GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	ECONOMIC INFORMATICS, PG_00071168		
Field of study	Economic Analytics		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Informatics In Management -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Grażyna Musiatowicz-Podbiał	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	30.0	0.0	0.0	45

E-learning hours included: 0.0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	45	3.0	27.0	75

Subject objectives

Preparing students to use information systems and technologies that support data analysis and decision-making processes in organizations, based on knowledge of information theory, types of information systems, and concepts of business digitization and digital transformation, as well as developing the ability to critically and responsibly acquire and use information in the context of organizational management.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W03] is familiar with reliable sources of information and employs advanced knowledge to explain the fundamental dilemmas of the contemporary economy	Knows and understands the importance of reliable information sources and possesses advanced knowledge necessary to explain the fundamental dilemmas of the modern economy in the context of acquiring knowledge from diverse sources, appropriately supplementing it with data and observations to achieve a proper understanding of the issues.	[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects
[K6_U07] uses advanced information technologies to enhance data analysis and decision-making processes.	Is able to apply information systems and technologies appropriate to the economic problem being addressed, using IT tools for data analysis and supporting decision-making processes in organizations.	[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools

Subject contents

Course content – lecture
Information technology as a tool supporting organizations
Information theory.
Data, information, knowledge, information capital, knowledge-based economy.
Information attributes and information security.
Information system: structure, typology, development trends.
Software Development Life Cycle.

- Integrated systems of the MRP / MRP (II) / ERP.
- CRM systems.
- Decision-suppor systems (incl. AI tools)
- E-business environment.
- Digital economy, digital business, digital transformation of organizations.
- Digital channels, multi-channeling, omnichanelling.
- Network and virtual organizations.
- Industry 5.0 and Sociecty 5.0.

Course content – laboratory
- Using Excel as an analytical tool (sorting, filtering, searching and selecting of data).
- Data structures: tables, lists and databases.
- The use of financial formulas (loans, investments, discount and depreciation functions).
- Data format and presentation (date and time functions, non-standard data formats).
- Case study assignment based on actual market data.
- Final assignment.

Prerequisites and co-requisites

Foundational ability to use office applications for the analysis and presentation of data and phenomena, in particulat refering to MS Excel.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Case study	60.0%	30.0%
Group project	0.0%	20.0%
Written assessment tests	60.0%	30.0%
Problem-based written assignments	0.0%	20.0%

Recommended reading

Basic literature

1. Ciesielska, C., Musiatowicz-Podbiał, G.(2021) Zarys problematyki zarządzania zasobami informatycznymi w przedsiębiorstwie. Gdańsk: Wydawnictwo PG.Kisielnicki, J., Sroka, H. (2005).
2. Systemy informacyjne biznesu; Informatyka dla zarządzania. Warszawa: AW Placet.Laudon, K. C., & Laudon, J. P. (2017). Essentials of management information systems. Pearson.Olszak, C., Ziemba, E. (red.) (2019).
3. Strategie i modele gospodarki elektronicznej. Warszawa: PWN.Wrycza, S, Maślankowski, J. (red.) (2021). Informatyka ekonomiczna; wyd II. Warszawa: PWN.

Supplementary literature

1. Afuah, A., Tucci, C. (2003). Biznes internetowy, strategie i modele; Kraków: Oficyna Ekonomiczna.
2. Cieciura, M. (2006). Podstawy technologii informatycznych z przykładami zastosowań. Warszawa: VIZJA PRESS&IT Sp. z o.o.
3. Grudzewski, W., Hejduk, I. (2002). Przedsiębiorstwo wirtualne. Warszawa: Difin.
4. Januszewski, A. (2008). Funkcjonalność Informatycznych systemów zarządzania - Zintegrowane systemy transakcyjne. Warszawa: PWN.
5. Januszewski, A.(2008). Funkcjonalność Informatycznych systemów zarządzania - Systemy Business Intelligence. Warszawa: PWN.

eResources addresses

Example issues/ example questions/ tasks being completed

- What is the role of the IT system in an enterprise depending on the sector?
- How CRM systems support customer relationship management?
- Please list 5 advantages of using ERP system?
- Name the most important elements of Information Era.
- What are biggest challenges od IT system implementation?
- Describe Software Development Life Cycle.

Practical activites within the subject	Not applicable

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