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**Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
NAMED AFTER PATRICE LUMUMBA
RUDN University**

Higher School of Management

educational division (faculty/institute/academy) as higher education programme developer

COURSE SYLLABUS

Digitalization and Information Technology Provision of the Professional Sphere
(course title)

Recommended by the Didactic Council for the Education Field of:

43.04.02 Tourism
field of study / speciality code and title

The course instruction is implemented within the professional education programme of higher education:

Business Processes in Tourism and Hospitality
higher education programme profile/specialisation title

1. COURSE GOAL

The Digitalization and Information Technology Provision of the Professional Sphere course is aimed at students' forming a holistic understanding of modern information and technical support in the professional sphere.

2. REQUIREMENTS FOR COURSE OUTCOMES

Mastering the Digitalization and Information Technology Provision of the Professional Sphere course is designed for students to acquire the following competencies (parts of competencies):

Table 2.1. List of competences that students acquire when mastering the course

Competence Code	Competence Descriptor	Competence Formation Indicators (within this course)
GC-2	Able to manage a project at all stages of its life cycle	GC-2.1. Able to formulate a problem whose solution is directly related to achieving the project goal; GC-2.2. Able to determine the connections between the assigned tasks and the expected results of their solution
GC-7	Able to: search for the necessary sources of information and data, perceive, analyze, remember and transmit information using digital means, as well as using algorithms when working with data received from various sources in order to effectively use the information received to solve problems; evaluate information, its reliability, build logical conclusions based on incoming information and data	GC-7.1. Able to search for necessary sources of information and data, perceive, analyze, remember and transmit information using digital means, as well as using algorithms when working with data obtained from various data sources in order to effectively use the obtained information for solving problems; GC-7.2. Able to evaluate information, its reliability, build logical conclusions based on incoming information and data.
GPC-1	Able to form a technological concept for a tourism organization, organize the implementation of technological innovations and software in tourism	GPC-1.1. Able to form a technological concept for a tourism enterprise; GPC-1.2. Able to manage the process of introducing technological innovations into the activities of tourism enterprises; GPC-1.3. Able to organize the process of implementing software in tourism.
PC-3	Able to manage reforming and restructuring tourism enterprises	PC-3.1. Able to form a tourism product, including based on modern information and communication technologies, as well as taking into account tourists' individual and special requirements.

Competence Code	Competence Descriptor	Competence Formation Indicators (within this course)
PC-4	Able to manage the implementation of technological innovations and modern information and communication technologies to ensure the competitiveness of tourism facilities	PC-4.1. Able to identify key technological tourism innovations; PC-4.2. Able to evaluate the effectiveness and justify the use of modern information and communication technologies to ensure the competitiveness of tourism enterprises; PC-4.3. Able to carry out an examination of projects for the implementation of promising tourism ones, identify their advantages and disadvantages, and develop an implementation plan.

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The Digitalization and Information Technology Provision of the Professional Sphere refers to the core component of the B1 block of the higher educational programme curriculum.

Within the higher education programme students also master other disciplines (modules) and / or internships that contribute to the achievement of the expected learning outcomes for the Digitalization and Information Technology Provision of the Professional Sphere course.

Table 3.1. The list of the higher education programme components that contribute to the achievement of the expected learning outcomes for the course.

Competence Code	Competence Descriptor	Previous Courses/Modules, Internships*	Subsequent Courses/Modules, Internships*
GC-2	Able to manage a project at all stages of its life cycle	<ul style="list-style-type: none"> • Organizing Project Activities in Tourism • Innovations in Tourism and Hospitality • Tourist Cluster Formation in Russia • Organizing Project Activities in Tourism 	<ul style="list-style-type: none"> • Preparing for defence and defending a graduation thesis
GC-7	Able to: search for the necessary sources of information and data, perceive, analyze, remember and transmit information using digital means, as well as using algorithms when working with data received from various sources in order to effectively use the information received to	<ul style="list-style-type: none"> • Research and Development 	<ul style="list-style-type: none"> • Research and Development • Pre-Graduation Internship • Preparing for defence and defending a graduation thesis

Competence Code	Competence Descriptor	Previous Courses/Modules, Internships*	Subsequent Courses/Modules, Internships*
	solve problems; evaluate information, its reliability, build logical conclusions based on incoming information and data		
GPC-1	Able to form a technological concept for a tourism organization, organize the implementation of technological innovations and software in tourism	No	<ul style="list-style-type: none"> Preparing for defence and defending a graduation thesis
PC-3	Able to manage reforming and restructuring tourism enterprises	<ul style="list-style-type: none"> International Marketing in Tourism and Hospitality Optimizing Business Processes of Enterprises in Tourism and Hospitality 	<ul style="list-style-type: none"> Pre-Graduation Internship Preparing for defence and defending a graduation thesis
PC-4	Able to manage the implementation of technological innovations and modern information and communication technologies to ensure the competitiveness of tourism facilities	<ul style="list-style-type: none"> Innovation Management and Entrepreneurship in Tourism Brand Management in Tourism Industry 	<ul style="list-style-type: none"> Pre-Graduation Internship Preparing for defence and defending a graduation thesis

* -To be filled in according with the competence matrix of the higher education programme

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the Digitalization and Information Technology Provision of the Professional Sphere course is 4 credits.

Table 4.1. Types of academic activities during the period of mastering the HE programme

Type of Academic Activities	TOTAL, academic hours	Semester
		3
Classroom learning, academic hours.	34	34
including:		
Lectures	17	17
Lab work	-	-
Seminars	17	17
<i>Self-study, academic hours</i>	74	74

Type of Academic Activities		TOTAL, academic hours	Semester
			3
<i>Evaluation and assessment (exam), academic hours</i>		36	36
Course workload	ac. hrs.	144	144
	credits	4	4

5. COURSE MODULE CONTENTS

Table 5.1. Course Module Contents

Module Title	Course Module Contents	Learning Activities*
Module1. Digital transformation of professional activities	<p>Topic 1.1. Digital transformation and applying information systems in the professional sphere. Digital transformation in tourism. Integration of an enterprise into electronic business. Information systems in the hospitality industry: tourism, hotel business and restaurant business.</p> <p>Topic 1.2. Transformation of modern business models. Ecosystem approach. Basic concepts of Business Ecosystem. General characteristics. Principles of the ecosystem approach. Advantages and disadvantages of business ecosystems. Business ecosystems in Russia and abroad.</p> <p>Topic 1.3. Data analysis in digital tourism: role, place, meaning. Data analysis in tourism industry. Big Data term. Types of big data collection sources. Scope of application of big data analytics. Power BI, Desktop and Mobile. Yandex.Metrica. Google Analytics. Yandex direct commander. K50 Tracker. Calltouch.</p> <p>Topic 1.4. Text analytics essence and capabilities. Review monitoring tools. Key issues in collecting and preparing text data for analytics. Typical tasks of text analytics in tourism. Areas of application of text analytics. Sentiment analysis of texts using PolyAnalyst as an example. Review monitoring tools.</p>	Lecture, Seminar
Module 2. Technological solutions for providing professional services	<p>Topic 2.1. Technological solutions for providing services in the professional field. Basic concepts of IoT technology. History of origin. Challenges and trends of the Internet of Things. Scope of application of IoT technology. IoT technology operation diagram. IoT in hospitality industry.</p> <p>Topic 2.2. Applying artificial intelligence technology in tourism. Basic concepts of Artificial Intelligence (AI). AI in hospitality industry. TensorFlow, chat bots.</p> <p>Topic 2.3. Technology for designing tourist geoportals and interactive web maps. Basic definitions: geoportal, web map, web GIS. Stages of designing a tourist geoportal. Problems of using</p>	Lecture, Seminar

Module Title	Course Module Contents	Learning Activities*
	<p>modern tools for creating interactive tourist web maps and geoportals.</p> <p>Topic 2.4. Virtual reality technology in the professional field.</p> <p>VR technologies. Basic concepts. History of VR. Immersiveness. Principle of VR technology operation. Scope of VR technology application. VR platforms.</p>	
<p>Module 3. Cloud technologies in professional sphere</p>	<p>Topic 3.1. Basic models for providing cloud services. Cloud solutions in tourism and hospitality industry. Trends in cloud technology development. Cloud solutions and their functionality. Main models of cloud service provision: IaaS, PaaS, SaaS. Examples of cloud solutions in hospitality industry: Amadeus Cloud Service, Nemo (SaaS solution), BOOKINNA, iikoCloud, Clock PMS, etc.</p> <p>Topic 3.2. Cloud systems of relationships with clients in professional activities.</p> <p>Marketing information systems (MIS). CRM systems. Basic concepts. Selection and implementation of a CRM system. Examples of CRM systems.</p> <p>Topic 3.3. Blockchain technology in the professional field.</p> <p>Basic concepts of blockchain technology. Functionality of using blockchain in tourism.</p>	<p>Lecture, Seminar</p>
<p>Module 4. Electronic commerce and cyber security</p>	<p>Topic 4.1. E-commerce in the professional field.</p> <p>E-commerce in service and tourism. Integration of an enterprise into electronic business. Online enterprise business models.</p> <p>Topic 4.2. Creation and operation of an electronic store.</p> <p>Creation and operation of an electronic store. Platforms for online stores. Drop shipping.</p> <p>Topic 4.3. Electronic platforms. Market for online sales of travel services.</p> <p>Electronic trading platforms: definition, types of platforms, functions. Market for online sales of travel services. Crowdfunding.</p> <p>Topic 4.4. Applying digital marketing technologies in the professional sphere.</p> <p>SEO, SERM, chatbots, SMM. E-mail newsletter tools.</p> <p>Topic 4.5. Information cybersecurity. Main threats and methods.</p> <p>Information security methods, means and technologies. Key trends in cybersecurity and information protection market.</p>	<p>Lecture, Seminar</p>

* - To be filled in only for **FULL-TIME** mode of study: *Lecture, Lab Work, Seminar.*

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom Equipment and Technology Support Requirements

Classroom for Academic Activity Type	Classroom Equipment	Specialized educational / laboratory equipment, software and materials for mastering the discipline (if necessary)
Lecture	Classroom equipped with a set of specialized furniture; whiteboard; a set of devices includes portable multimedia projector, laptop, projection screen, stable wireless Internet connection.	Microsoft Garant Consultant Plus Windows 7 KMS Corp (OS, Windows), MSOffice Professional Plus (office applications, MSOffice)
Seminar	Classroom equipped with a set of specialized furniture; whiteboard; a set of devices includes portable multimedia projector, laptop, projection screen, stable wireless Internet connection.	Microsoft Garant Consultant Plus Windows 7 KMS Corp (OS, Windows), MSOffice Professional Plus (office applications, MSOffice)
Self-Studies	Classroom equipped with a set of specialized furniture; PCs with access to electronic information and educational environment.	Microsoft Garant Consultant Plus Windows 7 KMS Corp (OS, Windows), MSOffice Professional Plus (office applications, MSOffice)

7. RESOURCES RECOMMENDED FOR THE COURSE STUDY

Laws and Regulations:

1. Federal Law No. 132-FZ dated 24 November 1996 “On Fundamentals of Tourism Activities in the Russian Federation” (latest edition) http://www.consultant.ru/document/cons_doc_LAW_12462/
2. Law of the Russian Federation No. 2300-1 dated 07 February 1992 “On Protection of Consumer Rights” (latest edition) http://www.consultant.ru/document/cons_doc_LAW_305/
3. Federal Law No. 149-FZ dated 27 July 2006 “On Information, Information Technologies and Information Protection” (latest edition) http://www.consultant.ru/document/cons_doc_LAW_61798/
4. Criminal Code of the Russian Federation. Chapter 28. Crimes in the field of computer information http://www.consultant.ru/document/cons_doc_LAW_10699/4398865e2a04f4d3cd99e389c6c5d62e684676f1/

Main Readings:

1. Digital Business Models / S. Ronteau, L. Muzellec, D. Saxena, D. Trabucchi. – Berlin: De Gruyter, 2022. – 182 p. – ISBN 9783110762556, 9783110762419, 9783110762594. – Text: electronic // Lan: electronic library system. – URL: <https://directory.doabooks.org/handle/20.500.12854/96546>

Additional Readings:

1. Business Intelligence Guidebook: From Data Integration to Analytics / R. Sherman. - Burlington: Morgan Kaufmann, 2014. - 510 p. - ISBN 978-0124114616.
2. Information Systems Today: Managing the Digital World / J. Valacich, C. Schneider. - London: Pearson, 2017. - 560 p. - ISBN 978-0134635200.
3. Information Technology for Management: Digital Strategies for Insight, Action, and Sustainable Performance / E. Turban, L. Volonino, G. Wood. - Hoboken: Wiley, 2014. - 504 p. - ISBN 978-1118897782.
4. Information Technology Project Management. 9th Edition / K. Schwalbe. - Boston: Cengage Learning, 2018. - 672 p. - ISBN 978-1337101356.
5. Management Information Systems: Managing the Digital Firm. 17th Edition / K. Laudon, J. Laudon. - London: Pearson, 2021. - 649 p. - ISBN 978-1292403281.

Internet Resources:

1. Electronic libraries (EL) of RUDN University and other institutions, to which university students have access based on concluded agreements:
 - RUDN University Electronic Library System (RUDN University ELS) <http://lib.rudn.ru/MegaPro/Web>
 - ELS "University Library Online" <http://www.biblioclub.ru>
 - ELS "Urait" <http://www.biblio-online.ru>
 - ELS "Student Consultant" www.studentlibrary.ru
 - ELS "Lan" <http://e.lanbook.com/>
 - ELS "Troitsky Bridge"
2. Databases and search engines:
 - electronic fund of legal and normative-technical documentation <http://docs.cntd.ru/>
 - Yandex search engine <https://www.yandex.ru>
 - Google search engine <https://www.google.ru/>
 - SCOPUS abstract database <http://www.elsevierscience.ru/products/scopus/>
 - <https://www.tury.ru/> Tury.ru search engine
 - <https://www.microsoft.com/ru-ru/microsoft-365?market=ru/> Microsoft Office 365
 - <http://www.catalog.horeca.ru/> Catalog of HoReCa establishments and market operators
 - <https://www.hotels.ru/> Hotel booking system

Educational and methodological materials for student self-studies when mastering the course/module:*

1. Lecture course on Digitalization and Information Technology Provision of the Professional Sphere.
2. Methodological guidelines for students' self-studies when mastering the course.
3. Methodological recommendations for ensuring accessibility of the programme for students with limited health capacities.

* - The methodological materials and guidelines for the self-studies are placed on the course page in the university telecommunication training and information system under the set procedure.

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL UPON COURSE COMPLETION

The assessment toolkit and the grading system for assessing the level of competence (part of competences) formation based on the results of mastering the Digitalization and Information Technology Provision of the Professional Sphere course are presented in the Appendix to this Course Syllabus.

* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

DEVELOPERS:

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