

ODESA I.I. MECHNYKOV NATIONAL UNIVERSITY
FACULTY OF ECONOMICS AND LAW
DEPARTMENT OF MARKETING AND BUSINESS ADMINISTRATION

Syllabus of the course "Modelling, analysis and automation of business processes"

Course duration	total number: credits – 4; hours – 120; content modules - 2
Semester	autumn
Days, Time, Place	according to the class schedule
Teacher	Maryna Chaikovska, Doctor of Economic Sciences, Professor
Workplace	Professor of the Department of Marketing and Business Administration
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Consultations	online consultations: Microsoft Teams (link is generated at the beginning of classes)

COMMUNICATION

Communication with students will be carried out by e-mail or via Microsoft Teams.

COURSE ABSTRACT

The subject of the course is business process modeling and automation tools and the possibilities of using them to achieve the general and specific goals of the organization.

Course prerequisites

The course material is based on previously acquired knowledge, practical skills and skills of topics and areas related to modeling, project management, economics and information business organization. The corresponding courses are taught within the educational program of the first (bachelor) level of higher education in specialty 126 "Information systems and technologies".

Post-requisites of the course

This course complements the discipline "Methods of modeling information processes in complex systems" in the field of modeling, analysis and automation of business processes and is the basis for mastering the following disciplines of the educational and professional master's training program in the specialty 126 "Information systems and technologies": "Marketing and protection intellectual property in the IT industry", "Execution of master's qualification work".

The purpose of the course is the formation of a system of theoretical knowledge and practical skills regarding the application of modern models, methodologies, tools for the automation of business processes in the enterprise in the conditions of the transition of the organization to the use of digital channels.

Course content

Considered:

- *Evolution of production and economic systems in the context of the modern stage of development of informatization and modeling processes.*
- *Modern prospective directions of modeling of enterprise activity.*
- *Process approach to enterprise management.*
- *Modern technological tools for analysis and automation of business processes.*
- *Business engineering and reengineering at the enterprise.*
- *Specialized business process modeling methodologies.*
- *Evolution of the automation technological toolkit in relation to multi-approach modeling.*

EXPECTED RESULTS

As a result of studying the course, the student must

to know: theoretical, methodological and methodical bases of modeling; organizational and legal principles of creation and functioning of information systems and communication technologies; main categories of modeling business processes; concepts of engineering and reengineering of business processes; a system of business process modeling standards; types of information products of analysis and modeling of business processes; - the essence and content of the management process model; the principles of a systematic approach to modeling and reengineering the company's activities in order to critically consider, select and use the necessary scientific, methodical and analytical tools for management in unpredictable conditions;

to be able to: effectively apply information systems and business process modeling technologies in practice; application of business process automation tools; choose a class of models for a certain task; develop models of business processes in modeling standards; use modern technological tools of analysis and modeling; form a comprehensive and systematic view of the modeling and reengineering of material, financial and information flows of the enterprise, aimed at optimizing business processes and organizational structure, redistributing and minimizing the use of resources, shortening the terms of production cycles, realizing customer needs, improving the quality of their service, which are reserves ensuring flexibility and increasing the efficiency and competitiveness of enterprises at present.

Competencies that the student receives as a result of studying the course:

–IC: The ability, to solve research and innovation-oriented tasks in the field of information systems and technologies.

–GC03. Ability to communicate with representatives of other professional groups at various levels experts from different fields of knowledge/types of economic activities.

– GC04. Capability to develop and manage projects.

– GC05. Proficiency in assessing and ensuring the quality of work performed.

– SC02. The ability to formulate requirements for the stages of the life cycle of service-oriented information systems.

– SC04. The ability to develop mathematical, informational, and computer models of objects and processes related to informatization.

– SKM01. The ability to formalize economic situations, apply mathematical methods for justification and make managerial and technical decisions in various situations.

Learning outcomes: upon completion of the course, the student will have skills

LOO3. Make effective decisions on the development of information infrastructure, creation, and application of ICT.

LOO4. Manage complex, unpredictable processes related to the development, implementation, and operation of ICT, requiring new strategic and team approaches.

LOO5. Define requirements for ICT based on the analysis of business processes and stakeholder needs, and develop technical specifications.

LOO11. Solve digital transformation tasks in new or unfamiliar environments based on specialized conceptual knowledge, including modern scientific achievements in the field of information technology, research, and knowledge integration from various fields.

FORMS AND METHODS OF TEACHING

The course will be taught in the form of lectures (14 hours) and laboratory classes (16 hours), organization of students' independent work (90 hours).

The basic training of students is carried out in lectures and laboratory classes.

During the teaching of the course, the following teaching methods are used: verbal (lecture, explanation); face-to-face (Power Point presentation); practical (laboratory works); work with literary sources (independent work of students).