Syllabus
Course Program

Information Systems and Technologies in Management

Specialty
073 – Management

Institute
Institute of Education and Science in Economics, Management and International Business

Educational program
Business administration

Department
Management (204)

Level of education
Master's level

Course type
Mandatory

Semester
1

Language of instruction
English

Lecturers and course developers

Valentin Kovshik

valentin.kovshik@khpi.edu.ua
Ph.D. (C.Sc.) in Economic Sciences, associate professor of Management department

Authored and co-authored over 30 scientific and methodological publications. Courses: Operations management, Supply chain management, Logistics management, Information technology in management, SMM management
More about the lecturer on the department's website

General information

Summary

The Information Systems and Technologies in Management course develops the knowledge and skills necessary to effectively manage business processes related to usage of information technologies, including computers, software and networks. During the course, students will learn how to organize, plan, implement, control and improve IT technologies in management, effectively achieve strategic objectives of the company with them.

Course objectives and goals

Mastering theoretical knowledge and practical skills in the field of information technologies in management. Formation of understanding of theoretical principles, categories, modern concepts and practical methods of utilization of modern technology in operational and administrative activities to achieve strategic objectives and goals.

Format of classes

Lectures, laboratory classes, self-study. Individual assignment (abstract). Final control in the form of an exam.

Competencies

GC 01. Ability to conduct research at the appropriate level;
GC 03. Skills of using information and communication technologies;
GC 05. Ability to act on the basis of ethical considerations (motives)

Learning outcomes

LO 01. To critically comprehend, select and use the necessary scientific, methodological and analytical tools for management in unpredictable conditions;
LO 03. Design effective management systems for organizations;
LO 08. Apply specialized software and information systems to solve organizational management problems;
LO 13. To be able to plan and implement information, methodological, material, financial and personnel support of the organization (unit).

Student workload

The total volume of the course is 120 hours (4 ECTS credits): lectures - 16 hours, laboratory works - 32 hours, self-study - 72 hours.

Course prerequisites

To successfully complete the course, it is necessary to have basic knowledge and practical skills corresponding to the results of bachelor's level of education for the specialty 073 "Management".

Features of the course, teaching and learning methods, and technologies

Lectures are delivered interactively with the use of multimedia technologies. Laboratory classes focus on the use of modern information technology and popular software tools that are required in real-world situations. Learning materials are available to students via OneNote Class Notebook, Google Classroom.

Program of the course

Topics of the lectures

Topic 1: Introduction to information technologies (IT) in management
Topic 2. Development of management information systems
Topic 3. Types of management information systems (MIS)
Topic 4. Electronic document management
Topic 5. Cybersecurity
Topic 6. Performance of IT in management

Topics of the workshops

No workshops are included in the plan.

Topics of the laboratory classes

Topic 1: Planning and organizing of IT implementation.
Topic 2. Basics of Agile methodologies. SCRUM planning.
Topic 3. Project management software.
Topic 4. Workflow management software.
Topic 5. Business modelling software.
Topic 6. Overview of ERP systems.

National Technical University "Kharkiv Polytechnic Institute"

Self-study

The course involves learning additional materials regarding the topics of the lectures.
Also, the course includes performing an individual assignment related to processing of theoretical information (abstract) as well as a calculation task using spreadsheets and business intelligence software. The result is presented in a written paper.
Students are also recommended additional materials (videos, articles) for independent study and analysis.

Course materials and recommended reading

1. Bourgeois, D. T. (2014). Information Systems for Business and Beyond. Pressbooks. https://pressbooks.pub/bus206/
2. Lacher, M. (2023). Business Computers 365 Version 2.0. Minnesota State Community & Technical College, 268. https://open.umn.edu/opentextbooks/textbooks/business-computers-365-lacher
3. Information Systems: A Manager's Guide to Harnessing Technology. (2015). University of Minnesota Libraries Publishing. https://doi.org/10.24926/8668.1101
4. Haseeb, M., Hussain, H. I., Ślusarczyk, B., & Jermsittiparsert, K. (2019). Industry 4.0: A solution towards technology challenges of sustainable business performance. Social Sciences, 8(5), 154.
5. Excel help & learning. Import and analyze data (2023). https://support.microsoft.com/en-us/office/import-and-analyze-data-ccd3c4a6-272f-4c97-afbb-d3f27407fcde
6. Get started with Power BI Desktop (2023) https://learn.microsoft.com/en-us/power-bi/fundamentals/desktop-getting-started
7. Muldoon, J. (2014) PMBOK® Summarized. http://johnmuldoon.ie/wp-content/uploads/2014/08/PMBOK-Summarized.pdf
8. Верескун, М. В. (2015). Методи оцінки ефективності впровадження інформаційних систем на промислових підприємствах. Теоретичні і практичні аспекти економіки та інтелектуальної власності, (1 (1)), 21–26.

Assessment and grading

Criteria for assessment of student performance, and the final score structure

100% final grade is the result of the final assessment (30%) and continuous assessment (70%).
Final assessment: exam (reporting on the individual assignment, answering open-ended questions) (30%)
Continuous assessment: mid-term test (30%); completion of the tasks during the laboratory classes (40%)

Grading scale

Total points	National	ECTS
90–100	Excellent	A
82–89	Good	B
75–81	Good	C
64–74	Satisfactory	D
60–63	Satisfactory	E
35–59	Unsatisfactory (requires additional learning)	FX
1–34	Unsatisfactory (requires repetition of the course)	F

National Technical University "Kharkiv Polytechnic Institute"

Norms of academic integrity and course policy

The student must adhere to the Code of Ethics of Academic Relations and Integrity of NTU "KhPI": to demonstrate discipline, good manners, kindness, honesty, and responsibility. Conflict situations should be openly discussed in academic groups with a lecturer, and if it is impossible to resolve the conflict, they should be brought to the attention of the Institute's management. Regulatory and legal documents related to the implementation of the principles of academic integrity at NTU "KhPI" are available on the website: http://blogs.kpi.kharkov.ua/v2/nv/akademichna-dobrochesnist/

Approval

Approved by

Head of the department
Olena PROKHORENKO

Guarantor of the educational program
Pavlo BRIN