages) (LO2)</p> <p>Universal Class™ (2023). The Art and Science of Forecasting in Operations Management. (16 pages) (LO1) (LO2) (LO6)</p> <p>Kiran, R. (2023). Importance of Forecasting in Operations Management (9 pages) (LO1) (LO2) (LO6)</p> <p>Watch: Slack, N. (2021). Operations and Strategy with Nigel Slack (10:11 minutes) (LO4)</p> <p>FranklinCovey. (2018). Case Study: Frito Lay (13:55 minutes) (LO1-LO5)</p> <p>Avercast, LCC (n.d.). Forecasting Methods Overview (4:43 minutes) (LO1) (LO2) (LO6)</p>	<p>Discussion Forum:</p> <p>There are three primary ways to achieve competitive advantage – competing on differentiation, competing on cost, and competing on response. Provide an example of each and support your choice. (LO1)</p> <p>Ethical Dilemma – Test scores forecasting performance in the real world. (LO6)</p> <p>Case Study Assignment:</p> <p>Frito Lay: Operations in Manufacturing – Ten decisions of Operations Management (LO1-LO5)</p> <p>Forecasting Approach Assignment:</p> <p>Describe forecasting approaches and apply a forecasting approach to scenarios. (LO1) (LO2) (LO6)</p>
Week Three: Strategic Capacity Planning (LO1- LO6)	
Learning Activities and Materials	Assessments
<p>Read: Laoyan, S. (2023). What is capacity planning? Tips to apply the right strategy (18 pages) (LO1) (LO2) (LO4)</p> <p>Barone, A. (2023). Bottleneck: A Point of Congestion in a Production System (14 pages) (LO1) (LO2) (LO4)</p> <p>Krauβ, A. (2023). How do you overcome the bottleneck in production? (9 pages) (LO1) (LO2) (LO3) (LO4) (LO6)</p> <p>Listen: Kim, J. (2021) People Operations with Jennifer Kim (54:54 minutes) (LO5)</p>	<p>Discussion Forum:</p> <p>Capacity Planning – Apply the Right Strategy (LO1 – LO6)</p> <p>Bottleneck Assignment:</p> <p>A crucial constraint in any capacity strategy is the bottleneck, and operation managers must focus significant attention on it. (LO1 – LO6)</p> <p>Training Video</p> <p>Using Panopto, create a training video on the topic of how to avoid bottlenecks.</p>

	(LO1) (LO2) (LO3) (LO4) (LO6)
Week Four: Facility Location and Layout Strategies (LO1) (LO2) (LO3) (LO5) (LO6)	
Learning Activities and Materials	Assessments
<p>Read: Foley & Lardner LLP (2023). Closing a Facility? Don't Create Human Capital Problems (5 pages) (LO5) (LO6)</p> <p>Knight Frank (n.d.). Office Relocation Announcement: How to Communicate Your Move to Employees and Clients (9 pages) (LO6)</p> <p>Resonai (2022). 7 Retail Store Layout & Organization Strategies that Boost Sales (8 pages) (LO1) (LO3)</p> <p>Inc. (2023). Facility Layout and Design (17 pages) (LO1) (LO3)</p> <p>Klar, M., Mertes, J., Glass, M., Ravani, B., & Aurich, J.C. (2023). Section 4. Framework for Factory Layout Using Reinforcement Learning (beginning on page 135 of PDF document) (7 pages) (LO3)</p> <p>Roy, R. (2023). What is an Instruction Manual & How to Create One (8 pages) (LO3)</p> <p>Watch: Two Teachers (2020). Factors Influencing Business Location Explained (7:53 minutes) (LO3)</p> <p>Listen: BPA Educators (2021). What is Facility Location in Operational Management? (8</p>	<p>Panopto Discussion Forum:</p> <p>Informing employees of a facility closing and/or relocation (LO3) (LO5) (LO6)</p> <p>Discussion Forum:</p> <p>Visit a local store (i.e., supermarket, convenience store, specialty store, department store, discount store, big box/superstore) and sketch its layout. What are your observations regarding departments and their locations? Share your sketch and observations in this discussion forum. (LO1) (LO3)</p> <p>Facility Location Differences Assignment:</p> <p>What are the major differences in site location for a restaurant versus a retail store versus a manufacturing plant? (LO2) (LO3)</p> <p>Layout Strategies Assignment:</p> <p>Provide at least two (2) examples of the following layout strategies. Examples of the first strategy, Office, have been provided as a guide. (LO1) (LO3)</p> <p>Instruction Manual Assignment:</p> <p>Create a supervisor instruction manual</p>

minutes) (LO2)	explaining reinforcement learning when creating a framework for factory layout planning. (LO1) (LO3)
Week Five: Human Resources and Job Design (LO1) (LO4)	
Learning Activities and Materials	Assessments
<p>Read: YourCoach BV (2022). Employee Motivation Theories (2 pages) (LO1) LO4)</p> <p>Tsarouhas, P. (2023). New Trends in Production and Operations Management (6 pages) (LO1)</p> <p>Wilke, D. (2019). What's the Difference Between a 'Good' Job and a 'Bad' Job? (8 pages) (LO1)</p> <p>Mind Manager. (2023). Guide to understanding Venn diagrams (13 pages) (LO1)</p> <p>Listen: Empmonitor Blog (2023). Tips to Improve Productivity in the Workplace (11:13 minutes) (LO1) LO4)</p>	<p>Discussion Forum:</p> <p>Five core characteristics of good job design – share a situation where you were highly motivated. (LO1) LO4)</p> <p>Job Redesign Assignment:</p> <p>Redesigning jobs to improve productivity (LO1) LO4)</p> <p>Venn Diagram Assignment:</p> <p>Create a Venn Diagram to compare and contrast a badly designed job vs. a well-designed job (LO1)</p>
Week Six: Supply Chain, Inventory Management, and Facility Layout Strategies (LO1) (LO2) (LO4) (LO5)	
Learning Activities and Materials	Assessments

<p>Read: IBM (n.d.). What is supply chain management? (13 pages) (LO1) (LO4)</p> <p>Misra, S. (2023). 5 Types of Inventory Costs (22 pages) (LO2)</p> <p>McGuire, S. (2020). 28 Process Infographic Templates and Visualization Tips (19 pages) (LO1)</p> <p>Listen: Barnes-Humphrey, S. (2023). Stop Supply Chain Chaos and Get One Step Ahead, with Osa Commerce (37 minutes) (LO5)</p>	<p>Discussion Forums:</p> <p>Supply chain strategy and characteristics (LO1) LO4) (LO5)</p> <p>Inventory System Costs Written Assignment:</p> <p>Provide a description and example of the following costs that are involved in an inventory system: holding cost, shortage cost, cost of lost goodwill, and ordering cost (LO2)</p> <p>Infographic Assignment:</p> <p>Create a process infographic illustrating characteristics of the supply chain researched for this week's discussion forum. (LO1)</p>
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References:

Avercast, LCC (n.d.). Forecasting Methods Overview https://www.youtube.com/watch?v=fp-1_9mLlbc

Barnes-Humphrey, S. (2023). Stop Supply Chain Chaos and Get One Step Ahead, with Osa Commerce <https://podcasts.google.com/feed/aHR0cHM6Ly8yYmFiZXN0YWxrc3VwcGx5Y2hhaW4ubGlic3luLmNvbS9yc3M/episode/MWNmNmVIM2ltZjU3Yy00OThtLTkyYzU0YWIwZDY1MzgwMjI1?sa=X&ved=0CAUQkfYCahqKEwiY7ebhjZ6CAxUAAAAAHQAAAAAQhSM>

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Foley & Lardner LLP (2023). Closing a Facility? Don't Create Human Capital Problems <https://www.jdsupra.com/legalnews/closing-a-facility-don-t-create-human-33047/>

FranklinCovey. (2018). Case Study: Frito Lay. <https://www.youtube.com/watch?v=X-hJGkrxZAU>

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Kaplan, K. (2019) DesignOps FAQ: 6 common questions about design operations <https://www.nngroup.com/articles/design-ops-faq/>

Kim, J. (2021) People Operations with Jennifer Kim <https://www.opsy.work/podcast-jennifer-kim/>

Kiran, R. (2023). Importance of Forecasting in Operations Management <https://www.tutorialspoint.com/forecasting-models-used-in-operations-management>

Klar, M., Mertes, J., Glass, M., Ravani, B., & Aurich, J.C. (2023). Section 4. Framework for Factory Layout Using Reinforcement Learning C:\Users\rtbat\Downloads\978-3-031-35779-4.pdf (This pdf document will be included in the course room)

Knight Frank (n.d.) Office Relocation Announcement: How to Communicate Your Move to Employees and Clients <https://www.knightfrank.co.uk/office-space/insights/help-with-moving/office-relocation-announcement-how-to-communicate-your-move-to-employees-and-clients/>

Krauβ, A. (2023). How do you overcome the bottleneck in production? <https://www.vistable.com/blog/value-stream-analysis-lead-time/6-measures-to-resolve-the-bottleneck-in-production/>

Laoyan, S. (2023). What is capacity planning? Tips to apply the right strategy <https://asana.com/resources/capacity-planning#:~:text=is%20capacity%20planning%3F-,Capacity%20planning%20is%20the%20process%20of%20determining%20the%20potential%20needs,project%2C%20or%20the%20necessary%20budget.>

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Misra, S. (2023) 5 Types of Inventory Costs <https://www.deskera.com/blog/inventory-cost/>

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Pavy, J., et. al. (2022). Strategies for Effective Business Communication. <https://louis.pressbooks.pub/businessprofessionalcomm/>

Resonai (2022). 7 Retail Store Layout & Organization Strategies that Boost Sales <https://www.resonai.com/blog/retail-store-strategies>

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https://www.investopedia.com/terms/c/competitive_advantage.asp

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<https://www.universalclass.com/articles/business/the-art-and-science-of-forecasting-in-operations-management.htm>

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<https://www.shrm.org/resourcesandtools/hr-topics/employee-relations/pages/good-and-bad-jobs.aspx>

Woods, W. (2017) The business of doing good
https://www.ted.com/talks/wendy_woods_the_business_benefits_of_doing_good

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https://www.ted.com/talks/wendy_woods_the_business_benefits_of_doing_good

YourCoach BV (2022). Employee Motivation Theories <https://www.yourcoach.be/en/employee-motivation-theories/hackman-and-oldham-job-characteristics-model/>