

Course description

1 General information

Course name	Inventories and Warehousing
Course code	
Level of study (B.Sc, M.Sc., PhD.)	B.Sc.
ECTS	5
Course manager	PhD. Augustyn Lorenc M-08
Course length	One (1) semester
Coordinator for international programs	erasmus@mech.pk.edu.pl

2 Prerequisites

- Basics knowledge of transport and distribution

2 Program

Type	Lectures	Classes	Labs	Computer labs	Project	Seminar
Hours	30	15	15			

3 Contents

Lectures		
No.		Hours
1	Role of a warehouse in supplies chain, types of warehousing structure	3
2	Transport processes in a warehouse	4
3	Method of product picking and routing	5
4	Role and methods of warehouse layout design,	3
5	Analysis of effectiveness in warehouses, logistic centres and container terminals	3
6	Forecasting of market demand, a modern method like Just-in-time, Just-in-Sequence, lean, seven wastes and Muda conception	3
7	New intralogistics solutions. Intermodal transport systems, new worldwide trends in stocks	9

Classes		
No.		Hours
1	Location decisions according to build or rent a new warehouse or logistic/distribution centre	5
2	Calculating parameters of warehouse and logistic centre	5
3	Choosing of transport and stock equipment (rack, forklift and others)	5

Labs		
No.		Hours
1	Mapping the intralogistics process	2
2	Working with orders picking data – real case from the distribution centre. Introduction to Big Data analysis in Tableau software. Data combining, modifying, preprocessing and analysis. Data visualization on the warehouse plan.	9
3	Planning internal transport, stocking and picking in logistic centre – case study base on real data.	4

3 Learning Outcomes (skills and knowledge):

- Knowledge of practical solution how to make warehouse internal transport and processes effectiveness
- Knowledge about the method of managing inventories, stocking, forecasting
- Skills in the area of design warehouse structure proper to inventories and costs
- Skills in the area of choosing a proper rack, internal transport modes, a method of picking and other equipment

4 Assessment policy (examination):

- Classes and labs marks with factor 0,6
- Lectures test marks with factor 0,4

5 Literature

1. Gwynne R., Grinsted S., The Logistics and Supply Chain Toolkit. Kogan Page, London 2013.
2. Gwynne R., Warehouse management - 2nd edition, a complete guide to improving efficiency and minimizing costs in the modern warehouse. Kogan Page, London 2014.
3. Harrison Alan, Hoek van Remko, Logistics management and strategy, completing through the supply chain, 3rd edition, Prentice Hall 2008.
4. Stuart E., Excellence in warehouse management - how to minimise costs and maximise value. John Wiley & Sons Ltd, Chichester 2005