

Math 216 Discrete Structures

Fall 2018

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Neil 128

<https://learn.wsu.edu> (blackboard)

Information below subject to change

DISCRETE STRUCTURES

Course Prerequisite: MATH 108 with a C or better, or MATH 140, 171, 172, 182, or 202 or concurrent. Discrete mathematics, trees, graphs, elementary logic, and combinatorics with application to computer science. Recommended preparation: Programming course.

Section 1 meets Monday, Wednesday, Friday 9:10 in Clark 129. (Pullman Students)
AMS students from other campuses will meet in other locations.

OFFICE HOURS

Thursdays 2:00 – 5:00 or by appointment.

REQUIRED TEXT

Discrete Mathematics with Applications 4th edition, Susanna S. Epp

COURSE DESCRIPTION

This course will go through a lot of topics, all of which can be greatly expanded upon. We will start with basic logic, and expand that to formal statements and proofs. This will then be applied to number theory, counting and probability, set theory, and graph theory.

LEARNING OUTCOMES

Students will be able to:

- Understand and apply simple logical statements, predicates, quantified statements, and arguments.
- Understand arguments to create proofs of several types, including cases, indirect proofs, and induction proofs.
- Understand set theory equivalence relations, and modular arithmetic.
- Understand and apply ways of counting the number of elements in a set from a description of the set.
- Apply counting to discover probabilities of events.
- Understand how probability can be extended to expected value and Bayes' Formula.
- Understand Elementary Graph Theory and apply various algorithms to generate shortest paths.

GRADING SCALE

Homework	140 pts	(14 assignments, drop lowest 2)
Exam 1	100 pts	(Monday, Sept 17)
Exam 2	100 pts	(Monday, Oct 15)
Exam 3	100 pts	(Friday, Nov 16)
Exam 4 (final)	150 pts	(Dec 12, 8:00 am – 10:00 am)

Final Grades:

93% – 100%	A
90% – 92.99%	A-
87% – 89.99%	B+
83% – 86.99%	B
80% – 82.99%	B-
77% – 79.99%	C+
73% – 76.99%	C
70% – 72.99%	C-
67% – 69.99%	D+
60% – 66.99%	D
0% – 59.99%	F

HOMEWORK

Always pull the assignments off blackboard. No assignments will be due through blackboard, but the actual assignments and due dates will be listed. Assignments will be due at the *beginning* of class (usually Fridays). Late assignments will be given a score of zero, however they will still be looked over for feedback. Use your homework assignments to review for tests.

Before you start any homework assignment, READ THE BOOK. There is a lot of notation in this book, and the only way to get familiar with it, is to read it. If you get stuck on a homework problem, do a problem that is quite similar to it, for which the answer is in the back of the book.

It is suggested that you do all your homework on computer. There are some mathematical symbols used here, but you will quickly learn to use them. If you are taking this class remotely, then it is easy to send in a pdf version of your homework via email.

Not every section for which there is homework will be covered in class. This is deliberate—you will be expected to read and understand these sections of the book yourself.

Remote students only should email their assignments to me before class starts. Pullman students will hand them in during class- or get someone else to hand them in if sick. Two homework assignments will be dropped so missed HW because of illness will not affect your grade.

COMMUNICATION

Please feel free to email me with any questions you might have. Use Math 216-01 as the subject to avoid confusion. Before you *his send* however, ask yourself if the question can be answered by looking at the syllabus, or other information on Blackboard. You can save yourself a lot of time by looking there first. If it is a math problem, try the MLC first. There are very few questions that I alone can answer.

During office hours I will have Blackboard Collaborate open, so that I can video conferencing with remote students.

ELECTRONIC DEVICES

Computers, tablets, cell phones (this means no texting during class), pagers, blackberries, iPods, mp3 players, and similar devices may not be used during class without instructor permission. Recording of this class is not allowed in any form without direct permission from the instructor. Anyone caught ignoring this policy will be asked to leave the classroom at the discretion of the instructor.

CLASS PARTICIPATION/ATTENDANCE

You are expected to attend and actively participate in each scheduled class period. Reading assigned materials prior to each class, taking good notes during class, asking relevant questions, and working through problems when asked to do so are just a few ways you can actively participate in class.

STUDY ASSISTANCE

There are many opportunities on campus to get help including the following. Why struggle? Successful students make use of available resources, so don't struggle when help is just a few steps away! We want you to succeed, we're here for you, and we have FREE tutoring available in the Math Learning Center (Cleveland 130) and the computing lab in Thompson Hall (Room 1). Check it out! Tutoring begins August 20th with the following hours:

- Cleveland 130 is open 4-9pm Sunday; 10am-9pm Monday-Thursday; and 10am-5pm Friday
- Thompson 1 Computing Lab is open 4-9pm Sundays, and 3-9pm, Monday-Thursday
- For more information please go to: <http://www.math.wsu.edu/studyhalls/welcome.php>

Also, come see me during office hours!!! I am here to help you. It is my goal to see you succeed in this class and future classes.

Make use of these options – we want you to be successful. Another good strategy for success is to form study groups and meeting to review assignments.

ACADEMIC INTEGRITY

Academic integrity is the cornerstone of higher education. As such, all members of the university community share responsibility for maintaining and promoting the principles of integrity in all activities, including academic integrity and honest scholarship. Academic integrity will be strongly enforced in this course. Students who violate WSU's Academic Integrity Policy (identified in Washington Administrative Code (WAC) 504-26-010(3) and -404) will receive a 0 on the assignment or exam, and will not have the option to withdraw from the course pending an appeal, and will be reported to the Office of Student Conduct.

Cheating includes, but is not limited to, plagiarism and unauthorized collaboration as defined in the Standards of Conduct for Students, WAC 504-26-010(3). You need to read and understand all of the definitions of cheating: <http://app.leg.wa.gov/WAC/default.aspx?cite=504-26-010>. If you have any questions about what is and is not allowed in this course, you should ask course instructors before proceeding.

If you wish to appeal a faculty member's decision relating to academic integrity, please use the form available at conduct.wsu.edu.”

WSU SAFETY MEASURES

Classroom and campus safety are of paramount importance at Washington State University, and are the shared responsibility of the entire campus population. WSU urges students to follow the “Alert, Assess, Act,” protocol for all types of emergencies and the “[Run, Hide, Fight](#)” response for an active shooter incident. Remain ALERT (through direct observation or emergency notification), ASSESS your specific situation, and ACT in the most appropriate way to assure your own safety (and the safety of others if you are able).

Please sign up for emergency alerts on your account at MyWSU. For more information on this subject, campus safety, and related topics, please view the [FBI's Run, Hide, Fight video](#) and visit the [WSU safety portal](#).

STUDENTS WITH DISABILITIES

Students with Disabilities: Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center [Pullman] or Disability Services to schedule an appointment with an Access Advisor. All accommodations **MUST** be approved through the Access Center or Disability Services. For more information contact a Disability Specialist at:

Pullman: 509-335-3417, Washington Building 217; <http://accesscenter.wsu.edu>,
Access.Center@wsu.edu

Tri-Cities: <http://www.tricity.wsu.edu/disability/>

Vancouver: 360-546-9138 <http://studentaffairs.vancouver.wsu.edu/student-resource-center/disability-services>