



## Subject card

|   |  |  |  |                                     |  |            |     |
|---|--|--|--|-------------------------------------|--|------------|-----|
| Subject name and code                       | PRODUCTION ENGINEERING, PG_00061453  |  |  |                                     |  |            |     |
| Field of study                              | Engineering Management   |  |  |                                     |  |            |     |
| Date of commencement of studies             | October 2024   |  | Academic year of realisation of subject  |                                     | 2025/2026  |            |     |
| Education level                             | first-cycle studies  |  | Subject group  |                                     | Obligatory subject group in the field of study<br>Subject group related to scientific research in the field of study |            |     |
| Mode of study                               | Part-time studies (on-line)  |  | Mode of delivery   |                                     | at the university  |            |     |
| Year of study                               | 2  |  | Language of instruction  |                                     | Polish   |            |     |
| Semester of study                           | 4  |  | ECTS credits   |                                     | 5.0  |            |     |
| Learning profile                            | general academic profile   |  | Assessment form  |                                     | exam   |            |     |
| Conducting unit                             | Department Of Management Engineering And Quality -> Faculty Of Management And Economics -> Wydział Politechniki Gdańskiej  |  |  |                                     |  |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor   |  | dr inż. Jolanta Łopatowska   |                                     |  |            |     |
|   | Teachers   |  |  |                                     |  |            |     |
| Lesson types and methods of instruction     | Lesson type  | Lecture  | Tutorial   | Laboratory                          | Project  | Seminar    | SUM |
|   | Number of study hours  | 16.0   | 16.0   | 0.0                                 | 0.0  | 0.0        | 32  |
|   | E-learning hours included: 0.0   |  |  |                                     |  |            |     |
| Learning activity and number of study hours | Learning activity  | Participation in didactic classes included in study plan |  | Participation in consultation hours |  | Self-study | SUM |
|   | Number of study hours  | 32   |  | 7.0                                 |  | 86.0       | 125 |
| Subject objectives                          | Understanding the essence of production planning and control system at every level of operational activity and acquiring the ability to design solutions that ensure the efficient course of production process.   |  |  |                                     |  |            |     |
| Learning outcomes                           | Course outcome   |  | Subject outcome  |                                     | Method of verification   |            |     |
|   | [K6_U05] designs innovative solutions for complex management processes, using appropriate methods and techniques   |  | Designs solutions for production planning and control using modern analytical and design methodologies   |                                     | [SU4] Assessment of ability to use methods and tools   |            |     |
|   | [K6_W03] identifies reliable sources of information relevant to the analyzed issues  |  | identifies key factors affecting the effective functioning of production systems   |                                     | [SW1] Assessment of factual knowledge  |            |     |
| Subject contents                            | Production system and production process<br>Activities in production planning and control<br>Forecasting in demand planning<br>Capacity planning<br>Sales and operations planning S&OP<br>Master production schedule MPS. Sequence of tasks<br>Push and pull strategies.<br>Planning and control in MRPII/ERP, APS, MES systems<br>Balancing production (OPF) in JiT systems, heijunka. Kanban system, supermarket<br>Production control according to the Theory of Constraints, DBR method. |  |  |                                     |  |            |     |
| Prerequisites and co-requisites             |  |  |  |                                     |  |            |     |
| Assessment methods and criteria             | Subject passing criteria   |  | Passing threshold  |                                     | Percentage of the final grade  |            |     |
|   | exam   |  | 60.0%  |                                     | 50.0%  |            |     |
|   | Test   |  | 60.0%  |                                     | 25.0%  |            |     |
|   | Reports  |  | 60.0%  |                                     | 25.0%  |            |     |
| Recommended reading                         | Basic literature   |  | Brzeziński, M. (2002). Organizacja i sterowanie produkcją, Warszawa: Placet.<br>Waters, D. (2021). Zarządzanie operacyjne. Towary i usługi, Warszawa: Wydawnictwo Naukowe PWN.<br>Bozarth C., Handfield R..(2021). Wprowadzenie do zarządzania operacjami i łańcuchem dostaw. Helion |                                     |  |            |     |

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|  | Supplementary literature   | Balle, F., Balle, M. (2023). Kopalnia złota, Wrocław<br>Goldratt, M. Cox, J. (2023). Cel. Doskonałość w produkcji, Mint Books<br>Pająk, E (2021). Zarządzanie produkcją, Warszawa: Wydawnictwo Naukowe PWN..<br>The Productivity Press Development Team.(2010). Kanban na hali produkcyjnej, Prod.Publishing, |
|  | eResources addresses   | Adresy na platformie eNauczanie:  |
| Example issues/<br>example questions/<br>tasks being completed | Sales and operations planning S&OP<br>Characteristics of the werbel-buffer-rope method |   |
| Work placement   | Not applicable   |   |

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