

SUBJECT PROGRAM – SUPPLY CHAIN MANAGEMENT SIMULATION

The code of the subject:
The name of the subject:	Logistic Simulations
Lecturer	Position, degree
Credit Points:	3 ETCS
Evaluation method:	Graded evaluation

The general purpose of the subject

To develop independent thinking and the ability to see the connections between different parts in supply chain.

Simulation will enable students to solve complex business problems related to the journey of products and services from the manufacturer or provider to the end customer. Students will gain an understanding of the techniques required for managing and improving the integration of resources, processes and customer requirements.

ChainSim simulation helps to understand principles, theories and practices of material requirements planning (MRP) and supply chain management, critically evaluate and link those to various aspects of performance (financial measures as well as physical inventory aspects). Simulation can be paused, whereas real life cannot. Pausing allows more time for students to assess the situation.

ChainSim is an online-based educational simulation in which the student will manage the supply chain of a small manufacturing company. It can be played individually or in teams.

Learning Outcomes:

- 1) Measuring cost and performance in Supply Chain
- 2) Understanding the basic frame and key issues of Supply Chain and Production Planning
- 3) Define the supply chain concepts and key managerial processes
- 4) Develop analytical methodologies for Supply Chain analysis
- 5) Develop systematic thinking and making students understand that every decision affects the whole chain
- 6) Learn how to optimize the basic cost of procurement, inventory management and transport logistics
- 7) Supplier selection, assessment, sourcing strategies, total cost optimization. Bill of materials.
- 8) Analyze the manufacturing operation of a firm
- 9) Learn and test how to apply Lean manufacturing concepts
- 10) Improves decision making in teams
- 11) the student recognises co-responsibility and can contribute to a holistic approach.

The study format and the content

The study is scheduled for one semester from September-December or from February - May, which covers the study of theoretical aspects of supply chain management simulations and using simulations.

Classes are scheduled for 2 academic hours each week in forms of e-learning classes. The course is structured according to problem-based learning, which involves using the variety of active learning methods.

Storyboard

Learning week (LW)	Activities
LW 1 - 2	The basics of supply chain management. ChainSim Level 1, teamwork, results analyses. Suppliers and procurement. ChainSim Level 2, teamwork, results analyses
LW 3 - 4	Warehouse management and safety stock. ChainSim Level 3, teamwork, results analyses Customers and demand. ChainSim Level 4, teamwork, results analyses
LW 5 - 6	Finance management in supply chain. ChainSim Level 5, teamwork, results analyses Transport methods and INCOTERMS. ChainSim Level 6, teamwork, results analyses
LW 7-8	Production planning. ChainSim Level 7, teamwork, results analyses Whole supply chain management. Teamwork, exam.
LW 9-10	PTV Smart Tour
LW 11-12	PTV Smart Tour
LW 13-14	PTV Smart Tour
LW 15-16	PTV Smart Tour

Evaluation criteria/assessment

Students' success is measured by company profits as well as through a dynamic evaluation process in which students answer probing questions from the teacher and class members.

In ChainSim simulation the minimum requirement for passing a level x: Products fully delivered!

If Comp. of stock is higher or lower than 200 units then -1 point from profit points.

For example, level 4:

Total profit 2650\$ and comp of stock 180. Total points: 8 - 1 = 7 points.

Grades:

Grade A/5/ (Excellent): points 10 - 9

Grade D/2/ (Average): points: 4 - 3

Grade B/4/ (Very Good): points 8 - 7

Grade E/1/ (Accepted): points 2 - 1

Grade C/3/ (Good): points 6 - 5

Grade F/0/ (Failure): Products not fully delivered.

Learning Materials

- 1) Online simulation: www.chainsim.com
- 2) PTV Smart Tour: <https://www.ptvgroup.com/en/solutions/products/ptv-route-optimiser/>

LEVEL 1- 4

Points	Profit (\$):
10	≥ 3200
9	≥ 2900
8	≥ 2600
7	≥ 2300
6	≥ 2000
5	≥ 1700
4	≥ 1400
3	≥ 1300
2	≥ 1000
1	<1000

LEVEL 5

Points	Profit (\$):
10	≥ 2500
9	≥ 2300
8	≥ 2100
7	≥ 1900
6	≥ 1700
5	≥ 1500
4	≥ 1300
3	≥ 1100
2	≥ 900
1	<900

LEVEL 6 - 7

Points	Profit (\$):
10	≥ 1600
9	≥ 1400
8	≥ 1200
7	≥ 1000
6	≥ 800
5	≥ 600
4	≥ 400
3	≥ 200
2	≥ 100
1	<100

Storyboard (LS)

