

Information sheet for Math 309 Winter 2014

Class meets: MTRF 9:00 - 9:50 am in OM 483

Instructor: Branko Ćurgus **Office:** BH 178 **Office hours:** MTRF 10 am **Email:** curgus@gmail.com

Course website: http://faculty.wvu.edu/curgus/Courses/309_201410/309.html

Text: *Discrete Mathematics and Its Applications*, Fifth Edition, by Kenneth H. Rosen

Material covered: A selection of topics from Chapters 1-8 will be covered.

Subject. Discrete mathematics is an umbrella term for several different branches of mathematics. These branches are: mathematical logic, set theory, combinatorics, graph theory, number theory, discrete probability and several others. The unifying feature of these branches is that they do not require the concept of continuity which is essential in calculus. Sometimes the adjective discrete is used in mathematics as a near antonym of continuous. In calculus we study real numbers. The simplest way to visualize real numbers is the real number line. This visualization emphasizes the fact that there are no holes between real numbers: they form a continuum. In contrast, the discrete mathematics studies mathematical objects that do not have this property. The most prominent example is the set of positive integers: $1, 2, 3, \dots$. Other examples are sets that can be in some way represented by positive integers.

Exams: There will be two “mid-term” exams and a comprehensive final exam. The dates for the “mid-term” exams are Monday, February 3, and Monday, March 3. The final exam is scheduled for **three hours** on Thursday, March 20 from 8am to 11am. There will be no make-up exams. If you are unable to take an exam for a very serious reason verified in writing, please see me beforehand. This does not apply to the final exam which cannot be taken neither early nor late.

Assignment: There will be one written homework assignments. This assignment will be handed out with the second exam and it will be due one week after it has been handed out. This assignment will be graded and the grade will count towards the final grade.

Homework: A list of suggested homework problems will be posted daily on the class website. Homework will not be collected. To succeed in class you should do each problem on your own. While working on problems you should recognize which theoretical tools are being used to solve a particular problem. As a result you will acquire general problem solving strategies, which is one of the goals of higher education. Incidentally, this will also lead to your success on exams.

Grading: Each exam and assignment will be graded by an integer between 0 and 100. Your final grade will be determined using the following formula

$$FG = \lceil 0.2 * E1 + 0.2 * E2 + 0.2 * A + 0.4 * FE \rceil.$$

where $E1$, $E2$ are the grades for the in-class exams, A is the grade on the assignment and FE is the grade for the final exam. In the above formula the symbol $\lceil x \rceil$ denotes the ceiling of a real number x . Your letter grade will be assigned according to the following table:

F	: 0 - 49	D	: 50 - 54	C-	: 55 - 59	C	: 60 - 64	C+	: 65 - 69
B-	: 70 - 74	B	: 75 - 79	B+	: 80 - 84	A-	: 85 - 89	A	: 90 - 100

This course is a fast-paced course. A lot of new concepts will be introduced. It takes time to internalize these concepts. Therefore it is essential that you keep up with the material presented every day; do the homework problems; look for help if you encounter difficulties.

How to succeed: Doing well in mathematics depends on understanding not memorizing. Exercise critical thinking while reading the text and doing the problems. Understanding cannot be achieved through superficial studying. Talking to other students is a good way to check your understanding. If you feel that you are not on your way to understanding the material do not hesitate to ask questions. Use the Math Center in BH 211A. I will be glad to talk to you during my office hours, or you can make an appointment.