

Discrete Mathematics Course, Syllabus

Learning objectives

- Use methods of Combinatorics to count objects
- Calculate probabilities of events using definition and properties of probabilities
- Analyze the structure of graphs using parameters
- Apply knowledge in Discrete Mathematics for social network analysis

Topics

1. Basic Combinatorics
2. Advanced Combinatorics
3. Discrete Probability
4. Introduction to Graphs
5. Basic Graph Parameters
6. Graphs of Social Networks

Live sessions

The course will have two live sessions to review the material and answer student's questions. The sessions will be scheduled in the third and the fifth weeks to allow students to resolve their difficulties prior to the solution of staff graded assignments.

Grading formula

The grade for the course is the number from 1 to 10 with the following correspondence to US and Russian systems.

Grade from 1 to 10	US system	Russian system
10	A	Excellent
9		
8		
7	B	Good
6		
5	C	Satisfactory (Fair)
4		
3	D	Unsatisfactory
2		
1		

The lower bounds for the grade bands are presented in the table below.

10	90%
9	85%
8	80%

7	75%
6	70%
5	65%
4	60%
3	40%
2	20%
1	0%

Staff graded assignments and projects are required to pass the course.

Communication practices

We will have chats in Slack for communication of students with each other. We will have forums and weekly staff office hours for discussions with participation of course staffs.