



The syllabus of the course «Big Data»

Specialty	<i>F6 Information systems and technologies</i>
Educational program	<i>Information systems and technologies</i>
Educational level	<i>The second (master's) level of higher education</i>
Course status	<i>Selective</i>
Language of instruction	<i>Ukrainian</i>
Course / semester	<i>1 course, 1th semester</i>
Number of ECTS credits	<i>5 credits</i>
Distribution by types of classes and hours of study	<i>Lectures - 14 hours. Laboratory classes - 36 hours. Self study- 100 hours.</i>
Form of final control	<i>Exam</i>
Chair	<i>Department of Information Systems, room 413 (main building), (057) 702-18-31 (add. 4-37), department website: https://kafis.hneu.net/</i>
Teacher (s)	<i>Znakhur Serhii Viktorovich, phd, Associate Professor</i>
Contact Information teacher (s)	<i>serhii.znakhur@hneu.net</i>
Class days	<i>Lecture: згідно діючого розкладу занять Practical (laboratory): згідно діючого розкладу занять</i>
Consultations	<i>At the Department of Information Systems, full-time, according to the schedule of consultations, individual</i>

Learning objectives and skills:

The purpose of studying the course "Big Data" is to provide in-depth knowledge and practical skills in working with big data, building and using distributed systems for building pipelines for processing big data, forming a system of theoretical knowledge and acquiring practical skills and skills in applying big data and distributed technologies bases

Structural and logical scheme of the course

Prerequisites	Postrequisites
Management Information System and Data Warehouse	Complex Training Pre-graduate Practice Diploma Work

Content of the academic course

Content module 1. Basics of big data analysis

Topic 1. Introduction to the course

Topic 2. Data analysis based on Dask

Topic 3. Apache Spark Basics

Content module 2. Construction of solutions in Apache Spark

Topic 4. Implementation of SQL queries in Apache Spark

Topic 5. Machine learning with Apache Spark

Topic 6. Using Spark ML and NLP algorithms to build a data analysis pipeline

Material and technical (software) ensuring course

Software: DASK, Apache Spark. Distance learning tools: Website of personal learning systems: <https://pns.hneu.edu.ua/>;

Library: <http://library.hneu.edu.ua>. Repository: <http://www.repository.hneu.edu.ua>.

University auditoriums (Kharkiv, Nauki Ave. 9A)

Learning outcomes assessment system

The University uses a 100-point cumulative system for assessing the learning outcomes of higher education students. Current control is carried out during lectures, laboratory classes and is aimed at checking the level of readiness of the higher education student to perform specific work and is evaluated by the amount of points scored. The final control includes semester control, which is conducted in the form of an exam. The maximum possible number of points for the current control during the semester for the course in the form of a test is 60 and the minimum possible number of points is 35. The current control includes the following



control measures: defense of laboratory work, individual and group educational tasks, and tests. The maximum number of points for the exam is 40. The minimum number for the exam is 25.

Course policies

The teaching of the course is based on the principles of academic integrity. Violations of academic integrity are: academic plagiarism, fabrication, falsification, write-off, deception, bribery, biased evaluation. For violation of academic integrity, students are brought to the following academic responsibility: re-assessment of the relevant type of educational work

More detailed information on competencies, learning outcomes, teaching methods, assessment forms, independent work is given in the Work program of the course.