Syllabus of the educational discipline

«*Discrete mathematics*»

Specialty	*121 Software Engineering*
Educational program	*Software engineering*
Educational level	*The first (Bachelor) level of higher education*
Discipline status	*Mandatory*
Language of instruction	*English*
Course / semester	*1st year 2th semester*
Number of ECTS credits	*5*
Distribution by types of classes and hours of study	*Lectures – 24 hours.*
	Practical (seminary) – 18 hours.
	Laboratory – 18 hours.
	Self-study – 90 hours.
Form of final assessment	*Grading*
Department	*Department of Higher Mathematics and Economic and Mathematical Methods, 61166, Kharkiv, Nauky Av., 9a, Simon Kuznets KhNUE main building, office 329, tel. 057) 702-04-05 (extension tel.: 3-33), web site: http://www.vm.hneu.edu.ua*
Teacher (s)	*Tatiana Denisova, Associate professor, PhD*
Teacher's contacts	*Tatiana Denisova: tetiana.denysova@hneu.net*
Days of the classes	*Lectures: According to the schedule* *Practical i: According to the schedule* *Laboratory: According to the schedule*
Consultations	*At the Department, in-person, according to the schedule of consultations, individual, chat on the pns web site*

The **purpose** of the discipline: to form in students a holistic system of theoretical and practical knowledge necessary for the professional activity of a competent specialist in the field of information technology, to teach to use the acquired knowledge in solving specific problems of professional orientation

Prerequisites for learning

Preliminary knowledge of mathematics in the amount provided by the program of secondary school, and the discipline "Higher Mathematics"

The content of the discipline

Content module 1. *Set theory and combinatorial analysis. Graph theory*
Theme 1. Theory of sets and relations.
Theme 2. Combinatorial analysis.
Theme 3. Graph theory.
Content module 2. *Mathematical logic. Elements of the theory of finite automata*
Theme 4. Algebra of statements. Logical formulas.
Theme 5. Boolean functions.
Theme 6. Predicates and quantifiers.
Theme 7. Elements of the theory of finite automata.

Material and technical support (software) of the discipline

Octave Online, Graph analyzer, CarnoMinimizer.

Course page on the Moodle platform (personal training system)	*https://pns.hneu.edu.ua/*

Learning outcomes assessment system

The system of assessment of the formed learning outcomes in the course is carried out on the basis of assessment of tasks during lectures, laboratory classes, as well as the performance of self study. Assessment of student learning outcomes is carried out on a cumulative 100-point system. The current control, which is carried out during the semester during laboratory classes and self study, is estimated by the sum of points scored. The maximum possible number of points for the current and final control during the semester - 100 and the minimum possible number of points - 60.

More detailed information on assessment is given in the technological map of the course.

Policies of the Discipline

The teaching of the discipline is based on the principles of academic integrity. Violations of academic integrity include: academic plagiarism, fabrication, falsification, write-off, deception, bribery, or 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 about competencies, learning outcomes, teaching methods, assessment forms, independent training is given in the working plan of the educational discipline

Syllabus approved at the meeting of the Department. Protocol № 11 from 29.06.2022