



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Management information systems

### Course

Field of study

Engineering Management

Area of study (specialization)

Level of study

First-cycle studies

Form of study

part-time

Year/Semester

3/6

Profile of study

general academic

Course offered in

Polish

Requirements

compulsory

### Number of hours

Lecture

10

Laboratory classes

Other (e.g. online)

Tutorials

10

Projects/seminars

### Number of credit points

3

### Lecturers

Responsible for the course/lecturer:

Ph.D., Eng. Aleksander Jurga

Responsible for the course/lecturer:

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### Prerequisites

1. Knowledge: Knowledge of the basics of management, organization science and computer science.
2. Skills: Interpretation and description of the legal bases and processes affecting the functioning of an enterprise.
3. Social competencies: Group work, interest in IT techniques. Awareness of the social context of business operations and understanding of basic social phenomena.

### Course objective

Understand the role of information in the enterprise management process, including: data collection and interpretation supporting decision-making processes affecting the efficiency of the enterprise. The ability to model management information systems.



## Course-related learning outcomes

### Knowledge

The student defines and explains key concepts related to informational processes in management, including the difference between data and information and the essential characteristics of information [P6S\_WG\_01].

The student identifies and describes methods and tools for collecting, processing, selecting, and distributing information, applying them to analyze the structure and resources of information systems [P6S\_WG\_08].

The student explains research methodology and methods and tools for modeling processes occurring among market participants, focusing on applications in management information systems [P6S\_WG\_10].

### Skills

The student applies theoretical knowledge to analyze and model information processes in management, using tools such as ARIS Toolset and notations like EPC and BPMN [P6S\_UW\_01].

### Social competences

The student develops the ability to independently search for and select educational and training sources to supplement and refine their knowledge and skills in the field of management information systems [P6S\_KK\_01].

The student shapes an awareness of the importance of a systemic approach in product creation, taking into account technical, economic, marketing, legal, organizational, and financial aspects [P6S\_KO\_02].

## Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:

a) In the field of lectures: Scored written tests (closed questions) or on the eMoodle platform at the end of individual thematic blocks of lectures. Passing threshold min. 50 points. Each lecture ends with control questions as help to solve tests.

b) In the field of exercises: implementation of exercises, practical test on a komputer. In the scope of exercises: implementation of exercise tasks related to modeling of MIS using IT tools; current assessment of individual exercises. Passing threshold min. 50 points.

Summary:

a) In the field of lectures: assessment based on the sum of accumulated test points.

b) In the field of exercises: assessment based on the sum of accumulated points.

## Programme content

Lectures:



As part of the course, an overview of issues related to Management Information Systems will be presented. The scope of classes includes, among others: Information processes in management (basic concepts: including data vs. information and its important features). SI system (construction, resource structure and quality requirements). Information security (cryptographic methods and systems, digital signature). Information gap. IT systems supporting SI (evolution of IT systems, typology, IT design methodologies). Expert systems (structure of SE construction and their role in supporting information processes). Modeling of management information systems (ARIS Toolset) in EPC and / or BPMN notation.

#### Exercises:

Applies to selected aspects of management information system modeling. They include exercises in modeling selected management information systems, followed by their improvement. Designing measures of success for objective models. Exercises are carried out using EPC and BPMN notation.

#### Teaching methods

Information lecture: multimedia presentation, illustrated with examples on the board.

Work with a book.

Demonstration method.

Exercise method: multimedia presentation illustrated with examples given on a blackboard and performance of tasks given by the teacher - practical exercises.

#### Bibliography

##### Basic

1. Jurga A., Pojęcie i budowa systemu informacyjnego [w]: Adamczyk M., Jurga A i inni, Projektowanie systemów informacyjnych zarządzania, Wyd. Politechniki Poznańskiej, Poznań, 2010.
2. Jurga A., System informacyjny a system informatyczny [w]: Adamczyk M., Jurga A i inni, Projektowanie systemów informacyjnych zarządzania, Wyd. Politechniki Poznańskiej, Poznań, 2010.
3. Wybrane aspekty niwelacji luki informacyjnej oraz jej wpływ na użyteczność informacji. Case study. Jurga A., [w]: Woźniak M. (red.), Społeczeństwo informacyjne – technologie, informacja i wiedza w gospodarce. Zeszyty Naukowe nr 35. Wyd. Uniwersytetu Rzeszowskiego, Rzeszów, 2013, s. 226-236....
4. Procesy informacyjne w zarządzaniu, red. Nowicki A., Sitarska M., Wyd. Uniwersytetu Ekonomicznego, Wrocław, 2010.
5. Sieci komputerowe – bezpieczeństwo. Cz. 1, Metody i systemy kryptograficzne, Karpiński M., Kurytnik I. P., Wyd. Akademii Techniczno-Humanistycznej, Bielsko-Biała, 2006.
6. ARIS w modelowaniu procesów biznesu, Gabryelczyk R., Defin, Warszawa, 2006.
7. Zrozumieć BPMN. Modelowanie procesów biznesowych, Drejewicz Sz., Wyd. Helion, Gliwice 2012.



Additional

1. Klonowski Z., Systemy informatyczne zarządzania przedsiębiorstwem. Modele rozwoju i właściwości funkcjonalne. PW, Wrocław, 2004.
2. Kisielnicki J., Sroka H., Systemy informacyjne biznesu, Placet, Warszawa 2005
3. Strategia doskonalenia systemu informacyjnego w zarządzaniu przedsiębiorstwem, Nowicki A., Wyd. Akademii Ekonomicznej, 1999.
4. Kenneth C., Laudon J.P., Management Information Systems, Prentice Hall, New Jersey, 2001
5. Sommerville I., Inżynieria Oprogramowania, Wyd. WNT 2006.
6. ARIS platform jako narzędzie modelowania procesów biznesowych. Notacja EPC a BPMN, Jurga A., Zeszyty Naukowe nr 702. Ekonomiczne problemy usług nr 87. Gospodarka elektroniczna. Wyzwania rozwojowe. Tom 1, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Szczecin 2012.
7. Wybrane aspekty modelowania procesów biznesowych, Jurga A., Zeszyty Naukowe nr 762. Ekonomiczne Problemy Usług nr 104. Europejska przestrzeń komunikacji elektronicznej. T. 1, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Szczecin 2013, 207-217.

**Breakdown of average student's workload**

|   | Hours | ECTS |
|---|-------|------|
| Total workload  | 75    | 3,0  |
| Classes requiring direct contact with the teacher   | 20    | 1,0  |
| Student's own work (literature studies, preparation for exercises / preparation for colloquium (lecture)). <sup>1</sup> | 55    | 2,0  |

<sup>1</sup> delete or add other activities as appropriate