

**TalTech School of Business and Governance**  
**TMJ0230 Logistics and inventory management**  
Extended syllabus spring 2025

- Course aims:**
1. To develop multidimensional understanding of the nature of logistics, scope and role, challenges and value creation, analytical concepts and various priorities in the context of a firm and a supply chain.
  2. To explain main decisions and analytical approaches in inventory management and to develop ability to reach context-specific inventory management decisions and analyse the impact.
  3. To develop skills to work in the field of logistics operations and to develop team-working capabilities.

- Learning outcomes:**
- ILO #1: Explains terminology and concepts of business logistics and analyses relationships between concepts, their applicational considerations and relationships with other business functions and general business performance.
- ILO #2: Analyses performance of supply chains and inventory, identifying bottlenecks and setting improvement priorities.
- ILO #3: Discusses logistics and business performance and relevant concepts fluently.

**Brief description of the course (topics):**

The nature of logistics and perspectives. Global challenges in logistics. Challenges in business logistics. Logistics contribution to value generation and impact to competitive position. Component areas of business logistics and dependencies. Logistics management as a management of flows. The role of information and information systems in logistics. Logistics performance measurement. Perfect order. SCOR metrics. Service quality gap analysis. The components and types of costs in logistics, total cost concept. Logistics development drivers and trends in economic and business environment. Conceptual evolution of business logistics. Push and pull logistics. Lead-time gap. Supply chain decoupling points. Supply chain management as extension of logistics. Supply chain mapping and analysis, lead time compression. Transport arrangements and optimization. Incoterms. Carrier, forwarder liability. Logistics outsourcing. Inventory role and reasons. Relations to manufacturing and purchasing. Service level strategy. Inventory control. Inventory management principles. Forecasting. Safety stock. Optimal order quantity. Inventory related costs. Replenishment systems. MRP-based planning. Inventory performance analysis. ABC-XYZ analysis. Stockout impact and measurement. Inventory role in a variety of supply chain improvement concepts. LEAN and AGILE logistics. Just-in-time logistics and Toyota Production System. Theory of Constraints. Bullwhip effect and ways to alleviate the impact. Quick Response logistics. Vendor Managed Inventory. Logistics improvement and effect to RoA.

**Language of the course:** English

**ECTS credits:** 6 ECTS

**Students:** This is a compulsory course for students studying on TVTB programme. Guests from other programme or via Erasmus are most welcome to join.

**Special needs:** Persons with disabilities can participate in this course. Please inform the professor(s) as soon as possible regarding any special instruction, or assessments of this course that may be necessary to enable you to fully participate in this course.

- Registration:** Students who would like to take the course should declare the course in the ÖIS (Student Information System) by deadlines set in the academic calendar.
- Prerequisites:** None. Basic introductory course, suitable as elective for anyone interested.
- Resources:** A laptop is rather handy for most seminars.
- Teacher:** Tarvo Niine [tarvo.niine@taltech.ee](mailto:tarvo.niine@taltech.ee)
- Schedule for classes:** 12 weeks, one 90 min lecture, one 90 min seminar. Occasional changes to accommodate possible guest speakers and/or different types of learning activities.
- Study process description:** Even though there are face-to-face lectures, the material is pre-recorded and can be accessed without limitations throughout the course. Most seminars require preparation in advance, often working in small groups. Details specified on Moodle.
- Course's e-support:** Course has full Moodle support: <https://moodle.taltech.ee/course/view.php?id=34743>  
Students are enrolled on the course using a key obtained in first lesson.
- Study literature:** Harrison, A.; van Hoek, R. "Logistics Management and Strategy"  
+ various reading materials available on Moodle
- Continuous assessment:** Our course has multiple homework tasks specified in detail on Moodle, which altogether contribute 44% to the final grade, leaving 56% for the final exam.  
The most sizeable homework is an individual paper + presentation on a topic selected from a pre-defined list. The choice of topic will be open in the beginning of the course. Presentations are scheduled to take place on final seminar weeks. The result contributes 12% to the final grade. The paper is due at the beginning of week #9.
- Exam:** Our exam is built around three pillars: lecture materials, seminar topics and referenced individual reading and audio material from various sources. The exam is open-book, 90 minutes, mostly consisting of short open questions. There will be three exam days to choose from and require registration on OIS. The exam is strictly individual. The exam mostly expects students to explain terminology and relate concepts with various contexts. The exam, due to open-book nature, is not primarily designed to be a memory exercise rather than expression of analytical understanding. There shall be three exam days in April-May 2024. It is possible to use second / third time for improvement.

Assessment methods	Learning outcomes and assessment criteria
<p><b>Running week-to-week seminar tasks = "small homeworks"</b></p> <p>Six tasks, 4p each. All reports of groupwork outcomes alongside presentation in seminar. Two tasks are case studies, two report on a brain-storming session, one is a flipped-classroom presentation, one is a reflection task on a field trip.</p>	<p>All six "small homework" tasks are aimed to develop and assess ILO #1 and #3. Report submission is typically due on the following lesson.</p> <p>The group shall not earn max points if the content is lacking in expected depth or is analytically lacking or contradictory. Misused terminology can mean deduction of points. Similarly, shortcomings in written and verbal communication and presentation skills can mean deduction of points. A lacking content scope and analytical weakness shall not provide max points even when delivered in a professional manner. Similarly, strong content does not provide max points if delivered with shortcomings.</p>
<p><b>Big homework #1</b> – group presentation on characteristics of inbound logistics in a company, based on a predefined structure / interview plan. Max 8p. Groups</p>	<p>ILO #2 and ILO #3. The students describe and analyse inbound logistics from the perspective of a certain company of their free choice, focusing on two inbound materials / purchase items, and present their view on relevant managerial priorities.</p>

are formed in the beginning of the course and the task is due in the second half of the course.	<p>The task assumes an interview with a company representative, who is sufficiently topically knowledgeable. The group earns max points when all the component questions are discussed without logical contradictions. The group can lose points for topical gaps or for logical contradictions.</p> <p>A lacking content scope and analytical weakness shall not provide max points even when delivered in a professional manner. Similarly, strong content does not provide max points if delivered with shortcomings.</p>
<b>Big homework #2</b> – report and presentation on a topic chosen from a predefined list. Max 12p. Can be done individually or in duo.	<p>ILO #1 and ILO #3. All authors must submit a topical report (expectations specified on Moodle) which is also formatted according to faculty guidelines. All authors are also required to carry out a presentation of their paper.</p> <p>Grading is 50% from the teacher, 50% from the peers. In a “flipped classroom” approach, the aim is to provide insight and reflect own learning to peers. The group earns max points from the teacher when the topic is sufficiently covered and the presentation is of good quality and meeting regular academic expectations for teaching practice. Raising debate with audience is treated as a virtue. Students are encouraged to follow the same principles in their grading.</p> <p>Concerning the part of grade from the teacher, a lacking content scope and analytical weakness shall not provide max points even when delivered in a professional manner. Similarly, strong content does not provide max points if delivered with shortcomings.</p>
<b>Exam</b> in writing, open book, individual, max 56p.	ILO #1 and #2. Students are expected to express their understanding and opinion on various ideas, concepts and their applicational perspectives.

**Eligibility for assessment:** No prerequisites

**Final grade formation:** Homework tasks running mostly weekly through the semester contribute 44% to the final grade, leaving 56% for the final exam. The sum of points for each item is converted into a grade using the following principles: “5” excellent 91-100; “4” very good 81-90; “3” good 71-80; “2” satisfactory 61-70; “1” poor 51-60; “0” fail less than 51.

**Academic integrity:** *“As a student at TalTech School of Business and Governance, you have an obligation to conduct your academic work with honesty and integrity according to University standards. It is expected that all work that you submit will be your own, and that you have actually done the work you are submitting. Plagiarism and cheating are not tolerated. Should one be found guilty of such activities, it will be followed with grade “0” and a notice will be filed to the School’s Committee for Handling Violations of Academic Practice and Contemptible Behaviour. Depending on the Committee’s proposal, it may lead to Dean issuing a letter of reprimand or in case of severe misconduct, exmatriculation from the University.” – official legal statement*  
*“More importantly, cheating is not cool.” – Tarvo*

## Schedule and topics

The lectures are composed around three major thematic blocks:

1. Introduction. Logistics challenges. Problems. Perspectives. Logistics as a source of competitive advantage. Logistics technological and transport perspective.
2. Supply chain analysis. Lead time. Inventory turnover. Decoupling points. JIT logistics.
3. Inventory management concepts. Process control and the role of cooperation in supply chain.

Seminars are designed to be independent units – every seminar has a new topic. More details on Moodle.