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| Polish course name     | <b>TECHNOLOGIE INFORMACYJNO -<br/>KOMUNIKACYJNE W LOGISTYCE</b>    |
| English course name    | <b>INFORMATION AND COMMUNICATION<br/>TECHNOLOGIES IN LOGISTICS</b> |
| Course code            | <b>WIP-MDL-D1-IAC-06</b>   |
| Field of study         | <b>Materials design and logistics</b>                              |
| Level of qualification | <b>First degree</b>  |
| Form of study          | <b>Full-time</b>   |
| Semester               | <b>6</b>   |
| Number of ECTS points  | <b>2</b>   |
| Ways of assessment     | <b>Test</b>  |

**Number of hours per semester**

| <b>Lecture</b> | <b>Seminar</b> | <b>Classes</b> | <b>Laboratory</b> | <b>Project</b> |
|----------------|----------------|----------------|-------------------|----------------|
| 15             |                | 15             |                   |                |

**TEACHERS:**

Dr inż. Dariusz Dudek.

**COURSE OBJECTIVES:**

- › **C1** Familiarizing students with the possibilities of using information and communication technologies and indicating the role of information systems in the area of logistics.
- › **C2** Preparing the student to use information and communication technologies in solving logistic problems with the use of utility applications.

**PRELIMINARY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES:**

1. Skills in the use of information and communication technologies at the basic level.
2. Ability to work independently and in a group.
3. Ability to use literature sources and internet resources.

## **COURSE CONTENT**

### **LECTURE**

- › **L1** Introduction to the subject matter. Requirements and aims of classes. Information system and management system in the enterprise.
- › **L2** Information and communication technologies in the processes of processing, collecting and transmitting information.
- › **L3, L4** Characteristics of the use of information and communication solutions in logistics.
- › **L5** The role of information in modern companies implementing logistic processes.
- › **L6** Elements of IT system management in logistics.
- › **L7, L8** The role of IT systems and tools for the effective functioning of logistics companies.
- › **L9 - L11** IT systems supporting logistic processes.
- › **L12** Modern ICT solutions for logistics.
- › **L13** Information technologies in transport systems.
- › **L14** Logistics in shaping the value chain.
- › **L15** Information security management in logistics.

### **CLASSES**

- › **C1** Organizational and introductory classes to the subject of the subject. Discussion of the goals and requirements for passing the exam, the rules for performing the exercises and getting acquainted with the rules of the computer laboratory.
- › **C2, C3** Text processing in solving logistic problems, creating documents.
- › **C4, C5** The use of sheet-fed applications to solve logistics problems.
- › **C6** Optimization issues with the use of a spreadsheet.
- › **C7, C8** Working with objects in creating interactive presentations.
- › **C9, C10** Applications of office software in a computing cloud in terms of use in a logistics company.
- › **C11** Operation of a database system in a computing cloud.
- › **C12** Implementation of the selected content management system.
- › **C13, C14** The content management system environment and methods of its creation.

- › **C15** Presentation of the website of the selected logistics company.

## **BASIC REFERENCES**

1. Voght P.: Business Logistics Management. Oxford University Press Southern Africa, Cape Town 2017 r.
2. Szymonik A.: Informatyka dla potrzeb logistyka. Wydawnictwo Difin, Warszawa 2015 r.
3. Myerson P. A.: Supply Chain and Logistics Management Made Easy: Methods and Applications for Planning, Operations, Integration, Control and Improvement and Network Design, Pearson Education, Old Tappan NJ 2015 r.
4. Grudowski P., Dudek D., Majczyk J., Muchlado M.: Challenges in Management and Economics in 21st Century. Selected Studies and Examples. Gdansk University of Technology. Gdańsk 2020 r.
5. Dudek D.: Key Technologies in Supply Chain Management. [in] Dunay A.: (ed.) People, Planet and Profit: Sustainable Business and Society. Vol.2 (ICoM 2019), Hungary, Godollo 2019 r.

## **SUPPLEMENTARY REFERENCE MATERIALS**

1. Cichosz M.: Logistics Management: Szkoła Główna Handlowa, Warszawa 2015 r.
2. Mangan J., Lalwani Ch.: Global Logistic and Supply Chain Management. John Wiley and Sons, Chichester 2016 r.
3. Dudek D., Sałek R.: The Application and Development of Information Technologies in Logistic Management of Agricultural Farms. [in:] Brzozowska A., Kalinichenko A.: Transformation Management of Economic at Rural Areas (ed.). Poltava State Agrarian Academy. Poltava 2015 r.

## **LEARNING OUTCOMES**

- › **EU1** Student has theoretical knowledge in the field of the key importance of information and communication technologies in logistics and system solutions supporting the organization of logistics processes in enterprises.
- › **EU2** Student is able to use application software to support logistic management.
- › **EU3** Student is able to use application software to independently create content and a website for a company from the logistics industry.

## TEACHING TOOLS

- › Lecture with the use of a multimedia presentation, discussion.
- › Classes - problem discussion, practical exercises, project.
- › Computer stations with software, e-learning platform (possible use).

## WAYS OF ASSESSMENT (F – FORMATIVE, P – SUMMATIVE)

- › **F1.** Assessment of the implementation of tasks included in the curriculum.
- › **F2.** Activity in the classroom, the degree of mastering the teaching material being the subject of the tasks within the exercises.
- › **P1.** Assessment of the mastery of the teaching material within the lectures - quiz / test task.

## STUDENT WORKLOAD

| Form of activity                                 | Number of hours | ECTS |
|--|-----------------|------|
| Contact hours with the teacher                   |                 |      |
| Lectures   | 15              | 0,6  |
| Seminar  |                 |      |
| Classes  | 15              | 0,6  |
| Laboratory                                       |                 |      |
| Project  |                 |      |
| Test   | 3               | 0,12 |
| Exam   |                 |      |
| Total contact hours                              | 33              | 1,32 |
| Student's own work                               |                 |      |
| Getting acquainted with the indicated literature | 6               | 0,24 |
| Preparation for seminar                          |                 |      |
| Preparation for classes                          | 5               | 0,2  |
| Preparation for lab                              |                 |      |
| Project preparation                              |                 |      |
| Consultation                                     | 2               | 0,08 |
| Preparation for the test                         | 4               | 0,16 |
| Total student's own work                         | 17              | 0,68 |

|  |           |            |
|--|-----------|------------|
| <b>Total number of hours/ ECTS points for the course</b> | <b>50</b> | <b>2,0</b> |
|--|-----------|------------|

### ADDITIONAL INFORMATION

|   |   |
|---|---|
| Timetable of classes                              | <a href="https://wip.pcz.pl/dla-studentow/plan-zajec/studia-stacjonarne">https://wip.pcz.pl/dla-studentow/plan-zajec/studia-stacjonarne</a> |
| Information about the consultation (time + place) | <a href="https://wip.pcz.pl/dla-studentow/konsultacje-dla-studentow">https://wip.pcz.pl/dla-studentow/konsultacje-dla-studentow</a>         |

### MATRIX OF LEARNING OUTCOMES REALISATION

| <b>Learning outcome</b> | <b>Reference of given outcome to outcomes defined for whole program</b> | <b>Course objectives</b> | <b>Course content</b> | <b>Ways of assessment</b> |
|-------------------------|---|--------------------------|-----------------------|---------------------------|
| EU 1                    | K_W01, K_W02, K_W06, K_U04, K_U05, K_U07, K_K01, K_K02,                 | C1                       | L1 - L15              | P1                        |
| EU 2                    | K_W02, K_W07, K_U04, K_U05, K_U07, K_K02, K_K03,                        | C1, C2                   | C1 - C15              | F1, F2                    |
| EU 3                    | K_W02, K_W07, K_U04, K_U05, K_U07, K_K02, K_K03,                        | C1, C2                   | C1 - C15              | F1, F2                    |

### FORM OF ASSESSMENT – DETAILS

**EU1** Student has theoretical knowledge in the field of the key importance of information and communication technologies in logistics and system solutions supporting the organization of logistics processes in enterprises.

- › 2,0 The student has no knowledge of the importance of information and communication technologies in logistics and is unable to indicate any system solutions supporting the organization of logistics processes in enterprises.
- › 3,0 The student has a partial knowledge of the importance of information and communication technologies in logistics and is able to indicate only some system solutions supporting the organization of logistic processes in enterprises.
- › 3,5 The student almost knows the basic meaning of information and communication technologies in logistics and is able to indicate selected system solutions supporting the organization of logistic processes in enterprises.
- › 4,0 The student knows well the importance of information and communication technologies in logistics and is able to indicate selected system solutions supporting the organization of logistic processes in enterprises.
- › 4,5 The student has full knowledge of the importance of information and communication technologies in logistics and is able to identify selected system solutions supporting the organization of logistic processes in enterprises.
- › 5,0 The student has full knowledge of the importance of information and communication technologies in logistics and can indicate all system solutions supporting the organization of logistics processes in enterprises.

**EU2** Student is able to use application software to support logistic management.

- › 2,0 The student is not able to use the application software to support logistic management.
- › 3,0 The student is able to partially use the application software to support logistic management.
- › 3,5 The student is almost able to use the application software to support logistic management.
- › 4,0 The student is able to use the application software well to support logistic management.
- › 4,5 The student is able to use the application software to support logistic management almost very well.
- › 5,0 The student is very good at using the application software to support logistic management.

**EU 3** Student is able to use application software to independently create content and a website for a company from the logistics industry.

- › 2,0 The student is not able to use the software to create a website of a logistics company.
- › 3,0 The student is able to partially use the software to create a website of a company from the logistics industry.
- › 3,5 The student is almost able to use the software to create a website of a company from the logistics industry.
- › 4,0 The student is able to use the software well to create a website of a company from the logistics industry.
- › 4,5 The student is able to use the software almost very well to independently create a website of a company from the logistics industry.
- › 5,0 The student is very good at using the software on his own to create a website of a company from the logistics industry.