



# Production and Process Management

## General data

Course code:	M23VZA02E
ECTS credits:	6
Type of the course:	General core course (A)
Semester:	Spring Semester 3
Course restrictions:	-
Course leader (with availabilities):	<i>Dr. Zsuzsanna HAUCK, Associate Professor</i> <a href="mailto:hauckzs@tkk.pte.hu">hauckzs@tkk.pte.hu</a> +36 72 501 599/ 63153 office: B119
Further lecturer(s) (with availabilities):	<i>Dr. Dóra LONGAUER, Assistant Professor</i> <a href="mailto:Longauer.dora@tkk.pte.hu">Longauer.dora@tkk.pte.hu</a> +36 72 501 599/ 23142 office: B123

## 1. Description and aims

Production and Process Management deals with the efficient utilization of resources to produce products and services. PPM plays a crucial role in achieving business strategy, as its sustainability is based mainly on outstanding operations capabilities that are not easy to copy. The module aims to make student familiar with possible ways to build a sustainable strategy based on managing production and service processes in an international business environment.

## 2. Intended Learning Outcomes (ILOs)

Upon the successful completion of this course, students should be able to:

CILO 1. demonstrate the understanding of theories and terminology of production and process management and influencing factors of economic organizations and enterprises (PILO 1);

CILO 2. demonstrate the understanding of competence-based value creation, principles, tasks and tools of managing production and service systems (PILO 1);

CILO 3. use synthesised knowledge to recognize the different operating systems required to solve complex business problems in an international and multicultural environment (PILOs 4, 5);

CILO 4. critically evaluate situations in the globalized, constantly changing business environment and provide with deep analysis, including quantitative methods for the decision making process (PILOs 4, 5);

CILO 5. detect the importance of strategic fit and draw up recommendations with the aim of creating long-term competitive advantage (PILOs 4, 5);

CILO 6. come up with recommendations that demonstrate innovative, responsible, ethical and open-minded attitude (PILO 7).



*The remarks in brackets express each CILO's connection to the Program Intended Learning Outcomes (PILOs).*

### 3. Content, schedule

Topics will be raised through case studies which might change from semester to semester, depending on the new challenges in the world of practice and the availability of new case studies.

1. Defining operations management and operations strategy. How to analyse cases. Process analysis. Inventories and Supply Chains.
2. Designing products and services.  
*Case studies: Fabritek Corporation, Harvard Business School (HBS) 669-004*  
*2U: Higher Education Rewired, HBS 9-620-044*
3. Developing a production system, identifying bottlenecks  
*Case study: Scharffen Berger Chocolate Maker, HBS 9-606-043*
4. Bottlenecks and inventory build-up diagrams.  
*Case study: National Cranberry Cooperative, HBS 9-688-122*
5. Controlling supply chains and the optimal level of product availability  
*Case studies: Half Century of Supply Chain Management at Wal-Mart, Ivey W12205*  
*Apple, Inc.: Managing a Global Supply Chain, Ivey W14161*
6. SCM Business Game: The Beer Game (MIT)
7. Current issues of supply chain management
8. Operations based strategies – the role of platforms  
*Case studies: Ant Financial (A), HBS 9-617-060*  
*Fasten: Challenging Uber and Lyft with a New Business Model, HBS 9-616-062*
9. Managing queues.  
*Case study: University Health Services: Walk-in-clinic, HBS 9-681-061*
10. Lean management in production and service processes  
*Case studies: Southwest Airlines in Baltimore, HBS 9-602-156*  
*Toyota Motor Manufacturing. USA, Inc, HBS 1-693-019*
11. Strategies for Sustainable Business  
*Case study: Greening Walmart: Progress and Controversy, HBS 9-316-042*
12. Circular economy

### 4. Learning and teaching strategy, methodology

*Principal teaching methodologies:* case-based learning with student presentations and in-class discussions. (CILOs 1, 2, 3, 4, 5, 6)

The first week includes an interactive lecture about the basics of operations management and the course requirements. Students receive information about pre-reading materials (book chapters and case studies) and the intended learning outcomes. (CILO 1)

From the second week, every session starts with a student group presentation regarding the case study in the given topic, followed by in-class discussion with deep analysis, using appropriate methodologies to come to possible solutions and recommendations. To be able to participate in the discussion, continuous learning is required. (CILOs 1, 2, 3, 4, 5, 6)



One session includes a supply chain simulation where students have to work in groups, being responsible for different company roles. At the end of the game, every supply chain group has to discuss and submit their process- and responsibility-related findings. (CILO 2, 3)  
At least one real-time case will be provided by a local company with field trip if possible. (CILOs 3, 4, 6)

## 5. Assessment

*Formative assessment elements:* Oral feedback on in-class activities, discussion of the solution of case studies and practical exercises solved during the classes.

*Summative assessment elements:*

Individual Assessment		85 %	Group Assessment		15 %	
Name of the element	Weight	Type	Details	Retake opportunity	Req.*	Related CILOs
Presentation	10%	coursework, group, oral	Presentation on a case study.	no	no	3,4,5,6
Beer Game	5%	coursework, group, written	Participation in the simulation and a written group assignment on the findings.	no	no	3,6
Midterm exam	15%	written exam, individual	A written exam based on topics 1-6 with essay questions and calculations.	no	no	1,2,3,4,5,6
Final exam	70%	written exam, individual	A written exam based on all topics with essay questions and calculations. Same structure as the midterm exam.	yes	yes	1,2,3,4,5,6
Extra points in class	max. +5%	individual coursework, oral	Extra points during classes for excellent solutions or comments.	no	no	1,2,3,4,5,6

\* Req.: Completion of the element is required to pass the course, irrespective of the performance in other elements.

## 6. Learning materials

- Essential  
Case studies (see Moodle)

Longauer, D. – Hauck, Zs., Vasvári, T (2023).: Investigating Make-or-buy Decisions and the Impact of Learning- by-doing in the Semiconductor Industry, manuscript

Appropriate chapters of

HEIZER, J. - RENDER, B. M. - MUNSON, C. (2021): Operations Management: Sustainability and Supply Chain Management, 12th Global Edition, Pearson



- Recommended

Krajewski, L. J. - Malhotra, M. - Ritzman, L. (2022): Operations management: processes and supply chains, 13th Global edition, Pearson

Chopra, S, (2021): Supply Chain Management, 7th Global edition, Pearson

## 7. Further information

<b>International</b> aspects embedded with the course
<ul style="list-style-type: none"><li>- international case studies</li><li>- guest lectures by professionals with international experience (the companies are local but are operating in international environment, raising issues e.g. regarding international supply chains that they are members of)</li></ul>
<b>Ethics, Responsibility &amp; Sustainability (ERS)</b> aspects embedded with the course
Most topics directly include ERS-related discussion, e.g. <ul style="list-style-type: none"><li>- ethical dilemma of choosing the method of calling a worker to account</li><li>- responsibility of providing the healthcare industry with good quality items</li><li>- considering CO2 emission when making supply chain management decisions</li><li>- environmental impact of overproduction, responsibility of underproduction</li><li>- strategies for sustainable business</li></ul>
<b>Connections to the world of practice</b> of the course
Case studies One or two guest lectures (with company visit if possible) per semester as time allows, past examples include: <ul style="list-style-type: none"><li>- Lead time reduction at Körber</li><li>- Logistic solutions for the pharmaceutical industry at Kontakt Elektro</li><li>- The role of maintenance (cleaning) at BAT company</li></ul>