

(Some) Foundations of Operations Management Spring 2023

Instructors:

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Time: Location:

Office hours: Please send me an email.

Description

Operations Management is the science behind the delivery process of products and services. At this level, it encompasses a host of questions associated with production, supply chain, customer interfacing processes, allocation decisions, pricing, ...

This course will have multiple objectives. The primary objective will be an introduction to some classical themes in Operations Management. Throughout the course, we will discuss some classical papers, but also how these connect to current themes in the area. The second objective for the course will be for students to develop critical thinking skills pertaining to research questions in the area, and to get exposure to different themes and approaches to tackle research questions. Students will read a number of papers and reflect on these.

Pre-requisites: Linear Programming, Stochastic Modeling I, Optimization I

Organization and Grading: Class grades will be based on the following components with the stated weights:

- Final project: 40% The final project is a review paper of a theme covered in class, or alternatively a research proposal. This can be done in groups of up to two students. Each group will submit a final report at the end of the course. A tentative timeline for the project is as follows.
 - 1) One page proposal due in week 6 for preliminary feedback.
 - 2) A final report at the end of the course.
- Homeworks: 30%
Homeworks will be a combination of exercises related to papers. There will be about 4 homeworks during the semester.

- presentations: 20%

Each student will be asked to present at least one paper and also to be a discussant for other paper(s). The student conducting the presentation is expected to prepare a deck of professional slides (Powerpoint, Beamer, etc.), and a brief one-page summary of the paper or topic on which the presentation is focused. The one-pager will be due at 11:59pm on the day prior to the presentation.

- Scribe: 10%

Each session, one individual will be responsible for taking notes and typing these in Latex.

Tentative list of specific topics

Week 1) General intro +

Early Production/Inventory Planning

Week 2) Early Stochastic Inventory Theory

Week 3) Risk Pooling and Process Flexibility

Week 4) Supply Chains I

Week 5) Supply Chains II

Week 6) Queueing Models I

Week 7) Queueing Models II

Week 8) Pricing and Revenue Management I

Week 9) Pricing and Revenue Management II

Week 10) Managing Variety

Week 11) General current themes

Week 12) General current themes