

- Faculté des sciences économiques
- [www.unine.ch/seco](http://www.unine.ch/seco)

## Logistics and Supply Chain Management (5EN1030)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Bachelor en sciences économiques, orientation économie politique</b>	<b>Cours: 2 ph</b>	Voir ci-dessous	3
<b>Bachelor en sciences économiques, orientation management</b>	<b>Cours: 2 ph</b>	Voir ci-dessous	3
<b>Pilier principal B A - management</b>	<b>Cours: 2 ph</b>	Voir ci-dessous	3

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

### Période d'enseignement:

- Semestre Automne

### Equipe enseignante

Prof. Dr. Eng. Nicolas Zufferey, GSEM - University of Geneva, [n.zufferey@unige.ch](mailto:n.zufferey@unige.ch)

Prof. Dr. Eng. Olivier Gallay, HEC - University of Lausanne, [olivier.gallay@unil.ch](mailto:olivier.gallay@unil.ch)

### Objectifs

One of the goals of this course is to be able to represent logistical problems by the use of quantitative models (e.g., linear programming, graph theory). Another objective is to be able to solve such problems by the use of the appropriate exact methods and heuristics. In other words, students are expected to be able to translate real problems into mathematical models, and to use the appropriate quantitative methods to tackle the presented models.

### Contenu

Schedule (14:00 - 18:00) and contents

Session 1 Sept. 21 Distribution Requirement Planning (DRP). Balancing an Assembly Line.

Session 2 Sept. 28 Facility Layout. Vehicle Routing.

Session 3 Oct. 12 Quality Management.

Session 4 Oct. 26 Midterm exam (50% of the final mark). Presentation of an industrial project.

Session 5 Nov. 09 Linear Programming and Facility Location.

Session 6 Nov. 16 Flow models for production problems.

Session 7 Nov. 30 Final Exam (50% of the final mark).

### Forme de l'évaluation

Form of the evaluation : EI

There will be a midterm exam (50% of the final mark) and a final exam, the last course of the semester (50% of the final mark, covering the whole course, but with a very strong focus on the part after the mid-term). All the exams are written and individual.

Retake exam: written exam (2 hours) during retake session (counts for 100% of the final grade).

A basic calculator is allowed (containing only one line of information in its screen).

Important: Documents are forbidden. Notes, texts, books and other documentation, as well as computers, connected phones and other connected electronic devices are not allowed in the examinations.

In case of violation of these rules, these items will be removed and the exam will be considered void.

### Documentation

A copy of the slides (but not the ones with solutions) will be provided in PDF format.

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### **Logistics and Supply Chain Management (5EN1030)**

There is no compulsory textbook. The student interested in going farther than the course can for example read the following documents.

- J. B. Dilworth (1989) Production and Operations Management - Manufacturing and Nonmanufacturing, McGraw-Hill Ryerson.
- J. G. Monks (1997) Operations Management: Theory and Problems, McGraw-Hill.
- R. B. Chase, F. R. Jacobs, and N. J. Aquilano (2004) Operations Management for Competitive Advantage, McGraw-Hill.
- W. L. Winston, and M. Venkataramanan (2002) Introduction to Mathematical Programming: Applications and Algorithms, Duxbury Press.

#### **Forme de l'enseignement**

The professor will alternate between theoretical parts and the modeling/solution of exercises