

| <b>STUDY MODULE DESCRIPTION FORM</b>   |  |  |
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| Name of the module/subject<br><b>Warehouses Design</b>   |  | Code<br><b>1011105331011115177</b>   |
| Field of study<br><b>Engineering Management - Part-time studies -</b>  | Profile of study<br>(general academic, practical)<br><b>general academic</b> | Year /Semester<br><b>2 / 3</b>   |
| Elective path/specialty<br><b>Production and Operations Management</b>   | Subject offered in:<br><b>Polish</b>   | Course (compulsory, elective)<br><b>elective</b>   |
| Cycle of study:<br><b>Second-cycle studies</b>   | Form of study (full-time, part-time)<br><b>part-time</b>                     |  |
| No. of hours<br>Lecture: <b>14</b> Classes: <b>12</b> Laboratory: <b>-</b> Project/seminars: <b>-</b>  |  | No. of credits<br><b>3</b>   |
| Status of the course in the study program (Basic, major, other)<br><b>other</b>  |  | (university-wide, from another field)<br><b>university-wide</b>                                      |
| Education areas and fields of science and art<br><b>technical sciences</b><br><b>Technical sciences</b>  |  | ECTS distribution (number and %)<br><b>3 100%</b><br><b>3 100%</b>                                   |
| <b>Responsible for subject / lecturer:</b><br><br>dr hab. Inż. Marek Fertsch, prof.nadzw.<br>email: Marek.Fertsch@put.poznan.pl<br>tel. 061 665 3416<br>Wydział Inżynierii Zarządzania<br>ul. Strzelecka 11, 60-965 Poznań   |  |  |
| <b>Prerequisites in terms of knowledge, skills and social competencies:</b>  |  |  |
| 1  | <b>Knowledge</b>   | The student has knowledge of the subject technology, technology and logistics infrastructure         |
| 2  | <b>Skills</b>  | The student has the skills of the subject technology, technology and logistics infrastructure        |
| 3  | <b>Social competencies</b>   | The student has the social skills of the subject technology, technology and logistics infrastructure |
| <b>Assumptions and objectives of the course:</b><br>To familiarize students with the process of designing magazines. Mastering the skills of designing magazines by students.  |  |  |
| <b>Study outcomes and reference to the educational results for a field of study</b>  |  |  |
| <b>Knowledge:</b>  |  |  |
| 1. He has knowledge about connections existing in corporations and holdings and in-depth knowledge about organizational relationships occurring between organizational units of a company - [K2A_W05]<br>2. He knows the methods and tools for modeling decision-making processes - [K2A_W08, K2A_W09, K2A_W04]  |  |  |
| <b>Skills:</b>   |  |  |
| 1. He is able to properly analyze the causes and course of social processes and phenomena (cultural, political, legal, economic), formulate their own opinions on this subject and put simple research hypotheses and verify them - [K2A_U02]<br>2. He is able to properly analyze the causes and course of social processes, formulate their own opinions on this subject and put simple research hypotheses and verify them - [K2A_U03]<br>3. He has the ability to use the acquired knowledge in various fields and forms, extended by a critical analysis of the effectiveness and usefulness of the applied knowledge - [K2A_U06] |  |  |
| <b>Social competencies:</b>  |  |  |
| 1. He is aware of the interdisciplinary knowledge and skills needed to solve complex organizational problems and the need to create interdisciplinary teams - [K2A_K06]<br>2. He is able to perceive causal relationships in the realization of goals and to rank the significance of alternative connections in the area of the module - [K2A_K02, K2A_K03]   |  |  |

| <b>Assessment methods of study outcomes</b>  |                      |      |
|--|----------------------|------|
| Forming rating<br>a) classes- based discussion on solutions that wants to propose the project<br>b) a lecture based on answers to questions about the material discussed in the previous lecture<br>Rating summary<br>in terms of the classes a) on the basis of a public presentation of the project results and discussions about them, b) on the basis of substantive quality of the project prepared in terms of a lecture on the basis of a public presentation on a given topic and answer questions concerning the material discussed in the lecture  |                      |      |
| <b>Course description</b>  |                      |      |
| The lecture begins by recalling the essence of the process of storage and making up this process steps. Then discussed are: the definition of storage, types of warehouses. The are kinds of warehouse equipment and rules for its reception (cost optimization selection and operation of equipment). Presented is the process of designing the magazine (optimization of storage area and volume). Documentation is discussed Warehouse (risk analysis, key indicators of operation of the facility, implementing improvements in stock - 5S). Discussed are systems supporting warehouse operations. Presented are possibilities of using simulation in design warehouses.<br>In class classes, students prepare a preliminary design by the magazine assumptions made by the teacher or the design process in a selected storage warehouse.<br>Teaching methods: conventional specialist lecture, team project |                      |      |
| <b>Basic bibliography:</b>   |                      |      |
| 1. Fertsch M., Projektowanie magazynów, [w:] Fertsch M. (red.), Elementy inżynierii logistycznej, Wydawnictwo Instytutu Logistyki i Magazynowania, Poznań, 2017<br>2. Gubała M., Popielas J., Podstawy zarządzania magazynem w przykładach, Biblioteka logistyka, Wydawnictwo ILiM, Poznań, 2002<br>3. Korzeniowski A. (red.), Zarządzanie gospodarką magazynową, PWE, Warszawa, 1997<br>4. Korzeń Z., Logistyczne systemy transportu bliskiego i magazynowania, t.1 i 2, Biblioteka logistyka, Wydawnictwo ILiM, Poznań, 1998   |                      |      |
| <b>Additional bibliography:</b>  |                      |      |
| 1. Fijałkowski J., Technologia magazynowania, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 1995<br>2. Schramm W., Lager und Speicher, Bauverlag GmbH. Wiesbaden - Berlin, 1995  |                      |      |
| <b>Result of average student's workload</b>  |                      |      |
| Activity   | Time (working hours) |      |
| 1. lecture   | 14                   |      |
| 2. classes   | 12                   |      |
| 3. consultation  | 10                   |      |
| 4. individual work   | 25                   |      |
| 5. exam  | 2                    |      |
| 6. preparation to exam   | 10                   |      |
| <b>Student's workload</b>  |                      |      |
| Source of workload   | hours                | ECTS |
| Total workload   | 73                   | 3    |
| Contact hours  | 36                   | 2    |
| Practical activities   | 37                   | 1    |