



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Production management for product manager

Course

Field of study

Product Lifecycle Engineering

Area of study (specialization)

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

I/2

Profile of study

general academic

Course offered in

English

Requirements

compulsory

Number of hours

Lecture

15

Tutorials

Laboratory classes

15

Projects/seminars

Other (e.g. online)

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

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Responsible for the course/lecturer:

Prerequisites

The student has basic knowledge in the field of business management, production planning, employee motivation.



Course objective

Students become familiar with tools and techniques used in modern concepts of production management, which aim to increase flexibility and ensure timely implementation of production.

Course-related learning outcomes

Knowledge

1. Student will have a basic knowledge of production system designs and production management concepts.
2. Student will know tools and techniques used in Theory of Constraints, Lean Manufacturing and Six Sigma concepts.
3. Student will learn the tools to increase flexibility and ensure timely implementation of production.

Skills

1. Student will be able to identify and describe the basic types and forms of production organizations, production structures, and production constraints.
2. The student will be able to use tools to improve production processes.
3. Student will be able to use tools and techniques used in modern concepts for production management.

Social competences

1. Student understands the importance of production organization for the functioning of the enterprise [K_K02]
2. Student is able to independently develop knowledge in the subject [K_K01, K_K06]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Evaluation of the course based on the reports from the workshops and results of projects.

Programme content

Module A: Production Management

Production system. Types and forms of production organization - examples from enterprises. Elements of production management. Creative approach to solving production problems. An inspirational workshop for creative thinking. A game illustrating the impact of the variability of operations on the efficiency of a production system.

Module B: Lean Manufacturing

Lean Manufacturing – the concept of waste reduction. Lean Manufacturing tools. Company visits – Lean Manufacturing tools in practice. Production games – 5S, kanban, smed.

Module C: Theory of Constraints



Theory of Constraints – effective management of constraints. Types of constraints. Drum-Buffer-Rope – the tool of production management. Workshop – computer game. Project – development of a spreadsheet supporting decision making process. Company visit – Theory of Constraints tools in practice.

Module D: Six Sigma

Six Sigma – improving production processes by measuring the effectiveness of operations. Define-Measure-Analyze-Improve-Control cycle. Examples of implementation of Six Sigma projects. Project – improvement of a production process using the DMAIC cycle.

Teaching methods

studio teaching, presentations, workshops, company visits, projects

Bibliography

Basic

1. Rother M., Learning to See: Value Stream Mapping to Add Value and Eliminate Muda, Productivity Press, 1999.
2. Liker J., The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer, McGraw-Hill Education, 2004
2. Goldratt E., The Goal: A Process of Ongoing Improvement, North River Press, 1992.
3. Goldratt E., Critical Chain, The North River Press, 2002.
5. Geirge M., Maxey J., Rowlands D., The Lean Six SIGMA Pocket Toolkit: A Quick Reference Guide to Nearly 100 Tools for Improving Quality and Speed, McGraw-Hill Companies, 2004

Additional

1. Gitlow H., Melnyck R., Levine D., A Guide to Six Sigma and Process Improvement for Practitioners and Students: Foundations, DMAIC, Tools, Cases, and Certification, Pearson FT Press, 2015
2. Womack J., Jones D., Roos D., The Machine That Changed the World, Simon & Schuster UK Ltd., 2007
3. Maxwell J., Thinking for a Change: 11 Ways Highly Successful People Approach Life and Work, Center Street, 2005



Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹	20	1,0

¹ delete or add other activities as appropriate

