CS 261: Math Foundations of CS

Online

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Please note: This syllabus is subject to change, if needed.

1 Office and Contact Information:

Office: VAAS 134, UNM Valencia Campus

Email: hmdadal@unm.edu

2 Student Hours (Instructor-Led Help Sessions):

- ***Tuesday:***
  12:00pm-1:00pm via Zoom
  https://unm.zoom.us/j/96398311522
  Passcode: 870335

- **OR BY APPOINTMENT!**

3 UNM Course Description:

Welcome to CS 261! Here is the UNM course description:

This course includes topics such as the basics of logic, number theory, methods of proof, sequences, mathematical induction, set theory, counting and functions.

Prerequisites: MATH 1240 with a grade of "A" or better or MATH 1512 with a grade of "B-" or better

4 Student Learning Outcomes (SLOs):

At the completion of this course students will be able to:

1. Use the concept of sets and functions to reason about application domain problems.
2. Apply counting principles to determine the number of various combinatorial problems.
3. Use logic to specify precise meaning of statements, demonstrate the equivalence of statements, and test the validity of arguments.
4. Use summations, formulas for the sum of arithmetic and geometric sequences.
5. Construct and recognize valid proofs using different techniques including the principle of mathematical induction.

5 Technical Requirements:

- A Laptop/tablet/personal computer (if you don't have one, laptops are available to rent for free in the UNM Valencia Library: http://valencia.unm.edu/library/index.html), and there are computers available for use throughout the LRC on UNM Valencia Campus.
- High-Speed Internet Connection (highly recommended)

Any computer capable of running a recently updated web browser should be sufficient to access your online course. However, bear in mind that processor speed, amount of RAM and Internet connection speed can greatly affect performance. Be aware, some programs that use mathematics will not work well on mobile devices such as smart phones or tablets.

Microsoft Office products are available free for all UNM students!
UNM IT Software Distribution and Downloads page: http://it.unm.edu/software/index.html

Please update your contact information in LoboWeb: http://my.unm.edu/home
When you log into MyUNM, Enter LoboWeb. Click on the Personal Information link to make sure your contact information is up to date.

Web Conferencing
Web conferencing may be used in this course if needed for office hour appointments. If you are utilizing web conferencing:

- A USB headset with microphone is recommended. Headsets are widely available at stores that sell electronics, at the UNM Bookstore or online.
- A high-speed internet connection is highly recommended for these sessions. A wireless Internet connection may be used if successfully tested for audio quality prior to web conferencing.
- To create a UNM supported Zoom account, visit https://unm.zoom.us

6 Class Text and Program:

- Discrete Mathematics and Its Applications 8th ed., by Kenneth H. Rosen (Required)

- Schaum's Outline of Discrete Mathematics, 3rd Ed (Optional)

7 Attendance Policy:

``Attendance'' in an online class encompasses your weekly log-in to Canvas, watching the lecture videos, taking notes, keeping current with assignments and visiting Instructor-Led Help Sessions and tutoring when needed. Being present, participating, and staying on top of the material are great contributors to success, but please note that there isn't a direct effect of attendance/participation on your grade.

8 Risks of Withdrawal:

I reserve the right (but not the obligation) to withdraw you from the course if you meet any of the following conditions throughout the semester:

1) You fail to submit the Syllabus Contract by the due date
2) You fail to submit any 3 consecutive assignments
3) You fail to submit any 5 assignments throughout the course
4) You miss an exam without any communication with me, beforehand (except in case of an emergency)

9 Submitting Assignments/Exams (VERY IMPORTANT – READ CAREFULLY):

You must submit all written assignments by the due date. All assignments and work therein should be neat, legible, appropriately organized, and include detailed and well-justified work. ***Any work that is illegible, or that lacks proper substance/explanation/justification will not receive credit. Please make sure to show ALL your work so that partial credit can be awarded for simple mistakes.*** Remember, you can use words to explain your thinking alongside your mathematics. Conveying your thought process to me is the most important element in your written work; if you understand the process and the idea, and mess up on arithmetic somewhere, you will earn the vast majority of the credit for a given problem. However, if you just have an answer (which is the result of an arithmetic error), and you haven't explained your thought process, I have nothing to award credit for without evidence of your understanding.

9.1 Written Assignments/Quizzes:

All written assignents/quizzess must be submitted in the appropriate Canvas drobox**, in the correct format (PDF of the original document)**, on time in order to be accepted. If the file link is broken or doesn't otherwise open properly on my end, it will be considered missing and receive a 0 grade. Please prevent this by double checking your submission before you walk away and make SURE it is what you

want to submit. You will have two attempts if you accidentally mess up one submission (both submissions must still be before the due date). Only a late pass can allow for late submission of a project.

In order to convert your file to a PDF, you have a couple easy options:

1) Use a traditional printer/scanner (some available on UNM Valencia/UNM Main Campus) in order to create the PDF of your work, download to your computer/storage device, and upload the file in the appropriate dropbox.

2) Download the free `Adobe Scan' app for your smartphone, create a PDF using your phones camera in the app, send a copy to your email, download the file on your computer/storage device, and upload the file in the Canvas dropbox.

The following methods of submission will NOT be accepted:

1) Copying and pasting an image of your work into a Microsoft Word document, saving as a PDF, then submitting this file. This method often makes your work VERY difficult to read and looks very unprofessional in the submission.
2) Sending an email to me with images of your assignment, because the dropbox didn't accept a non-PDF.

9.2 Late Passes:

You have 1 late pass for the semester. Using a late pass grants you up to 5 additional days to submit an assignment. You may use them on **any homework or project, but NOT assessments such as exams.**

In order to use a late pass, you must let me know *in advance* of the due date.

To use a late pass:

Write me an email with "Extension Request: Homework Section ___" or "Extension Request: Project ___" in the subject line.

You do not need to present me with a doctor's note, or provide any reason for using a late pass (it doesn't matter whether you're sick or going to a concert – that's up to you). However, I'd highly recommend saving them until you really **need** them. Once you've used your passes, that's all you get. If you have incredibly emergent circumstances (long-term stay in hospital, etc.), just let me know, and I will examine those circumstances on a case-by-case basis. In those cases, if approved, you may be asked to provide evidence of that circumstance.

9.3 Submitting Exams: (VERY IMPORTANT: Please read carefully!)

There will be 2 online exams for this course. The schedule will be announced soon.

10 Communication with Instructor:

The absolute MOST RELIABLE way to communicate with me as quickly as possible is to **send me an email**. If you ask a question via the homework platform, or via Canvas messages, I won't see it as quickly as if you send me an email. I routinely check for student emails, Monday through Friday, at various times throughout the morning, afternoon and evening, as well as occasionally on weekends. Expect a response no later than 24-48 hours. If I haven't responded within 48 hours, please resend your email, as it may have (accidentally) been overlooked!

11 Course Structure:

Homework (30%) + Quiz (15%) + Mid (25%) + Final (30%)

Due Wednesday, 10/8: Midterm Exam (Online)

Due Monday, 12/8: Final Exam (Online)

Grades assigned at the end of the semester are final. You cannot do any additional projects, papers, etc. to change your grade.

12 Grading Policy:

Cumulative Average at End-of-Course	Final Grade in Class
$96.5 \leq Avg \leq 100+$	A+
$93 \leq Avg < 96.5$	A
$89.5 \leq Avg < 93$	A-
$86.5 \leq Avg < 89.5$	B+
$83 \leq Avg < 86.5$	B
$79.5 \leq Avg < 83$	B-
$76.5 \leq Avg < 79.5$	C+
$69.5 \leq Avg < 76.5$	C
$66.5 \leq Avg < 69.5$	D+
$63.5 \leq Avg < 66.5$	D
$59.5 \leq Avg < 63.5$	D-
$Avg < 59.5$	F

EXAM REQUIREMENT FOR CREDIT:

Please note that in order to receive credit for the class (C or above), you must have an *average written exam grade of at least 50%*. *Even if your cumulative average at the end of the course is over 69.5, failing to maintain an average exam grade of at least 50% will result in a maximum grade of D+.*

13 UNM Valencia Resources & Support:

13.1 Support:

PASOS Resource Center (505) 925-8546, mailto:pasos@unm.edu. The Resource Center is an on-campus center that serves as a "one-stop" for all non-academic needs of UNM-Valencia students.

Student Health and Counseling (SHAC) at (505) 277-3136. If you are having active respiratory symptoms (e.g., fever, cough, sore throat, etc.) AND need testing for COVID-19; OR If you recently tested positive and may need oral treatment, call SHAC.

LoboRESPECT Advocacy Center (505) 277-2911 can offer help with contacting faculty and managing challenges that impact your UNM experience.

13.2 Accommodations:

UNM is committed to providing equitable access to learning opportunities for students with documented disabilities. As your instructor, it is my objective to facilitate an inclusive classroom setting, in which students have full access and opportunity to participate. To engage in a confidential conversation about the process for requesting reasonable accommodations for this class and/or program, please contact Accessibility Resource Center at arcsrvs@unm.edu or by phone at 505-277-3506. The UNM-Valencia Equal Access Services (Sarah Clawson, Coordinator), at (505) 925-8840 or by email at sjclawson@unm.edu.

Support: Contact me in student hours, or at my email, and contact The UNM-Valencia Equal Access Services (Sarah Clawson, Coordinator), at (505) 925-8840 or by email at sjclawson@unm.edu., Or Accessibility Resource Center (https://arc.unm.edu/) at mailto:arcsrvs@unm.edu (505) 277-3506.

13.3 Tutoring:

Resources to support study skill and time management are available through UNM-Valencia Learning Commons (Tutoring).

Tutoring is available to you in math, science, writing, and other subjects through the Learning Commons: Learning and STEM Centers and Writing Center. In person tutoring is in these centers in the LRC (the building that also has the library). Tutoring in Zoom and, for writing, through email, is also available.
Making use of tutoring is a fantastic way to use your resources and set yourself up to learn deeply and well in your courses.
To schedule an appointment, please go to: Learning Commons Bookings

If you are making an email appointment with the Writing Center, email your draft to tutor@unm.edu after you fill out the form above.
If you have difficulty with the scheduling link above, would like an appointment in a subject not listed at that link, or have a question, email tutor@unm.edu. You'll get answers during business hours Monday through Friday.
The webpage, with more details about available hours, is here: Learning Commons: Tutoring Services webpage.

At UNM Main Campus, you may contact: Center for Academic Program Support (CAPS). Many students have found that time management workshops can help them meet their goals (consult (CAPS) website under "services").

Support: Many students have found that time management workshops or work with peer tutors can help them meet their goals. These and are other resources are available through PASOS (Pathways to Articulation and Sustainable Opportunities for Students), TRIO Student Support Services, and Student Learning Support at the Center for Teaching and Learning.

Connecting to Campus and Finding Support: UNM has many resources and centers to help you thrive, including opportunities to get involved, mental health resources, academic support including tutoring, resource centers for people like you, free food at Valencia Campus Food Pantry, and jobs on campus. Your advisor, staff at the resource centers and Academic Affairs Office, and I can help you find the right opportunities for you.

14 UNM Statements & Policies:

14.1 Land Acknowledgement:

Founded in 1889, the University of New Mexico sits on the traditional homelands of the Pueblo of Sandia. The original peoples of New Mexico Pueblo, Navajo, and Apache since time immemorial, have deep connections to the land and have made significant contributions to the broader community statewide. We honor the land itself and those who remain stewards of this land throughout the generations and also acknowledge our committed relationship to Indigenous peoples. We gratefully recognize our history.

14.2 Citizenship and/or Immigration Status:

All students are welcome in this class regardless of citizenship, residency, or immigration status. Your professor will respect your privacy if you choose to disclose your status. As for all students in the class,

family emergency-related absences are normally excused with reasonable notice to the professor, as noted in the attendance guidelines above. UNM as an institution has made a core commitment to the success of all our students, including members of our undocumented community. The Administration's welcome is found on our website: http://undocumented.unm.edu/.

COVID-19 Health and Awareness. UNM is a mask friendly, but not a mask required, community. If you are experiencing COVID-19 symptoms, please do not come to class. If you do need to stay home, please communicate with me at [ ]; I can work with you to provide alternatives for course participation and completion. Let me, an advisor, or another UNM staff member know that you need support so that we can connect you to the right resources. Please be aware that UNM will publish information on websites and email about any changes to our public health status and community response.

14.3 Credit-hour statement:

This is a three credit-hour course. Class meets for 2-3 online recording each week for fifteen weeks during the Fall 2025 semester.

14.4 Title IX:

Our classroom and our university should always be spaces of mutual respect, kindness, and support, without fear of discrimination, harassment, or violence. Should you ever need assistance or have concerns about incidents that violate this principle, please access the resources available to you on campus. Please note that, because UNM faculty, TAs, and GAs are considered "responsible employees" any disclosure of gender discrimination (including sexual harassment, sexual misconduct, and sexual violence) made to a faculty member, TA, or GA must be reported by that faculty member, TA, or GA to the university's Title IX coordinator. For more information on the campus policy regarding sexual misconduct and reporting, please see: https://policy.unm.edu/university-policies/2000/2740.html.

Support: LoboRESPECT Advocacy Center, the Women's Resource Center, and the LGBTQ Resource Center all offer confidential services.

14.5 Respectful and Responsible Learning:

We all have shared responsibility for ensuring that learning occurs safely, honestly, and equitably. Submitting material as your own work that has been generated on a website, in a publication, by an artificial intelligence algorithm, by another person, or by breaking the rules of an assignment constitutes academic dishonesty. It is a student code of conduct violation that can lead to a disciplinary procedure. *Please ask me for help in finding the resources you need to be successful in this course. I can help you use study resources responsibly and effectively.* Off-campus paper writing services, problem-checkers and services, websites, and AIs can be incorrect or misleading. Learning the course material depends on completing and submitting your own work. UNM preserves and protects the integrity of the academic community through multiple policies including policies on student grievances (Faculty Handbook D175

and D176), academic dishonesty (FH D100), and respectful campus (FH CO9). These are in the *Student Pathfinder* (https://pathfinder.unm.edu) and the *Faculty Handbook* (https://handbook.unm.edu).

14.6 Academic Integrity:

Having academic integrity is paramount to your success in any class. Plagiarism or cheating is not tolerated. Any instance of this will result in a grade of zero for that assignment. Here is the link to the UNM Academic Dishonesty Policy: https://policy.unm.edu/regents-policies/section-4/4-8.html. The policy states:

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic Dishonesty is defined as:

"Academic dishonesty" includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.