

Course title: **Modern IT Systems in Management**

Studies: Economics

## Course description form (syllabus form)

General data						
Cycle of studies	2024-2027					
Organizational unit	Faculty of Economic Sciences					
Studies	Economics, first-cycle studies					
The profile of education	General academic					
Semester	IV					
Mode of studies	full-time					
Type of course	Lecture	Practical session	Laboratory	Conversatorium	Seminar	Project
Number of hours	15 hours		30 hours			
Number of ECTS	3					
Examination	Graded credit					
Language	English					
Content author	Marek Popławski, ScD					
Course objectives						
The modern management of IT systems. The introduction of basic concepts and methodologies for analyzing and designing systems dedicated to IT management. Explanation of the principles of operation of dedicated IT tools.						
Prerequisites						
Lecture room with tools and a projector, whiteboard or interactive .						
Student workload						
1. Class sessions (including assessment and examination) - 45 hours 2. Reading literature for classes - 10 hours 3. Preparing assignments - 8 hours 4. Assessment preparation - 10 hours 5. Consultations-2 hours 6. TOTAL: 75 heures (3 ECTS)						
Short description						
The introduction of basic concepts and methodologies for analyzing and designing systems dedicated to IT management. Explanation of the principles of operation of dedicated IT tools. The next steps explain how information is processed. Individual processing steps explain the algorithmic operation of the systems. The lecture is enriched with numerous examples.						
Learning outcomes						
KNOWLEDGE: W01.Participants have advanced knowledge of selected facts objects, phenomena of economic, financial and managerial character in the domestic and international prospects, forming the fundamental general knowledge of social science, discipline of economics and finances and other scientific disciplines (IBI_W01) W02. Participants know and understands at advanced level the mechanisms of the functioning of international enterprises, corporations, financial markets and entities functioning on these markets as well as running a business in an international setting (IB1_W02). W03. Participant knows and understands statistical methods and IT tools for collecting, analysing and presenting economic, financial and managerial data used for describing and assessing international processes and economic phenomena (IB1_W04). SKILLS: U01. Participant can, on the grounds of one's knowlede in economy, finance and related dysciplines, analyse and interpret the course o0f complex economic, financial and managerial processes in enterprises operating on domestic and international markets(IB1_U02). U02. (IB1_U03) Participants can property select and apply advanced ICT techniques in supporting business decisions in international context as well as uses statistical methods with utilising modern IT instruments in assisting in decision-taking processes in international business connections (IB1_U03). U03. Participants can plan and organize individual and collective work, discuss and cooperate in a team( also in an interdisciolinary one) in solving economic, financial and managerial problems in international sphere (IB1_U04). COMPETENCIES :						

K01. participants are ready to critically assess one's knowledge and received contents from the area of international business, the needs of constant professional improvement and personal development, as well as as king for experts' opinions in case of problems with solving problems oneself (IB1\_K01).

K02. Participants are ready for preparing, realization, and bearing responsibility for business and social project of international character, including economic, financial and managerial aspects, as well as working for the public interest, being conscious of the multiculturalism in other countries and in international organizations and institutions (IB1\_K02).

K03. Participants are ready to think and act in entrepreneurial way, work at operational, analytical and managerial posts at different levels in enterprises, institutions and organizations functioning in an international setting (IB1\_K03).

<b>Form of verification</b>
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Graded credit
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<b>Detailed data</b>
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Type of course: Lecture
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<b>Bibliography</b>
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**Bibliography:**

1. „Business Information Systems: Technology, Development and Management for the Modern Business”, Bocij Paul, Greasley Andrew, Pearson Education 2018
2. „Modern Database Management (8th Edition)”, Hoffer, Jeffrey A. and Prescott, Mary and McFadden, Fred, Prentice-Hall, Inc. USA.
3. Project Management for Modern Information Systems, Dan Brandon, IRM Press 2005.

**Supplementary:**

1. E-Business: Technology, Strategy and Management, Paul Bocij, ROUTLEDGE 2019
2. Introduction to Management Information Systems Textbook -: A Guide for Colleges and Universities - 1 EDITION, Dr. Ricardo R. Neil DscMIT, Independently published 2023,
3. Introduction To Systems Analysis and Design: Concepts, Methods and Techniques: A Guide For College and University Students by Dr Ricardo R. Neil DscMIT, Independently published 2023.

<b>Range of content</b>
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**Lectures:**

1 Introduction to modern IT systems in management, presentation of thematic areas. Selected architectures for data processing. Keywords and concepts used in the presented area. Type of data sets, example of data sets, collection of data, organization and structure of data, data streams, on-line/off-line processing data, data base, data warehouses, examples of data used in management, data vs information.

2 Database management system (DMBS), data integrity, basic data operations, relationship in database management system, example of database used in management.

3 Knowledge, discovery of knowledge, decision support system, rule based knowledge representation, data mining and knowledge discovery.

4 Artificial intelligence, artificial intelligence in management, types of systems, an application areas. Expert system in management information system, rule tables, inference processing, example of expert systems, an application areas.

5,6 Modern enterprise resource planning systems (ERP systems). Types of ERP. The dedicated modules for modern IT management systems in ERP system. Real-time analytics.

7 The presentation of data, presentation of information, visualization of knowledge. Assessment of discovered knowledge.

8 Systematization of knowledge in the field of modern IT systems in management. The summary of the covered topic area.

**Laboratory**

1-2 The data acquisition in management. The sources of information. Working with data sets

3-4 Practical use of databases in the area of management. Performing various types of queries in the database.

5-6 The knowledge representation. Examples of the knowledge recording. The knowledge bases. The knowledge notation.

7-8 Expert system in management information system, rule tables, inference processing, example of expert systems, an application areas.

9-12 The dedicated modules for modern IT management systems in ERP system. The work with selected modules.

13 The presentation of data, presentation of information, visualization of knowledge. Assessment of discovered knowledge.

14-16 Systematization of knowledge in the field of modern IT systems in management . The summary of the covered topic area.

#### **Didactic methods**

1. Follow-up lecture. Kody koncowe
2. Case study.
3. Computer with dedicated software.

#### **Assessment methods and assessment criteria**

##### **KNOWLEDGE:**

Knowledge test (choice selection with open questions). W1,W2,W3

Rating / correct answers :

3.0 - 50-60%

4.0 - 60-90%

5.0 – 90-100%

##### **SKILLS:**

Oral answer: Solution to the selected problem. S1,S2,S3

Rating / correct answers :

3.0 - 50-60%

4.0 - 60-90%

5.0 – 90-100%

##### **COMPETENCIES: C1,C2,C3**

Oral answer: Case study

Rating / correct answers :

3.0 - 50-60%

4.0 - 60-90%

5.0 – 90-100%

##### **Summary:**

Main rating: Average of three tasks (KNOWLEDGE, SKILLS,COMPETENCIES)