

SYLLABUS

Name: Technical preparation of production (ZIPAOZ>SM2TPoP19S)

Name in Polish:

Name in English: Technical preparation of production

Information on course:

Course offered by department: Faculty of Organization and Management

Course for department: Silesian University of Technology

Default type of course examination report:

ZAL

Language:

English

Course homepage:

<https://platforma2.polsl.pl/roz/course/view.php?id=597>

Short description:

The program content is related to the concepts, methods and instruments of technical preparation of production. The program covers the essential elements taken into account in the technical preparation of production, from market research to the production system improvement, through construction, technological and organizational preparation of production. During this subject you will learn about company R&D activity, research project life cycle, industrial property rights and about other activity taking account into technical production preparation. The course consists of a lecture, laboratories and classes. The final grade is based on the grades obtained from the individual forms of teaching.

Description:

The course objectives: to acquire theoretical and practical knowledge in the technical preparation of new products and production processes and to master the ability to analyse the problems in the field of technical production preparation.

Lectures - detailed program content:

Lecture 1 – Organisational issues / Introduction.

Lecture 2 – The concept of production preparation.

Lecture 3 – The creation of a new product idea.

Lecture 4 – A new product concept.

Lecture 5 – Marketing issues.

Lecture 6-7 – Technological preparation of production.

Lectures 8 – Economic issues concerning a new product launch.

Lectures 9-10 – Research & Development.

Lectures 11-12 – Intellectual property.

Laboratories - detailed program content:

Task 1 – Choosing 2 products.

Task 2 - Gozinto graph.

Task 3 - Coding and optimal batch size.

Task 4 - Workstation and labour intensity.

Task 5 - Production line balancing method.

Exercises - detailed program content:

Task 1 – The new product idea (constructional preparation of production).

Task 2 – The concept of a new product (constructional preparation of production).

Task 3 – The organization of a production line (technological and organisational preparation of production).

Task 4 – The general concept of a marketing strategy (organisational preparation of production).

Task 5 – Input data for economic-financial analysis.

Task 6 – NPV, IRR and PP methods.

Task 7 – Break Even Point – BEP.

Task 8 – Conclusions.

Bibliography:

Literature:

1. Musharavati Farayi, (2010), Process Planning Optimization in Reconfigurable Manufacturing Systems. Dissertation.Com.

2. I. C. Dima, (2013), Industrial Production Management in Flexible Manufacturing Systems. Igitglobal.

3. Coletta A.R., (2012), The Lean 3p Advantage: A Practitioner's Guide to the Production Preparation Process.

4. Durlik I.: Inżynieria zarządzania cz. I, Wydawnictwo Pancer, p.32

5. Akhtar J.: Production Planning and Control with SAP ERP. Rheinwerk Publishing, 2016.

6. Pająk E.: Zarządzanie produkcją. Produkt. Technologia, organizacja. Wydawnictwo Naukowe PWN. Warszawa 2006.

7. Sule D. R.: Production Planning and Industrial Scheduling: Examples, Case Studies and Applications, Second Editio. CRC Press, 2007

Learning outcomes:

(E1) - K2A_W4 - a student knows and understands ordered and theoretically-grounded key methods of analysis, description and modelling of the conditions and flow of processes in the enterprise and their improvement.

(E2) - K2A_U05 - a student is able to design - in accordance with a given specification - and make a simple technical system; implement a technological process using appropriately selected methods, techniques, tools and materials.

(E3) - K2A_U15 - a student is able to independently plan and realize his/her lifelong learning and guide others in this regard.

(E4) - K2A_K05 - a student is ready for responsible performance of professional roles, taking account of changing social needs, including developing professional achievements, maintaining the ethos of the profession, observing and developing the principles of professional ethics, as well as promoting compliance with these principles.

Assessment methods and assessment criteria:

• Final assessment is based on a positive evaluation of: final test from lecture, laboratory colloquium and paperwork from classes, it is the arithmetic average of the obtained grades.

• Lecture assessment is based on final test consisting of 20 questions concerning the scope of the lecture, the questions included in the

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test are single choice

• Classes assessment is issued on the basis of four components: paper work, involvement, teamwork, presence mark and is the arithmetic average of the obtained marks. Positive mark for a paper work is 50% of all 50 points, that can be obtained.

Element of course groups in various terms:

Course group description	First term	Last term
<i>missing group description in English</i> (ZIPAOZ>SM2-19-S)	2020/2021-L	

Course credits in various terms:

Management and Production Engineering, full-time master degree studies 3 sem. (ZIPAOZ-SM3)

Type of credits	Number	First term	Last term
European Credit Transfer System (ECTS)	2	2020/2021-L	