## STUDY MODULE DESCRIPTION FORM

| Name of the module/subject <br> **Computer support for production planning and steering** | Code <br> **1011102331011115173** |
|---|---|

| Field of study <br> **Engineering Management - Full-time studies -** | Profile of study <br> (general academic, practical) <br> **(brak)** | Year /Semester <br><br> **2 / 3** |
|---|---|---|

| Elective path/specialty <br> **Production and Operations Management** | Subject offered in: <br> **Polish** | Course (compulsory, elective) <br> **elective** |
|---|---|---|

| Cycle of study: <br><br> **Second-cycle studies** | Form of study (full-time,part-time) <br><br> **full-time** |
|---|---|

| No. of hours | No. of credits <br> **3** |
|---|---|
| Lecture: **15**   Classes:  **-**   Laboratory:  **-**   Project/seminars:  **15** | |

| Status of the course in the study program (Basic, major, other) <br> **(brak)** | (university-wide, from another field) <br> **(brak)** |
|---|---|

| Education areas and fields of science and art <br><br> **technical sciences** <br>       **Technical sciences** | ECTS distribution (number and %**)** <br><br> **3   100%** <br>         **3    100%** |
|---|---|

### Responsible for subject / lecturer:

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### Prerequisites  in terms of knowledge, skills and social competencies:

| 1 | **Knowledge** | Knowledge of classical (non-computerized) methods of production planning and  shop floor control |
|---|---|---|
| 2 | **Skills** | The student has the ability to use the knowledge acquired in other subjects in the area of production management |
| 3 | **Social competencies** | The student can work in a team <br> The student understands the need for  lifelong learning |

### Assumptions and objectives of the course:

-Presentation of the functionality of ERP systems in the area of supporting production planning and shop floor control. Project execution of computer assisted of selected processes of planning and production shop floor control

### Study outcomes and reference to the educational results for a field of study

### Knowledge:

1. He has knowledge of the methods  production planning and shop floor control   - [K2A_W01]

2. He has expanded knowledge of organizational relationships existing between organizational units of the company - [K2A_W05]

3. He knows the methods and tools for modeling decision-making processes, algorithms, and their inter-action of cause and effect in a hierarchical system of production planning and time relations  - [K2A_W09]

4. He has expanded knowledge about the mechanisms of creation business-organizing  at the level of creation of production units - [K2A_W12]

### Skills:

1. He is able to use theoretical knowledge to describe and analyze the processes in production planning system and can formulate their own opinions and choose the critical data and analysis  - [K2A_U02]

2. He is able to properly analyze the causes and course of the processes in production planning system to formulate their own opinions on the subject and formulate simple hypotheses and verify them   - [K2A_U03]

3. He is able to modeling complex phenomena involving processes in area of production planning using advanced methods and tools in the field of economics and management science discipline   - [K2A_U04]

4. He has the ability to use the knowledge gained in the field of production planning and control, enhanced by a critical analysis of the effectiveness and suitability of applied knowledge   - [K2A_U06]

5. He has the ability to self-propose solutions to the specific problem of the management in the production planning and shop floor control   - [ K2A_U07]

| Social competencies: |
|---|
| 1. He has a sense of responsibility for their own work and the willingness to comply with the rules of work in a team and to take responsibility for collaborative tasks  - [K2A_K02] |
| 2. He can see cause and effect depending on the system design production planning and shop floor control, and able to prioritize their importance  - [K2A_K03] |
| 3. . He is aware of the interdisciplinary nature of knowledge of production management and have the skills required to solve complex problems of organization  - [K2A_K06] |

### Assessment  methods of study outcomes

-Formative assessment:

a) For the project: on the basis of progress in the implementation stages of the project, and knowledge of the issues necessary to carry b) for the laboratory: on the basis of discussions on knowledge of the issues necessary for the proper performance of the laboratory exercises c) for the lecture: on the basis of answers to questions about the topics covered in previous lectures

Recapitulative assessment:

a) For the project: on the basis of (1) the quality of the project (2) answers to questions about the project b) for the lecture: on the basis of colloquium - written work on the issues discussed during the lecture. The exam can be applied after obtaining the ratings of the project and the laboratory. The exam is passed, after giving the correct answers to most questions

### Course description

-Lecture: Presentation of computerized production control model. Highlighted are the differences between planning and production control model in computerized systems and non-computerized systems. MRPII model is discussed. The presented method is material requirements planning (MRP) as the basis for production control at the level of the components of the computerized version. Manufacturing Resources Planning procedure is discussed  as a computerized version of the balancing loads. The control methods are based on the computerized version of the operation - scheduling theory, rules, priorities and Manufacturing Executing Systems - MES.

Project:  Execution of computer assisted of selected processes of planning and production shop floor control

### Basic bibliography:

1. Dwiliński L. Zarządzanie produkcją Oficyna Wydawnicza Politechniki Warszawskiej Warszawa 2002

2. Fertsch M. Podstawy zarządzania przepływem materiałów w przykładach Wydawnictwo IIiM Poznań 2003

3. Kosieradzka A.(red.) Podstawy zarządzania produkcją. Ćwiczenia Oficyna Wyd. Politechniki Warszawskiej Warszawa 2008

### Additional bibliography:

1. Januszewski A., Funkcjonalności systemów zarządzania, Tom 1. Zintegrowane systemy transakcyjne, Wydawnictwo naukowe PWN, Warszawa 2011

2. Majewski J., Informatyka dla logistyki, Bibliotek logistyka, Instytut Logistyki i Magazynowania, Poznań 2006

### Result of average student's workload

| Activity | Time (working hours) |
|---|---|
| 1. Lecture | 15 |
| 2. Project | 15 |
| 3. Preparation to the pass the project | 5 |
| 4. Consultations | 25 |
| 5. Preparation to pass the subject | 15 |

### Student's workload

| Source of workload | hours | ECTS |
|---|---|---|
| Total workload | 75 | 3 |
| Contact hours | 55 | 2 |
| Practical activities | 15 | 1 |