



**Next Generation Distribution :**

**Warehousing Strategies, Automation and Robotics**

**2026-2027**

**Credits: 3**

**Code: 62002A-00033**

**Language of Instruction: English**

## Faculty

---

**Name:** Roel Gevaers

**Email:** roel.gevaers@uantwerpen.be

## Learning Outcomes

---

|     |                         |                                                                                                                                                                                                   |
|-----|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LO1 | <i>program specific</i> | The Master in GSCM develops and critically evaluates end-to-end supply chain strategies that align with organizational goals and respond to dynamic market conditions.                            |
|     | <i>course specific</i>  | You analyze demand, service, cost and risk drivers to recommend a centralized, decentralized or hybrid distribution and warehousing strategy aligned with organizational priorities.              |
| LO3 | <i>program specific</i> | The Master in GSCM analyzes, designs, and manages international logistics flows, distribution systems, and production networks with attention to efficiency, resilience, and sustainability.      |
|     | <i>course specific</i>  | You design warehouse and last-mile flows using facility location, handling, order picking and urban consolidation principles to improve capacity, service, resilience and operational efficiency. |
| LO4 | <i>program specific</i> | The Master in GSCM assesses the impact of emerging technologies, data analytics, automation and AI-enabled tools on supply chain performance and leads digital transformation initiatives.        |
|     | <i>course specific</i>  | You compare automation and robotics alternatives using throughput, availability, CAPEX, OPEX, energy, error rates and maintenance evidence to justify a warehouse technology recommendation.      |

|     |                         |                                                                                                                                                                                                     |
|-----|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LO5 | <i>program specific</i> | The Master in GSCM develops supply chain solutions that incorporate environmental, social, and ethical considerations, contributing to sustainable and circular business models.                    |
|     | <i>course specific</i>  | You assess distribution alternatives using emissions, energy use, urban access restrictions, reusable packaging and social impacts to recommend a more sustainable and responsible operating model. |
| LO  | <i>course specific</i>  |                                                                                                                                                                                                     |

## Course Content

---

This course examines the critical components of modern distribution networks, with a focus on strategic warehousing, automation, urban logistics, and e-commerce fulfillment. You will explore key distribution strategies, including centralized and decentralized models, last-mile delivery, and the unique challenges of urban logistics. The course also addresses the impact of e-commerce on distribution networks, highlighting how automation and smart technologies can enhance operational efficiency.

## Prerequisites

---

The following courses from Semester I have to be completed prior to this course:

- Transportation Modes and Strategies
- Supply Chain Financial Management
- Global Supply Chain Models

## Method of Instruction

---

Practice Sessions

Business Game

Excursions

Guest Lecture

Paper

Discussion

## Assessment Method & Criteria

---

|                     |     |
|---------------------|-----|
| Oral Open Book Exam | 70% |
| Individual Paper    | 30% |

## Study Materials

---

All study materials will be available on Brightspace.

Optional:

### **Transport Economics**

Authors: G. Blauwens, P. De Baere, E. Van de Voorde

Publisher: De Boeck/Van Inn

### **Operations, Logistics and Supply Chain Management**

ISBN: 9783319924472

Authors: Henk Zijm, Matthias Klumpp, Alberto Regattieri, Sunderesh Heragu

Publisher: Springer

Publication Date: 2018-08-29

### **The Routledge Handbook of Urban Logistics**

ISBN: 9781000905502

Authors: Jason Monios, Lucy Budd, Stephen Ison

Publisher: Taylor & Francis

Publication Date: 2023-06-23

### **Evaluation of innovations in B2C last mile, B2C reverse & waste logistics**

Authors: R. Gevaers

Publisher: University of Antwerp

Publication Date: 2013