

APPROVED
 Vice-rector for educational activities
 Veronika.G. Shubaeva
 «24» _____ 2023.

***Введение в информационные технологии / Introduction to
 information systems***

Syllabus of the course

Field of study/Specialty 38.03.02 *Management*
 Focus (profile) of the program/
Specialization *Business management and digital innovations*
 Level of higher education *Bachelor's degree*
 Form of study *full-time*
 Year of recruitment 2023
 Author(s):
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Total number of hours	180	Form of final attestation: Exam: Semester 1
incl:		
contact work	48	
self-study	96	
practical training	0	
control hours	36	

Hours distribution:

Semester:	1
Type of activity	Hours
Contact hours	20
Practical training	28
Laboratory work	
Total contact hours	48
Self-study	96
Control hours	36
Total academic hours	180
Total credits	5

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1. OBJECTIVES OF MASTERING THE DISCIPLINE

Target:	Formation of knowledge in the field of information technologies and systems, acquisition and consolidation of practical skills in working in MS Office.
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2. PLACE OF THE DISCIPLINE IN THE STRUCTURE OF THE EDUCATIONAL PROGRAM

Discipline B1.O Introduction to information technologies / Introduction to information systems refers to the compulsory part of Block 1.

3. PLANNED LEARNING OUTCOMES IN THE DISCIPLINE

Code and name of graduate competence	Code and name of the competency achievement indicator	Planned learning outcomes for the discipline
GPC-6 - Able to understand the principles of operation of modern information technologies and use them to solve problems of professional activity.	GPC -6.1 - Possesses the necessary knowledge in the field of information technology and software	Know: modern information technologies and software; principles of operation of modern information technologies Be able to: use modern information technologies to solve professional problems. To master: modern information technologies and software; principles of operation of modern information technologies.
GPC -5 - Capable of using modern information technologies and software tools to solve professional problems, including the management of large data arrays and their intelligent analysis.	GPC -5.1 - Understands the basic principles of working with data, applies modern data analysis tools at a basic level, including using programming, algorithms and mathematical methods when solving data analysis problems	Know: the basic principles of operation of modern information systems; modern principles of operation of modern database management systems; basic principles of operation of various types of software in computing information systems Be able to: apply the basic principles of functioning of modern information systems in the design and development of software; use modern tools for working with databases. Own: mobile software applications for collecting, monitoring, processing and analyzing data.

4. STRUCTURE AND CONTENT OF THE DISCIPLINE

Number and name of topics and/or sections/topics	Contents of the discipline	Academic hours			
		Contact work			Self-study
		Lectures	Practice	Workshops	
Section I. Theoretical part					
Topic 1. Basic concepts and definitions.	Study of basic concepts: information, information processes, information technologies, information systems.	1			4
Topic 2. Historical aspects of the development of information systems and technologies.	Stages of development of information technology.	1			4
Topic 3. The impact of information technology development on human activity	Information society as the next stage of human development. Definition and characteristics of the information society.	2			4
Topic 4. Consequences of informatization	Information resource, product, service. Digital universe, big data. Changes in the labor market.	2			4
Topic 5. Classification of information.	Properties of information. Classification of information.	2			4
Topic 6. Information processes	Overview of basic information processes.	2			4
Topic 7. Structure of information systems	The concept of IS. The goals of creating IS. Supporting subsystems of IS.	2			4
Topic 8. Classification of information systems	Classification of IS according to various characteristics.	2			4
Topic 9. Stages of IS design	Structure of the IS design process. IS design stages. Documentation of the IS design process.	2			4
Topic 10. IS life cycle	Life cycle of software IS. Models of software life cycle.	2			5
Topic 11. Architecture of information systems	The concept of information systems architecture. Types of architecture. Microarchitectures and macroarchitectures. Architectural approach to designing information systems.	2			5
Section II. Practical part					
Topic 12. Editing text	Learning how to edit text – font, font size, alignment, indents, using styles.		4		6

Topic 13. Form development	Acquiring the skills needed to design forms in Microsoft Word, including: distributing space on a form; creating a header in a document; creating blank lines in a document; creating a signature strip; using headers and footers; adding a background; and creating a background.		3		6
Topic 14. Tables	Learning how to create tables, how to edit them, and how to format them in documentation.		3		6
Topic 15. Drawings and figures	Learning different ways to work with pictures, shapes and text fields. Documentation.		3		6
Topic 16. Flow charts and formulas	Study of principles of construction of block diagrams and formulas. Registration in documentation.		3		6
Topic 17. Creating a presentation	Learning the Microsoft Power Point tools needed to create presentations, namely creating, deleting and adding slides, adding text and pictures to a slide, creating a background, adding animation.		4		6
Topic 18. Using built-in formulas in Microsoft Excel	Study of principles of creating spreadsheets, data types, principles of entering numeric and text data, building simple formulas. Building formulas containing various built-in functions. Formatting tables.		4		7
Topic 19. Building charts in Microsoft Excel	Study of different types of diagrams, methods of their construction and application.		4		7
Control:					36
Total for the discipline:		20	28	0	96

5. EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT OF THE DISCIPLINE

5.1 Recommended literature

Bibliographic description of the publication (author, title, type, place and year of publication, number of pages)	Electronic resources
Trofimov, Valery Vladimirovich. Information technologies in economics and management in 2 parts. Part 1: textbook for universities / V. V. Trofimov [et al.]; edited by V. V. Trofimov. 3rd ed., trans. and add. Moscow: Yurait, 2022. 269 p.	https://urait.ru/bcode/494762
Trofimov, Valery Vladimirovich. Information technologies in economics and management in 2 parts. Part 2: textbook for universities / V. V. Trofimov [et al.]; edited by V. V. Trofimov. 3rd ed., trans. and add. Moscow: Yurait, 2022. 245 p.	https://urait.ru/bcode/494764

5.2 List of licensed and freely distributed software, including domestically produced

- 7-Zip
- LibreOffice
- OS Alt education 10

5.3 List of information reference systems (IRS) and modern professional databases (MPDB)

No.	Name of SPBD/ISS
1.	Electronic library Grebennikon.ru – www.grebennikon.ru
2.	Scientific electronic library eLIBRARY – www.elibrary.ru
3.	Scientific electronic library CyberLeninka – www.cyberleninka.ru
4.	Database POLPRED Directories – www.polpred.com
5.	OECD Books, Papers & Statistics database on the OECD iLibrary platform www.oecd-ilibrary.org
6.	Legal reference system ConsultantPlus (installed resource SPbSUE or www.consultant.ru)
7.	Reference legal system "GARANT" (installed resource of SPbGEU or www.garant.ru)
8.	Information and reference system "Code" (installed resource SPbSUE or www.kodeks.ru)
9.	Electronic library system BOOK.ru - www.book.ru
10.	Electronic library system EBS URAYT – www.urait.ru
11.	Electronic library system ZNANIUM (ZNANIUM) – www.znanium.com
12.	Electronic library of SPbGEU – opac.unecon.ru

6. LOGISTIC AND TECHNICAL SUPPORT OF DISCIPLINE

To implement this discipline, there are special rooms for conducting lecture-type classes, seminar-type classes, course design (completion of coursework), group and individual consultations, ongoing monitoring and midterm assessment, as well as rooms for independent work.

The premises are equipped with equipment and technical teaching aids.

The rooms for independent work of students are equipped with computer equipment with the ability to connect to the Internet and provide access to the electronic information and educational environment of the university.

Name of classrooms, list	Address (location) of classrooms
Room 1054 Classroom (for lectures and seminars, course design (coursework), group and individual consultations, ongoing monitoring and midterm assessment) equipped	191023, St. Petersburg, st. Kanal

with a multimedia complex. Specialized furniture and equipment: Classroom furniture for 36 seats, teacher's workstation, chalk board (single-section) - 2 pcs., lectern - 1 pc., shelving - 1 pc., art chair - 1 pc. Portable multimedia kit: HP 250 G6 1WY58EA Notebook, LG PF1500G Multimedia Projector. Sets of demonstration equipment and teaching aids: multimedia applications for lecture courses and practical classes, interactive teaching aids.	Griboyedov, 30/32, letters "A", "B", "R"
Room 3035 Classroom (for lectures and seminars, course design (coursework), group and individual consultations, ongoing monitoring and midterm assessment), equipped with a multimedia complex. Specialized furniture and equipment: Classroom furniture for 128 seats (32 desks - 4-seater), teacher's workstation, chalk board (3-section) 2 pcs., lectern 1 pc., computer desk m/m 1 pc., table 2 pcs., chair 2 pcs. Computer Intel i3-2100 2.4 Ghz/500/4/Acer V193 19", Projector NEC NP-P501X included: VGA-VGA cable Kramer 15m15m length 15 m VGA signal distributor Kramer VP-222K cable Greenconnect Jack 3.5 mm/RCA 2 length 3 m - 1 pc., Mixer-amplifier JDM TA-1120 included microphone cable Tasker c114 black in a 100m bay. Microphone BEHRINGER XM8500 Acoustic cable Tasker C121 in a 100m bay. - 1 pc., Screen with motor ScreenMedia Champion 305x229cm (SCM-4306) - 1 pc., Acoustic system APart MASK6T white - 2 pcs. Demonstration kits equipment and teaching aids: multimedia applications for lecture courses and practical classes, interactive teaching aids.	191023, St. Petersburg, st. Kanal Griboyedov, 30/32, letters "A", "B", "R"
Room 1066 Classroom (for lectures and seminars, course design (coursework), group and individual consultations, ongoing monitoring and midterm assessment) equipped with a multimedia complex. Specialized furniture and equipment: Classroom furniture for 74 seats, teacher's workstation, chalkboard - 1 pc., table - 1 pc., lectern - 1 pc., Smart TV LE43K6500U Screen size 42" - 1 pc. Portable multimedia kit: HP 250 G6 1WY58EA Notebook, LG PF1500G Multimedia Projector. Sets of demonstration equipment and teaching aids: multimedia applications for lecture courses and practical classes, interactive teaching aids.	191023, St. Petersburg, st. Kanal Griboyedov, 30/32, letters "A", "B", "R"

7. METHODOLOGICAL INSTRUCTIONS FOR STUDENTS TO MASTER THE DISCIPLINE

When starting to study the discipline, the student must familiarize themselves with the following documents:

- educational and methodological documentation;
- local regulations governing the main issues of organizing and implementing educational activities, including those regulating the procedure for conducting ongoing monitoring of academic performance and midterm assessment of students;
- schedule of consultations for faculty members.

The level and depth of mastering the discipline are determined by the active and systematic work of students in lectures, seminar-type classes, and independent work, including in terms of identifying the most significant and relevant problems

for further study. A special condition for high-quality mastering of the discipline is the effective organization of work, which allows for the even distribution of the academic load in accordance with the schedule of the educational process.

In preparation for classes, students are given the opportunity to attend consultations with the faculty of SPbGEU according to the schedule established in the consultation schedule.

The students' in-class and out-of-class work should be aimed at developing:

- fundamental foundations of students' worldview and natural science knowledge;
- basic knowledge corresponding to the direction of training and the declared professional field, forming a target and professional basis for training personnel;
- professional competencies aimed at meeting the needs of the labor market;
- individual trajectory through the acquisition of a unique set of professional competencies that complement the student's competency model, due to the focus on specific professional specialized areas of knowledge determined by representatives of the labor market;
- meta-skills of students, such as: teamwork and leadership, data analysis, digital skills, project development and implementation, intercultural interaction.

8. FEATURES OF MASTERING THE DISCIPLINE FOR DISABLED PEOPLE AND PERSONS WITH LIMITED HEALTH CAPABILITIES

The training of students with disabilities, if necessary, is carried out on the basis of an adapted work program using special teaching methods and didactic materials compiled taking into account the characteristics of the psychophysical development, individual capabilities and health status of such students (student).

In order to master the curriculum of the discipline by disabled people and people with limited health capabilities, the University provides:

- for disabled people and people with limited health capabilities due to vision: posting reference information about the schedule of classes in places accessible to students who are blind or visually impaired, and in an adapted form; the presence of an assistant providing the student with the necessary assistance; issuing alternative formats of methodological materials (large font or audio files);

– for disabled people and people with limited hearing: reproduction of information using appropriate sound means;

- for disabled people and people with limited health capabilities who have musculoskeletal disorders: the possibility of unimpeded access of students to

classrooms, toilets and other premises of the department, as well as staying in the said premises.

Students with disabilities and individuals with special educational needs are provided with printed and/or electronic educational resources in forms adapted to their health limitations. Education of students with special educational needs can be organized both together with other students and in separate groups or in separate organizations.

ASSESSMENT TOOLS FUND

1.1 Test questions and assignments for the midterm assessment

- 1 Historical aspects of the development of information systems and technologies.
- 2 Reasons for the emergence of the information society.
- 3 Definition and characteristics of the information society
- 4 Information resource, product, service
- 5 Overview of basic information processes.
- 6 The concept of IS. The goals of creating IS.
- 7 Supporting subsystems of the information system.
- 8 Structure of the IS design process.
- 9 Principles of creation and operation of IS.
- 10 Classification of IS.
- 11 Stages of IS design.
- 12 Documenting the IS design process.
- 13 Life cycle of software IS and its models.
- 14 Software life cycle processes.
- 15 Waterfall models of the software life cycle of the information system.
- 16 Spiral models of the software life cycle of the information system.
- 17 Incremental models of the software life cycle.
- 18 Flexible software life cycle models.
- 19 The concept of IS architecture. Types of IS architectures.
- 20 Design patterns and antipatterns.

1.2 Topics of written works

The work program does not provide for this discipline.

1.3 Checkpoints

Checkpoint number	Checkpoint type	Method of implementation	Topic numbers
1	Practical work	with the help of technical means and information systems	12-15
2	Practical work	with the help of technical means and information systems	16-19
3	Current control	with the help of technical means and information systems	1-19

1.4 Other objects of assessment

The work program does not provide for this discipline.

1.5 Independent work of the student

Titles of independent work	Topic numbers
Essay writing	1-11
Preparing for the exam	1-19

1.6 Result assessment scale

The assessment scales and procedures for assessing learning outcomes in a discipline are regulated by the Regulation on the current monitoring of academic performance and midterm assessment of students in higher education programs and the Regulation on the point-rating system.

To assess the development of learning outcomes in a discipline, a point-rating system of student performance is used:

The form of final assessment for the discipline is an exam (or differentiated test), the final grade is formed in accordance with the scale given in the table below:

Points	Grade
≤ 54	unsatisfactory
55-69	satisfactorily
70-84	Fine
≥ 85	Great

Result assessment scale

2 (score up to 54)	Demonstrates a lack of understanding of the problem. Many of the requirements for the task are not met. Primary perception of the material is demonstrated. The work is unfinished and/or it is plagiarism.
3 (score 55-69)	Demonstrates partial understanding of the problem. Most of the requirements for the task are met. Mastery of the elements of the given material. The completed material is generally understandable and holistic.
4 (score 70-84)	Demonstrates significant understanding of the problem in the assigned discipline. All requirements for the assignment have been met. The content of the completed tasks is disclosed and examined from different points of view.
5 (score 85-100)	Demonstrates a complete understanding of the problem. All requirements for the task are met. Demonstrated confident mastery of the discipline material. Completed tasks are holistic, completed in full, structured, present different points of view, demonstrated a creative approach.