

Operations Management

Course Faculty

Dr. Xishu Li (x.li@sbb.leidenuniv.nl)

Office: Huygens 101

Office hours: Tuesdays 4-5pm, by appointment

Teaching Assistant

Remo Oostdam (r.p.oostdam@umail.leidenuniv.nl)

Course Coordinator

Esme Caubo (e.caubo@liacs.leidenuniv.nl)

1. Course Description

Operations Management (OM) is concerned with planning, organizing, managing, controlling and supervising the entire production process which converts inputs, such as labor and energy, into outputs, such as goods and services. It is the management of the various business activities that take place within an organization and contributes in making the products to align with customer's requirements. Under OM, there is the optimum utilization of resources leading to enormous profits of the organization. OM plays a vital role in any type of business. It involves similar management for every industry or business irrespective of their nature of the operation.

The OM literature is huge and spans more than 5 decades of an exciting blend of theory and application. The purpose of this course is to introduce students to some of the fundamental aspects of OM, e.g., inventory management, facility location planning, capacity management, risk mitigation, pricing, etc. More specifically, the course will:

1. Make students conversant in the language of OM and expand their knowledge in this field.
2. Help students develop modeling skills and provide them concepts and problem-solving tools, which are applicable to OM. We will cover various mathematical and analytical techniques in both traditional application domains, such as inventory control, and emerging application domains, such as online product assortment.
3. Give students 'hands-on' feel of how OM decisions are made in practice and why they are so complex.

We recommend (NOT mandatory) the following books for this course:

1. **Simchi-Levi, Kaminsky and Simchi-Levi, Designing and Managing the Supply Chain, Irwin McGraw Hill, 3rd edition, 2008.**
2. **Chopra and Meindl, Supply Chain Management, Prentice Hall, 2nd edition 2004.**

There will also be complementary readings provided throughout the class (see course manual for more details).

2. Teaching Methods

The course will be a mix of in-person lectures, live online lectures, recorded online lectures, case discussions and computerized applications. You are expected to prepare all the pre-assigned readings before coming to class, and be active and effective participants during the class. Attendance is **mandatory** for in-person lectures and live online lectures.

Recorded Online Lectures

Recorded online lectures allow students with diverse backgrounds to learn at their own pace. You are expected to watch the lecture videos and finish corresponding exercises **before** the live online lectures.

Case Preparation

A case study requires a very thorough preparation. You are expected to read the case, and prepare for the accompanying questions, before coming to class.

Computerized Applications

Excel (with solver) spreadsheets

Spreadsheets have become the principal software application for teaching decision models in most business schools. In particular, Excel solver, a tool that uses techniques from the operations research is used extensively for finding optimal solutions for all kind of decision problems. In Lecture 4, we will learn how to build an optimization model based on an operations problem (e.g., capacity and transportation planning) and how to solve it using excel solver.

3. Assignments

There are three individual assignments, one group assignment and a pitch on the group assignment.

Individual Assignment Policy

- You do not need to submit the individual assignment.

Group Assignment Policy

- The group assignment should be submitted in electronic copy to Brightspace at the specified time and date.
- The pitch is scheduled in the last lecture.

4. Mid-term Exam and Exam

There is a closed-book **mid-term exam** based on the content of Lecture 3 and 4. This mid-term exam will take place in Lecture 5. The final exam is also closed-book and it covers all the lecture content (both live and recorded online).

5. Grading

Your final grade will be determined according to the following components (see the table below).

You need to have at least 5.5 for the weighted average and at least 4 for each of individual

components to pass the course. If you failed the course, you should attend the re-sit. The re-sit is still a closed-book exam and it will account for 40% of your final grade, while your previous weighted average counts for the other 60% of the final grade. After the re-sit, if your final grade is at least 5.5, then you pass the course.

Components	Weights
Group assignment	15%
Pitch	10%
Mid-term exam	35%
Exam	40%

Some rules that the course coordinator would like you to know:

- Students are responsible for enrolling/unenrolling themselves for (partial) exams/retakes.
- The deadline for enrolling for an exam/retake is 10 calendar days before the exam/retake takes place (exam date - 10 = deadline enrolling date).
- Students who do not enroll themselves for an exam/retake by the deadline are not allowed to take the exam/retake.
- The final grade is expressed as a whole or half number between 1.0 and 10.0, including both limits. The result is not to be expressed as a number between 5.0 and 6.0.
- Partial grades, inclusive of the exam grade will not be rounded. If partial grades will be communicated, it is possible partial grades are rounded, but unrounded partial grades will be used in the calculation of the final grade. The final grade will be rounded at 0.5 (5.49 will be rounded down to a 5 and a 5.5 will be rounded up to a 6.0).
- It is not possible to do retakes for group assignments.
- For courses, for which class participation is an assessment component, students may not be penalized for an absence if the student has a legitimate justification for this absence. The student must notify the program coordinator via email (info@sbb.leidenuniv.nl) of such an absence BEFORE the lecture, describing the reason for missing the lecture. If the student does not notify the program coordinator before the lecture, the student will be penalized. Students may be required to provide further documentation to substantiate their case, and class attendance requirements are only waived under exceptional circumstances such as illness.
- Students who are entitled to more exam/retake time must report to info@sbb.leidenuniv.nl 10 days before the exam/retake takes place.