

CS 261: MATH FOUNDATIONS OF CS

Instructor: Abdullah Mueen

Class Meetings: Tuesdays, Thursdays, 9:30AM-10:45AM

Zoom Meeting ID: <https://unm.zoom.us/j/4596552426>

Meeting ID: 459 655 2426

Passcode: mEeTmUeEn

Office: Farris 3020

Email: mueen in the CS or UNM domains;

Office Hours: Wednesdays 12:00PM to 1:30PM and Thursdays 12:00PM to 1:30PM in the Zoom room. Declare your name on joining.

Teaching Assistant: Ala Jararweh

Email: ajararweh@unm.edu

Office Hours: Mon, Wed and Fri at 12:00PM-1:00PM.

Zoom Meeting: Meeting ID: 930 3333 5890 Passcode: TA261261

<https://zoom.us/j/93033335890?pwd=dEd6U3U1dGYyNzFJakhONE1hUEFwZz09>

Description: This course is an introduction to the formal mathematical concepts of computer science for the beginning student. Topics include logic, set theory, deduction, induction, number theory, algorithmic processes and basic graph theory.

Class Meeting Link: <https://unm.zoom.us/j/4596552426>

Meeting ID: 459 655 2426

Passcode: mEeTmUeEn (if required)

Book:

DISCRETE MATHEMATICS AND ITS APPLICATIONS 8/E

Author: Kenneth ROSEN

ISBN: 978-1259676512

Publisher: Mcgraw-hill Publishing Co

Note: Since most of the material covered are classic discrete mathematics, if you have a previous edition of the textbook it should also work.

Prerequisites: Math-162L (Calculus I) and CS-152L (Computer Programming Fundamentals).

Grading:

Homework (20%)

Exam 1 (25%) + Exam 2 (25%) + Exam 3 (25%)

Attendance (5%) in the scheduled classes on TR at 9:30AM-10:45AM.

UNM Learn: All announcements, lecture notes, homework, homework solutions, and various course information will be available through UNM Learn.

Policy:

1. Internet issue at student's end is the student's responsibility. Instructor expects that students have fully functional Internet connection. If there is an internet issue at the

instructor's end, students are expected to wait in the meeting room until instructor rejoins or until class time is over, whichever comes first.

2. Instructor assumes permission to record your voice and video during the lecture when discussions are on. Talk to the instructor if otherwise.
3. We will follow an [Online Course Etiquette Appreciative Agreement](#).
4. Instructor assumes the student has a working microphone and video camera to participate in the class, a working scanner or camera to upload homework and exam as pdf within allowed time.
5. Put pages of hw in order. We don't care what order you solve the hw in, but before you turn it in, you must put the problems in order.
6. Grades assigned at the end of the semester are final. You will not be able to do any additional projects, papers, etc. to change your grade.

Notes on Grading Hws:

Your hws and test answers should have the following properties. We will be looking for these when we grade:

Clarity: Make sure all of your work and answers are clearly legible and well separated from other problems. If we can't read it, then we can't grade it. Likewise, if we can't immediately find all of the relevant work for a problem, then we will be more likely to grade only what we see at first. If you have multiple attempts uploaded, we will grade the latest one.

Completeness: Full credit for all problems is based on both sufficient intermediate work (the lack of which often produces a 'justify' comment) and the final answer. There are many ways of doing most problems, and we need to understand exactly how YOU chose to solve each problem. Here is a good rule of thumb for deciding how much detail is sufficient: if you were to present your solution to the class and everyone understood the steps, then you can assume it is sufficient.

Succinctness: The work and solutions which you hand-in should be long enough to convey exactly why the answer you get is correct, yet short enough to be easily digestible by someone with a basic knowledge of this material. If you find yourself doing more than half a page of dense algebra, generating more than a dozen numeric values or using more than a page or two of paper per problem for your solution, you're probably doing too much work. Don't turn in pages with scratch work or multiple answers - if you need to do scratch work, do it on separate scratch paper. Clearly indicate your final answer (circle, box, underline, etc.). Note: It's usually best to rewrite your solution to a problem before you hand it in. If you do this, you'll find you can usually make the solution much more succinct.

Lecture Schedule: A tentative weekly distribution of topics is given below.

Weeks	Chapters and Topics
1-2	Chapter 1: The Foundations
3-4	Chapter 2: Sets
5-6	Chapter 3: Algorithms

7-8	Chapter 4: Number Theory
9-10	Chapter 5, Chapter 8: Induction and Recursion
11	Chapter 6: Counting
12	Chapter 7: Probabilities
13	Chapter 9: Relations
14	Chapter 10: Graphs
15	Chapter 11: Trees

Exam:

There will be 3 exams in this course. We will NOT use the University Final Exam Schedule. Please mark your calendars with the exam dates. You will be dropped from the class if you miss any exam.

Exam 1: Mar 2nd, 2021 (Tuesday)

Exam 2: April 8th, 2021 (Thursday)

Exam 3: May 6th, 2021 (Thursday)

Exams will be open for 24 hours in UNM Learn, starting at 8:00am on the exam days. Exams will be 90 minutes each. You can handwrite or type your answers. The time to scan your document into pdf and upload in UNM Learn is included in the 90 minutes. There will be no classes on exam days.

Notes on Homework:

The homeworks will be challenging and will be where you do much of your learning. Start early!!! Even spending 10 minutes reading all the problems will prime your brain to start working on them. Some additional information:

Group collaboration is encouraged on the homeworks, provided that you write at the top of your homework the names of all the other students that you collaborated with. Note that although collaboration is encouraged, the solutions must always be written up individually. You should not look at or copy another student's solution and should not copy solutions from the Internet. In particular, when writing up your solutions, you should not be looking at any other solution. A rule of thumb here is that you should spend at least half hour on other tasks (possibly fun activity) after working with your group and before you write up the solutions.

Copying solutions from another student or from the Internet is cheating. In case a student presents a solution that is essentially identical in whole or in part to solutions from another student or other source, that student will receive a 0 on the assignment, will be reported to the University Administration, and may not be permitted to continue in the class.