UNM VALENCIA

Syllabus-Fall 2024

Title of Course-Section:	**CS108L - 501 (CS for All)**
Name of Department:	Mathematics, Engineering, & Computer Science (MECS)
Instructor:	Andisheh Dadashi, Assistant Prof. of Mathematics (andisheh@unm.edu)
Credit Hours :	4 credit hours
Class Days/Times:	Fully online (Materials can be found on Canvas)
Class Location:	Fully online (Materials can be found on Canvas)
Office Location:	VAAS-105
Office Hours:	In-person & Zoom: M 11:50 a.m. - 2:50 p.m. (or by appointment)

Note 1: Zoom links related to this course or office hours can be found on Canvas.
Note 2: The instructor reserves the right to change the syllabus at any point of time during the semester.
Note 3: MECS Division Chair Dr. Ariel Ramirez (aramirez8@unm.edu)

Table of content

When emailing me, in the subject of your email, please write down your course name, course number, and section number. For example, the subject of your email to me should be: **CS 108L-501**
You must only contact me with your **UNM e-mail**. Check your **UNM email frequently**. You are responsible for missing any announcement I send via email or posted on Canvas. Failure to identify your message with the class number, and not using your UNM email will result in no response at all.

Instructor Response Time:
• The best way of contacting me will be via email (with proper subject mentioned **Above**).
• In all cases please, be patient and give me 24 hours to 48 hours to reach back to you.
• I will be available via email during the weekday until 5 p.m.
• I may not be able to respond to any email on Saturday and Sunday.

Get to know your instructor:

Andisheh Dadashi is an Assistant Professor of Mathematics and Computer Science in the Department of Mathematics within the Engineering and Computer Science Division (MECS) at the University of New Mexico-Valencia. She earned her Bachelor's degree in Mathematics and Statistics in Iran, followed by her first Master's degree in Statistical Mathematics in India. Andisheh obtained a second Master's degree in Statistics from the University of New Mexico (UNM) in 2016, marking the beginning of her teaching career as a full-time visiting Lecturer II at UNM-Gallup, where she initiated the implementation of the Critical Technology Studies Program (CTSP) from the main campus. Since then, Andisheh has prepared many student scholars for careers in the Intelligence Community (IC) and other related national security fields.
Andisheh earned a Ph.D. from the Computer Science Department at UNM in May 2024. Her research interests encompass computational biology, genetics, and metabolic networks. Currently, her research is centered on the development of theoretical frameworks, computational methods, and statistical tools aimed at uncovering the mechanisms of rapid polygenic adaptation in response to environmental changes. This involves studying how complex traits in organisms can rapidly adjust through genetic changes, enabling adaption to fluctuating environmental conditions—a vital area of study given the accelerating impacts of climate change on diverse biological systems.

This is an introduction to Computational Science and Modeling. The course is entirely online. Students will gain experience not only in computer science and programming but also in designing, building, testing, debugging, and running experiments with computer models. Students will develop computational thinking skills and learn about complex adaptive systems.

Why Choose NetLogo??

NetLogo is a multi-agent programming language and modeling environment that is particularly well-suited for teaching and learning computational concepts. Here's why this course can be beneficial for early college students:

1. Introduction to Computational Thinking: The course helps students develop computational thinking skills, which are essential in today's digital world. It teaches students to break down complex problems into smaller, manageable steps and solve them using algorithms and models.

2. Practical Application: Using NetLogo, students can create and simulate models of real-world phenomena, such as ecosystems, traffic flow, or social systems. This practical application of computer science concepts can make the subject matter more engaging and relevant to students.

3. Hands-on Experience: Students get hands-on experience with programming in NetLogo, which is a beginner-friendly language. It uses a block-based coding interface that is accessible to learners with little to no programming experience.

4. Interdisciplinary Learning: Computational science and modeling can be applied to various fields, including biology, physics, economics, and social sciences. This course provides students with a foundation in computer science that can be applied to their chosen field of study.

5. Problem-Solving Skills: Students learn how to design and implement models to solve complex problems. This not only enhances their computer science skills but also their general problem-solving abilities.

6. Visualization and Simulation: NetLogo allows for the creation of interactive and visually appealing simulations. Students can see the immediate impact of their code on the model they're working with, which can be highly motivating and aids in understanding abstract concepts.

7. Collaboration and Communication: In building and analyzing models, students often need to work in teams and communicate their findings. This fosters collaboration and communication skills that are valuable in both academic and professional settings.

8. Preparation for Advanced Studies: For students considering further studies in computer science or related fields, this course provides a strong foundation in programming and modeling, which can be valuable for more advanced coursework.

In summary, CS for All is a well-rounded course that not only teaches essential computer science concepts but also empowers students with the skills and knowledge to apply computational thinking in a variety of academic and practical scenarios.

How to be successful in a Programming course?
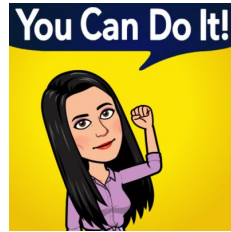
Success in this course depends on a combination of effort, effective strategies, and a solid understanding of the subject matter. Here are some tips to help you excel in such a course (**What to do**):

1. Attend Classes Regularly: - Make sure to attend all lectures and labs. Consistent attendance helps you understand the material as it's presented, and you won't miss important announcements or assignments.

2. Participate Actively: - Engage in class discussions, ask questions, and seek clarification when you don't understand something. Active participation can help you grasp concepts faster.

3. Read the Course Syllabus: - Understand the course requirements, grading criteria, and important deadlines. This will help you stay organized and plan your study schedule accordingly.

4. Start Early: - Don't procrastinate. Begin assignments and projects as soon as they are assigned. Programming often requires time for trial and error, so starting early allows you to troubleshoot issues.

5. Practice Regularly: - Programming is a skill that improves with practice. Spend extra time coding beyond what's required for your assignments. Experiment with different problems and solutions to reinforce your understanding.

6. Use Online Resources: - The internet is a treasure trove of programming resources. Websites like Stack Overflow, and GitHub can be invaluable for finding solutions to problems and learning from others.

7. Seek Help When Needed: - Don't be afraid to ask for help from your instructor or teaching assistants if you're struggling with a concept or project. They are there to assist you.

8. Understand the Basics: - Ensure you have a solid grasp of the foundational concepts like variables, data types, control structures (if statements, loops), and functions. These will form the building blocks of more advanced programming.

9. Test Your Code: - Always test your code thoroughly before submitting it. Debugging is a crucial skill, and finding and fixing errors is a big part of programming.

10. Study the Documentation: - Get comfortable with reading and understanding documentation for the programming languages and libraries you're using. Documentation is often a programmer's best friend.

11. Stay Inquisitive: - Technology is always evolving. Stay curious and open to new ideas, and tools.

12. Stay Positive and Persistent: - Programming can be challenging, but maintaining a positive attitude and being persistent in your efforts can make a significant difference in your success.

Remember that programming can be challenging, and setbacks are a part of the learning process. Stay persistent, and with dedication and practice, you can excel in this course.

Your final grade in this class is based on the following components:

6 Programming Challenges	32 %
7 Multiple Choice Quizzes	28 %
Midterm Exam	20 %
Final Exam	20 %
Overall	100 %

Passing grade is 73% or better. F is a grade lower than 60%

Overall Grades: pluses and minuses may or may not be added to letter grades at the instructor's discretion.

Grades of A+ are not rare and will only be awarded for exceptional work.

In order to pass this course your grade on the final exam must be 70% or better.

Grade	From	To	Grade	From	To	Grade	From	To
A+	98	100	B+	87	89.99	C+	77	79.99
A	93	97.99	B	83	86.99	C	73	76.99
A-	90	92.99	B-	80	82.99	C-	70	72.99

Pre-requisites/Co-requisites: *N/A

Course Description: Computer Science for All is an introduction to Computational Science and Modeling. The course is entirely online.

Goals: Students will gain experience not only in computer science and programming but also in designing, building, testing, debugging, and running experiments with computer models. Students will develop computational thinking skills and learn about complex adaptive systems.

By the end of the course the student will be comfortable organizing complex modeling tasks into a collection of procedures, and executing those procedures using the Netlogo programming language.

• Students will be able to define, update, and make use of variables

– Local
– Global
– Agent

• Students will be able to write and call procedures (subroutines)

– Input arguments
– Documentation (comments)

• Students will be able to execute control structures

– If and ifelse statements
– Repeat loops (similar to for loops)
– While loops

TECHNOLOGY
REQUIREMENT

Access to a reliable and fast internet connection is required. The primary tool for the course is Canvas https://canvas.unm.edu, but students must also be able to navigate and use other online resources.
Students are required to download and install NetLogo on their computer:
https://ccl.northwestern.edu/netlogo/download.shtml
Information about the many built-in functions in Netlogo can be found in the Netlogo Dictionary:
http://ccl.northwestern.edu/netlogo/docs/dictionary.html
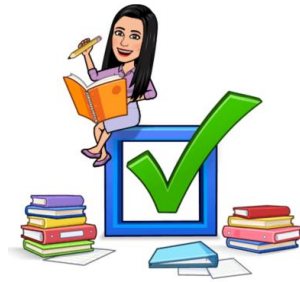
There is no certain book assigned to this course. The CS108L course consists of a total of 8 weeks. There are 7 modules, each of which includes:

(a) A set of materials to read (documents) and watch (videos) in UNM Learn
(b) A programming challenge to be completed in Netlogo and submitted in UNM Learn
(c) An online quiz or test
A student's grade is determined by percentage. The following sections give a breakdown of points; any changes in points or assignments will be based on class needs and communicated early.

- 6 Programming Challenges (PC) (**32 %**)

– Programming Challenges 1 to 5 are **5 %** each
– Programming Challenge 6 is **7 %**

- 7 Multiple Choice Quizzes (**28 %**)

– 4 % each
– Timed (30 minutes)
– Two attempts are allowed

- Midterm Exam (has two parts) (**20 %**)

– Part 1: Multiple Choice (10 %)
– Timed (90 minutes)
– Two attempts are allowed
– Part 2: Coding or Programming Challenge (10 %)
– You are allowed to upload files many times before the due date. Canvas shows the last uploaded file.

- Final Exam (has two parts) (**20 %**)

– Part 1: Multiple Choice (10 %)
– Timed (90 minutes)
– Two attempts are allowed
– Part 2: Coding or Programming Challenge (10 %)
– Not Timed
– You are allowed to upload files many times before the due date. Canvas shows the last uploaded file.

Every programming challenge, quiz, and exam will be submitted online through Canvas.

Q. Where can you find the materials for this class? **Canvas** https://canvas.unm.edu
Q. Where do you find the projects? **Canvas**
Q. Where do you submit the projects? **Canvas**
Q. Where do you find your grade? **Canvas** (Gradebook)

Course information including this syllabus, and all the necessary materials and links, etc. will be available via Canvas.

PUNCTUALITY IS
EXPECTED

The due dates for the assignments and exam are very firm. Please manage your time wisely in order to prevent any delay. No late assignment is accepted unless in the event of a genuine emergency per the instructor's discretion. No early exams will be permitted except in documented emergencies: flight reservations, weddings, vacations, birthdays, non-NCAA sporting events, etc. are not considered emergencies.

Extending assignments for students is not always ideal for several reasons:

1. Maintaining Course Schedule: Extending assignments can disrupt the planned course schedule. Instructors typically design their courses with a specific pace in mind to cover the required material within the available time. Extending assignments may lead to a lag in the curriculum, making it challenging to cover all necessary topics.

2. Developing Time Management Skills: Meeting deadlines is an essential skill for students to develop. By adhering to due dates, students learn how to manage their time effectively and prioritize tasks. Granting extensions too easily can hinder the development of these crucial skills.

3. Fairness and Equity: Granting extensions to some students but not others can create fairness and equity issues. It may lead to resentment among students who met the original deadlines and frustration among those who did not receive extensions.

4. Accountability: Having firm deadlines encourages accountability among students. When assignments have strict due dates, students are more likely to complete them on time, take their work seriously, and strive for quality.

5. Real-World Preparation: Meeting deadlines is a fundamental requirement in most professions. By adhering to assignment due dates in an academic setting, students prepare for the expectations they will encounter in their future careers.

6. Preventing Procrastination: Allowing extensions can encourage procrastination. Students may delay their work with the expectation of getting an extension, leading to last-minute rushes and low-quality work.

7. Maintaining Academic Integrity: Extending deadlines can create opportunities for academic misconduct, such as sharing answers or copying from external sources.

While there are valid reasons to grant extensions in cases of genuine emergencies or extenuating circumstances, it's crucial for instructors to establish clear policies and guidelines for requesting extensions to maintain fairness, consistency, and the educational integrity of the course. In general, extensions should be exceptions rather than the norm to promote responsible time management and a conducive learning environment.

Student Behavior & Collegial Behavior

According to the Code of Conduct as stated in the Policies and Regulations for UNM, student activities that interfere with the rights of others to pursue their education or to conduct their University duties and responsibilities will lead to disciplinary action. This includes any activities that are disruptive to the class and any acts of academic dishonesty. Students are expected to behave in a courteous and respectful manner toward the instructor and their fellow students. Students may be dropped from a class for inappropriate behavior. For more information: Student Code of Conduct

Since we assume you are all adults, we will expect from you, respectful adult behavior. Engaging in disruptive or unruly behavior could result in your being asked to leave, at which time you will be counted absent and a referral will be sent to the Dean of Instruction. Continuing to behave in this way could result in your being dropped from the course. Disruptive or unruly behavior includes but is not limited to:

- texting or talking on your cell phone or Laptop at any time during class,
- continually talking with your neighbor when we are not working on a group activity,
- working on homework from another class,
- refusing to participate in the class activities.
- reading material or watching media not related to this course or at a time that is inappropriate,

Your Responsibility

Time required for This Course: Plan to spend a minimum of 9 to 12 hours per week for this class. There is no guarantee you will pass if you dedicate this amount of time, you still need to learn the material and use your time wisely, but those who pass generally are the ones who spend the time needed to do the work to learn the material.

You are responsible for all material covered in this Syllabus and in class, in assigned readings, and on homework assignments. Not all material on tests will necessarily be covered in class but will be in the assignments. The use of cell phones, headphones, etc. is not permitted in class or exams.

EXPECTATIONS: Students are expected to conduct themselves in a polite, courteous, professional, and collegial manner. Cell phones must be set on silent and be out of sight during class. No food or drink is allowed in the computer labs.

Support!

If you have a documented disability, the "Equal Access Services office" will provide me with a letter outlining your accommodations. I will then discuss the accommodations with you to determine the best learning environment. If you feel that you need accommodations, but have not documented your disability, please contact Cheryl Dilger, the coordinator for Equal Access Services at 925-8910 or cdilger@unm.edu.

If you are struggling in this course, do not be afraid to ask for help!
• Office Hours: See my office hours listed at the beginning of this syllabus. "Office Hours" Feel free to come by or log in for online office hours (Info on Canvas), or make an appointment to get help.
• Form study groups: You may work together with other members of our class on the Canvas discussion board.
• Tutoring and Student Services: There are various services provided in our Student Services Department. The Math Center at Valencia campus has free tutoring and open labs. CAPS on the main campus also provides tutoring. For more information please check out the following:
Program Support: CAPS, UNM-Valencia Learning Commons (Tutoring): LRC,
TRIO Student Support Services,
Student Learning Support at the Center for Teaching and Learning., and
Pathways to Articulation and Sustainable Opportunities for Students (PASOS).

Academic Dishonesty

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 coursework 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.
Cheating students will be prosecuted according to University guidelines. Students should get acquainted with their rights and responsibilities as explained in the Student Code of Conduct https://grad.unm.edu/aire/academic-integrity.html

UNM Valencia Title IX Representative

Title IX (9) Statement:
In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see pg. 15 - http://www2.ed.gov/about/offices/lis 201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html

Important Links

Disabilities Policy: Office of Equal Access:
Contact the Office of Equal Access at 925-8560 to schedule an appointment.
https://valencia.unm.edu/students/advisement/equal-access-faqs.html
 The Center for Academic Learning:
The Learning Center is open Monday – Friday with evening hours Monday – Thursday To schedule an appointment or for additional information call (505)-925-8907
https://valencia.unm.edu/campus-resources/learning-commons/index.html
 UNM Valencia Registrar's Office:

Contact Registration Office by calling 925-8580 http://valencia.unm.edu

UNM Deadlines & Academic Calendar:

UNM Deadlines: https://registrar.unm.edu/semester-deadline-dates/index.html *.....And....*
Academic Calendar: https://hr.unm.edu/calendars

Schedule Fall 2024

First day of semester: August 19th & Final Exams: Dec 9th to 14th
Holidays: Labor Day Sep 2nd & Fall break Oct 10th-11th & Thanksgiving Nov 28th-Dec 1st

Week-Day   Schedule subject to change if necessary

W1-D1	**Module 1:** Introduction to NetLogo
W1-D2	Statements & Expressions, Decomposition
W2-D1	create, pen, set, ask, Procedures, sprout, repeat
W2-D2	**PC1 / Q1 Due on Augt 28th at 11:59 PM**
W3-D1	No Topic: (Labor Day)
W3-D2	**Module 2:** Introduction to Abstraction
W4-D1	Exploring CAS through Models, Abstraction and Local Variables
W4-D2	color, repeat, While, and let/set
W5-D1	**PC2 / Q2 Due on Sep 16th at 11:59 PM**
W5-D2	**Module 3:** Introduction to Modeling
W6-D1	ticks, pcolor, and random
W6-D2	pxcor and pycor
W7-D1	**PC3 / Q3 Due on Sep 30th at 11:59 PM**
W7-D2	**Module 4:** Boolean Logic, Patches
W8-D1	ask patch, patch-ahead, if condition
W8-D2	who, not, any?, turtles-on
W9-D1	**PC4 / Q4 Due on Oct 14th at 11:59 PM**
W9-D2	**Midterm exam Due on Oct 16th at 11:59 PM**
W10-D1	**Module 5:** Variables, Scope, Computer Models
W10-D2	globals, breed, -own
W11-D1	count, shape, hatch
W11-D2	**PC5 / Q5 Due on Oct 30th at 11:59 PM**
W12-D1	**Module 6:** Algorithms, agentset
W12-D2	report, face, one-of
W13-D1	agentset with, [reporter] of agentset, n-of
W13-D2	**PC6 / Q6 Due on Nov 13th at 11:59 PM**
W14-D1	**Module 7:** Epidemic Modeling, Artificial Life
W14-D2	Plots, Agent-Agent Interactions
W15-D1	Computer Modeling and Simulation
W15-D2	No Topic: (Thanksgiving Break)
W16-D1	**Q7 Due on Dec 2nd at 11:59 PM**
W16-D2	**Final exam Due on Dec 4th at 11:59 PM**