Syllabus

Term: 2025/26/2 **Subject name:** Operations Management **Subject code:** B19GMB06E

Unit (Unit code)	Department of Management Science (KMI)
Lecturer responsible for the course:	Dr. HAUCK Zsuzsanna
Requirement:	Exam
Classes per week :	2/2/0/0
Classes per term:	

Purpose of education:

The source of success at the majority of top companies worldwide is inevitably based on outstanding products/services and/or efficient operations processes. Thus, operations are one of the most important functions in a company. Additionally, any activity that has outcome is a process and the knowledge and skills provided by operations management can be applied in many other functional areas as well. This line of argument describes the basic rational of the module.

Learning Outcomes:

Knowledge

On completion of this module, the successful student will be able to:

1. elaborate the key aspects of Operations Management and implement learnt material to business problems;
2. analyse the role of operations in the value creation process and have the knowledge to recognise different operations systems required to help achieve company aims;
3. assess the boundaries of the learnt material and use the acquired knowledge to overcome these boundaries.

Skills

This module will call for the successful student to demonstrate

1. skills in designing and controlling operations systems, making long, medium, and short-term decisions;
2. accuracy in quantitative methods to support decisions;
3. actively participate in teamwork connected to operations, selection, delegation, development and

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Purpose of education:

management;
4. demonstrate and present operations related problems and their solutions;

Contents:

1. Using operations to compete. What is operations management? Differences and similarities between manufacturing and services.
   Exercises: Decision Tree
2. Developing missions and strategies. Positioning strategy. Competitive priorities. Shifts in competitive priorities. Trends in OM. Product life cycle. Process Structure in Manufacturing.
   Exercises: Productivity
3. Major process decisions. Designing processes. Principles of process strategy. Product-Process matrix. Product Design. Product Strategy options. New product opportunities. Quality function deployment. House of Quality.
4. Capacity planning. Measures of capacity. Capacity strategies. Decision trees. Economies and diseconomies of scale. Break-even analysis.
   Exercises: Capacity planning, Identification and management of bottleneck
5. Facility location. Location analysis, location decisions. Locating single facility.
   Exercises: Locating facilities
6. Facility layout. Layout types. Hybrid layout. Designing process layouts. Designing product layouts.
   Exercises: Linear programming, Line balancing
7. **Midterm test.**
8. Aggregate planning. Aggregate planning problems. The objective of aggregate planning. Planning strategies.
   Exercises: Staffing Plan, Production Plan
9. Material requirement planning. Bill of materials. Master production schedule. Outputs from MRP.
   Exercises: Master Production Scheduling, Material Requirements Planning
10.

System of examing and valuation:

Assessment:

Classwork (15%) during the semester

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System of examing and valuation:

Case study solutions in class and home assignments.

Midterm exam (15%) in the middle of the semester

Students will have to demonstrate their knowledge and skills related to theory, calculations, and solving a case study. The aim of the midterm is to make requirements at the final exam absolutely clear.

Final exam (70%) at the end of the semester

Same structure as the midterm but a longer exam with topics from the whole semester

Extra points available for individuals during classes as motivation (max. 5%)

Bibliography:

Core Learning Materials:

- Heizer, J. - Render, B. M. - Munson, C.: Operations Management: Sustainability and Supply Chain Management, Pearson, 12th, Global Edition 2017
- Hauck Zs. – Kiss V.: Operations Management, collection of exercises 2014 (available on Neptun)
- Up-to-date case studies provided weekly in class

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