

| <b>STUDY MODULE DESCRIPTION FORM</b>   |  |   |
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| Name of the module/subject<br><b>Material Flow Management</b>  |  | Code<br><b>1011102311011117645</b>  |
| Field of study<br><b>Logistics - Full-time studies - Second-cycle</b>  | Profile of study<br>(general academic, practical)<br><b>(brak)</b> | Year /Semester<br><b>1 / 1</b>  |
| Elective path/specialty<br><b>Corporate Logistics</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>full-time</b>           |   |
| No. of hours<br>Lecture: <b>15</b> Classes: <b>-</b> Laboratory: <b>-</b> Project/seminars: <b>30</b>  |  | No. of credits<br><b>5</b>  |
| Status of the course in the study program (Basic, major, other)<br><b>(brak)</b>   |  | (university-wide, from another field)<br><b>(brak)</b>  |
| Education areas and fields of science and art  |  | ECTS distribution (number and %)  |
| <b>Responsible for subject / lecturer:</b><br>dr hab. inż. Marek Fertsch, prof. nadzw.<br>email: marek.fertsch@put.poznan.pl<br>tel. 616653416<br>Wydział Inżynierii Zarządzania<br>60-965 Poznań, ul. Strzelecka 11 |  | <b>Responsible for subject / lecturer:</b><br>dr inż. Ireneusz Gania<br>email: ireneusz.gania@put.poznan.pl<br>tel. 616653385<br>Faculty of Engineering Management<br>ul. Strzelecka 11 60-965 Poznań |
| <b>Prerequisites in terms of knowledge, skills and social competencies:</b>  |  |   |
| 1  | <b>Knowledge</b>   | Basic knowledge of production management.   |
| 2  | <b>Skills</b>  | The student has the skills in the subject production management.  |
| 3  | <b>Social competencies</b>   | The student has the social skills of the subject Production management.   |
| <b>Assumptions and objectives of the course:</b><br>To familiarize students with the nature and principles of material flow management. Students mastering basic skills in managing the flow of materials.           |  |   |
| <b>Study outcomes and reference to the educational results for a field of study</b>  |  |   |
| <b>Knowledge:</b>  |  |   |
| 1. knows the basic relationship between the sphere of technical and economic characteristic of production flow steering in the area of logistics - [K2A_W04]   |  |   |
| 2. has in-depth knowledge of manufacturing engineering and its links with the direction of logistics - [K2A_W05]   |  |   |
| 3. knows the basic concepts in the context of production flow steering being studied for the logistics - [K2A_W09]   |  |   |
| 4. knows the basic concepts in the context of production flow string being studied for the logistics - [K2A_W09]   |  |   |
| 5. an understanding process mapping and process orientation in logistics - [K2A_W10]   |  |   |
| 6. can explain in detail the methods, tools and techniques specific to the subject being studied for the logistics - [K2A_W13]   |  |   |
| <b>Skills:</b>   |  |   |

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| <p>1. can communicate using appropriate personal in a professional environment and in other environments, in terms of subject being studied - [K2A_U04]</p> <p>2. discussion of the problem of foreign located within the subject being studied - [K2A_U05]</p> <p>3. can design analysis process in relation to the problem of falling within the subject being studied - [K2A_U09]</p> <p>4. can formulate and solve problems through interdisciplinary integration of knowledge in the fields and disciplines used in the design of logistic systems - [K2A_U10]</p> <p>5. able to formulate and test hypotheses regarding the issues related to the design of logistics systems - [K2A_U11]</p> <p>6. able to assess the usefulness and the usability of new developments (techniques and technologies) in logistics and functionally related areas - [K2A_U12]</p> <p>7. can make a critical analysis of the technical solutions used in the logistic system analysis - [K2A_U15]</p> <p>8. able to identify possible improvements in the reporting system of logistics - [K2A_U16]</p> |
| <p><b>Social competencies:</b></p> <p>1. is aware of the responsibility for their own work and willingness to comply with the principles of teamwork and accountability for collaborative tasks - [K2A_K03]</p> <p>2. depending able to see the cause and effect in achieving the set goals and make gradation significance of alternative or competing tasks - [K2A_K04]</p>  |

| <b>Assessment methods of study outcomes</b>  |                      |
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| <p>-Formulator Rating:</p> <p>a) In terms of the project: on the basis of progress in the implementation phases of the project, and knowledge of the issues necessary for its implementation b) for the lecture: on the basis of answers to questions about issues to discuss in the previous lectures</p> <p>Summary Rating:</p> <p>a) In terms of the project: on the basis of (1) the quality of the merits of the project (2) The defense made the project b) for the lecture: on the basis of test - written work on the issues discussed in the lecture. Can take the exam after the assessments of the project and the laboratory. The exam is passed, after giving the correct answer to most of the substantive issues discussed</p>  |                      |
| <b>Course description</b>  |                      |
| <p>The lecture begins with a presentation of the essence of material flow management. The are two main variants of this process computerized model. Highlighted are the differences between the two models. Presented is the course and the main methods of material flow management control at the level of products and product components niez informatyzowanej version. The presented method is material requirements planning (MRP) as the basis for managing the flow of materials at the level of the components of the computerized version of the products. Deals with the problem of integration and niez informatyzowanego computerized variant? MRP integration? JiT. In class, students design project, according to the guidelines operator, selected material flow management system</p> <p>At the laboratory students will learn the basics of computer aided material flow management. This laboratory operates on the basis of ERP? Navision Axapta system implemented for the purpose of teaching. In a series of exercises performed on the basis of this system, students go through the whole cycle of material flow management? from developing master production scheduling through production planning, supply planning and scheduling of deliveries</p> <p>Teaching methods:</p> <p>Information lecture (conventional) (information transfer in a systematic way) monographic (specialist).</p> <p>Project method (individual or team implementation of large, multi-stage cognitive or practical task resulting in the creation of a work).</p> |                      |
| <p><b>Basic bibliography:</b></p> <ol style="list-style-type: none"> <li>Zarządzanie produkcją, Dwiliński L., , Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 2002</li> <li>Podstawy zarządzania przepływem materiałów w przykładach, Fertsch M., , Biblioteka logistyka, Wydawnictwo ILiM, Poznań, 2003</li> <li>Sterowanie przepływem produkcji, Senger Z., , Wydawnictwo Politechniki Poznańskiej, Poznań, 1998</li> <li>Zarządzanie przepływem materiałów, Fertsch M., Gania I., Wydawnictwo Politechniki Poznańskiej, Poznań 2011.</li> <li>Podstawy zarządzania produkcją. Ćwiczenia, Kosieradzka A., (red.), Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 2008</li> </ol>  |                      |
| <p><b>Additional bibliography:</b></p> <ol style="list-style-type: none"> <li>Krzyżaniak S., Podstawy zarządzania zapasami w przykładach, Poznań, Instytut Logistyki i Magazynowania, 2008.</li> <li>Muhlemann A.P. Oakland A.J.S., Lockyer K.G.. Production and Operations Management Paperback ? Import, June 2, 1988</li> </ol>   |                      |
| <b>Result of average student's workload</b>  |                      |
| Activity   | Time (working hours) |

|                           |              |             |
|---------------------------|--------------|-------------|
| 1. lectures               | 15           |             |
| 2. own work               | 35           |             |
| 3. projects               | 30           |             |
| 4. consultation           | 30           |             |
| 5. exam preparation       | 15           |             |
| <b>Student's workload</b> |              |             |
| <b>Source of workload</b> | <b>hours</b> | <b>ECTS</b> |
| Total workload            | 125          | 5           |
| Contact hours             | 65           | 4           |
| Practical activities      | 60           | 1           |