*FACULTY*
**Economic and Social SciencesDEPARTMENT: *Economics***
**DEPARTMENT: *Economics***
**SPECIALITY*: EKON1***
**LEVEL OF EDUCATION: degree *I studies***
**FORM OF EDUCATION*: full-time***
**PROFILE*:practical***

# SUBJECT CARD
## *(Sylabus)*

| Course title**: Information technology** | | | | Points **ECTS: 4** | |
|---|---|---|---|---|---|
| Leader: **dr Jolanta Sala, prof. nadzw. dr hab. Tomasz Plata-Przechlewski** | | | | | |
| Year: **1** | Lectures | Seminars | Laboratory exercises | Exercises | BUNA* |
| Semester: **1** | **9** | **0** | **30** | **0** | **E/ZO/Z** |

* E – exam; Z – credit; ZO – pass grade, BUNA –without the participation of an academic teacher

**Purpose of the object**: *familiarization with the basic concepts and construction of computers, computer software, information technology, wide area networks and information systems functioning in business organizations and institutions; developing knowledge, skills and social competences gained from previous educational stages in the field of multimedia applications in business, preparing students to use modern information technologies and their practical application*

**Teaching methods** informative (conventional), situational, exercise lecture based on the use of various sources of knowledge (film, photographs, archival materials, statistical yearbooks, maps, Internet, etc.), design method, case study, seminar discussion, demonstration

**Prerequisites:** *computer use in the field of word processors, calculations, graphics, sound; active participation in seminars, performing recommended tasks for self-solution.*

| **Nr** | **Subjects of classes** |
|---|---|
| **I** | **LECTURES-**<br>1. Development of the software production sector: history, organization of the ICT sector, economic consequences, mass software, Open Source software, legal protection of computer programs<br>2. Information, data, information processing, data representation<br>3. Introduction to relational databases. Trends in the development of databases: NOSQL database. Data warehouses<br>4. Electronic documents. Visual and structural formatting. XML, HTML.<br>5. Internet, network services, tools for mining information contained in networks, the possibility of using the Internet. Software as service (SaaS). Internet of things. An overview of selected services available in the SaaS model<br>6. Working on a spreadsheet - calculation, graphic presentations, link to a word processor, transfer of data to a multimedia presentation |
| **II** | **CONVERSATORIES- Not applicable** |
| **III** | **LABORATORY EXERCISES -**<br>1.Editing text documents in a typical office package. Defining the structure of the document and automating work (defining styles, automatic numbering of chapters,<br>generating a table of contents, etc.).<br>2. Creating spreadsheets in a typical office package. Describing calculations using formulas. Typical functions of the worksheet (sum, if, search vertically, etc.). Creating charts. Pivot tables.<br>3. Creating a presentation in a typical office program<br>4. Use of selected services available in the Saas model (GoogleDocs) |
| **IV** | **EXERCISES - Not applicable** |
| **V** | **BUNA- Not applicable** |
| **Effects of the education** | |

| Directional effects - the symbol and the detailed list | Object effects - detailed list |
|---|---|
| **in the field of <u>KNOWLEDGE</u>:**<br><br>1. **E1_W06** knows the standard scientific methods and tools appropriate for the scientific discipline, including techniques for obtaining data from primary and secondary sources, allowing to analyze and interpret phenomena, processes, entities, structures and activities of the organization<br>2. **2. E1_W11** has knowledge about the essence of entrepreneurship, knows the relevant legal provisions and general principles, procedures and processes of creating and developing forms of individual entrepreneurship, using knowledge in the field of scientific discipline economics<br>. | The student knows the methods and IT tools appropriate for the scientific discipline - economics used to acquire data from primary and secondary sources, allowing to analyze and interpret phenomena, processes, entities, structures and activities of the organization<br><br>The student has knowledge of the essence of IT support for entrepreneurship, knows the relevant legal provisions and general principles, procedures and processes for creating and developing forms of individual entrepreneurship, using knowledge in the field of scientific discipline, economics in the context of the organization's operation in the network and visual identification of the company in the digital space. |
| **On the field of <u>Ability</u>:**<br><br>1. **E1_U08** is able to take an active part (as a co-worker or leader) in analyzes and evaluations of alternative solutions to economic problems and choose methods and instruments that allow to rationally settle them and optimize<br><br>2. **E1_U09** has the ability to observe, understand and analyze phenomena, document and improve the ongoing economic processes with the help of economic scientific methods<br><br>3. **E1_U10** has the ability to prepare typical written works in Polish and a foreign language, relevant to the studied economics, concerning specific issues, using the basic theoretical approaches, the principles of collecting various data sources, their description and interpretation, and reasoning based on current scientific literature ( in connection with the selected specialty in economics)<br><br>4. **E1_U11** has the ability to prepare and deliver oral presentations, in Polish and foreign language, relevant to the studied economics, concerning specific issues, using the basic theoretical approaches, the principles of collecting various data sources, their description and interpretation and reasoning based on current literature scientific (in connection with the selected specialty in economics) | The student is able to take an active part (as a co-worker or leader) in analyzes and evaluations of alternative solutions to IT and economic problems and choose methods and instruments (programs) that allow them to be practically implemented.<br><br>The student has the ability to observe, understand and analyze phenomena in the virtual real world, document and improve economic processes using appropriate IT tools (programs).<br><br>The student has the ability to prepare in the electronic form typical works in Polish on specific issues, using the principles of data collection, their description and interpretation, and inference supported by the basic software of office suites.<br><br>The student has the ability to prepare and deliver oral presentations, in Polish, relevant to the subject and specific issues regarding the use of information technology in the activities of market entities. |
| **<u>On thie filed of SOCIAL COMPETENCES:</u>**<br><br>1. **E1_K02** is able to actively cooperate in teams, including international ones, and assume different roles, respecting socio-cultural, ethical and legal norms | Student is able to actively cooperate in task teams in direct and virtual contact and take different roles in solving subsequent stages / tasks, with respect for socio-cultural, ethical and legal norms |

**Ways of verification of learning outcomes (KNOWLEDGE, SKILLS, SOCIAL COMPETENCES)**

| Effects (symbol) | Written exam | Spoken Examination | Test | Essay / paper | Tasks, homework | Individual presentation | Group presentation | Activity during classes | Participation in the discussion | Individual project | Group project |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E1_W06 | **x** | | | | | | | **x** | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| E1_W11 | **x** | | | | **x** | | | **x** | | **x** | **x** |
| E1_U08 | | | | | | | | **x** | **x** | | |
| E1_U09 | | | | | **x** | | | **x** | **x** | | |
| E1_U10 | **x** | | | | **x** | | | | | | |
| E1_U11 | | | | | | | | **x** | **x** | | **x** |
| E1_K02 | | | | | | | | **x** | | | **x** |

**Form and conditions for passing the subject**: Implementation of the project (alone / group) with discussion; credit based on practical issues of a closed and open interpretation.

***Basic reference materials:*** *(up to 3 items)*

1. Lecture notes
2. Sikorski W., ECUK Podstawy technik informatycznych, Warszawa 2015 PWN

**Supplementing literature:**

1. Jaskuła T., Kwiatkowski T., Mejsner E., Stefańczyk M., Informatyka dla ekonomistów przykłady i ćwiczenia UMCS Lublin 2017
2. Borowska B. Arkusz kalkulacyjny Excel od podstaw PWN 2022
3. Hernandez M.J., Bazy danych dla zwykłych śmiertelników, Wydawnictwo MIKOM, Warszawa 2004;

| **The author of the program:** **dr Jolanta Sala, prof. nadzw.dr hab. Tomasz Plata-Przechlewski** | **Acceptances: Plant Manager and / or Dean:** |
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