



Syllabus-Spring 2023

Title of Course-Section: CS 152L-501 (Intro. to Computer Programming)

Name of Department: Mathematics, Engineering, & Computer Science Andisheh Dadashi, Assistant Prof. of Mathematics Instructor:

E-Mail: andisheh@unm.edu Class Meeting Days/Times: No scheduled lecture

Credit Hours: 3 credit hours

Class Location: Online (info on UNM CANVAS)

Office Location: Online via Zoom (info on UNM CANVAS) Office Hours: Mondays and Tuesdays: 8 am to 10 am

or by appointment

Note: The instructor reserves the right to change the syllabus at any point of time during the semester. Get to know your instructor:

Andisheh Dadashi is an Assistant Professor of Mathematics and CS in the Department of Mathematics, Engineering, & Computer Science Division at the University of New Mexico-Valencia Campus. She received her Bachelor's degree in Mathematics and CS in Iran and completed her first Master's degree in Mathematics in India. Andisheh received a second Master's degree in CS from the University of New Mexico (UNM) in 2016 and is currently a Ph.D. candidate in the UNM Computer Science Department. Previously, Andisheh was a visiting Lecturer II at UNM-Gallup where she implemented the Critical Technology Studies Program (CTSP) from the main campus. At UNM-Gallup, Andisheh helped prepare student scholars for careers in the Intelligence Community (IC) and related national security careers. Andisheh now continues this work at UNM-Valencia where she helps interested students develop the knowledge, skills, and relationships necessary to successfully compete for IC careers. Her research interests include computational biology and genetics, and metabolic networks. Currently, Andisheh's research focuses on developing theory, computational approaches, and statistical tools to uncover mechanisms of rapid polygenic adaptation in response to environmental change.

To know Andisheh watch this video https://youtu.be/t4ryQfdrSEo

** Email **

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 152L-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.

What is Intro. to the art of computing?

Introduction to the art of computing. The primary emphasis of this course is to develop fluency in working with conditional control flow, looping structures, and procedural programming techniques. The secondary emphasis is to apply those skills in solving computational problems. The course objectives are understanding relationships between computation, problem-solving, and programming using high-level languages.

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Evaluation/Grading Methods

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

Quizzes (11)	22~%
Projects (8)	68 %
Midterm	10 %
Overall	100 %

Overall Grade and Letter Grade

Passing grade is 70% or better.

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.

Grade	From	То	Grade	From	To	Grade	From	To
A+	98	100	B+	88	89.99	C+	78	79.99
A	93	97.99	В	83	87.99	\parallel C	70	77.99
A-	90	92.99	B-	80	82.99	D	60	69.99

Learning Objectives and Outcomes

Pre-requisites/Co-requisites: CS 105L, CS 108L, CS 151L, or ECE 131L.

Course Description The primary emphasis of this course is to develop fluency in working with conditional control flow, looping structures, and procedural programming techniques. The secondary emphasis is to apply those skills in solving computational problems.

CS 152L is a project-based course: students spend many hours writing programs that have a wide range of applications. In past semesters these have included business applications, multimedia manipulations, video games, simulations of complex systems, and scientific models.

CS 152L is currently taught using the Java programming language. While Java is an Object Oriented Programming (OOP)* language and while students in CS 152L will certainly be working with Objects, CS 152L is not a course on OOP. Experienced Java programmers with solid skills in control flow, procedural programming, and computational problem solving should skip CS 152L and take CS 251L (Intermediate Programming). CS 251L is also currently taught in Java and its primary emphasis is on understanding, developing, and applying OOP skills.

Goals: The course objectives are understanding relationships between computation, problem-solving, and programming using high-level languages. This course has several goals. Students who successfully complete the course should have a firm grasp on creating small programs in Java, should be able to solve problems with code, should have a more full idea of what Computer Science as a field is, and most importantly not be afraid to dive into code!

By the end of the course, the student will be should be able to:

- 1. develop fluency in working with conditional control flow.
- 2. develop fluency in working with looping structures
- 3. develop fluency in working with procedural programming techniques
- 4. design computer solutions to computational problems;
- **5.** explain how are computer solutions designed;
- **6.** write programs to solve simple computer problems in a high-level programming language.

^{*:} Object-oriented programming (OOP) is a computer programming model that organizes software design around data, or objects, rather than functions and logic.

Technology Requirements

Access to a reliable and fast internet connection is required. For the course, we use Canvas https://canvas.unm.edu to navigate through the teaching materials and assignments, but students must also be able to navigate and use other online resources.

Students are required to download and install JAVA on their computer:

Download and install free software from the internet.

Java Standard Edition (SE) 17 Development Kit (JDK) https://www.oracle.com/java/technologies/downloads/ Visual Studio Code (recommended editor) https://code.visualstudio.com/Download

IntelliJ IDEA (integrated development environment) https://www.jetbrains.com/idea/download/section=mac for IntelliJ IDEA create an account as a student with your UNM email to download the free version of IntelliJ on JetBrains website.

GNU Emacs (alternative editor) https://www.gnu.org/software/emacs/

we may use command-line tools and batch/bash scripts to navigate directories and compile/run java code.

Course Structure

Book: You do not need to purchase a textbook, but there is a freely available online text that we will be following:

Introduction to Programming Using Java, Eighth Edition, by David J. Eck https://math.hws.edu/javanotes/

A student's grade is determined by points earned out of 100. The following sections give a breakdown of points; any changes in % or assignments will be based on class needs and communicated early.

- 10 Quizzes (20%)
- -2% each
- each quiz is timed (60 minutes)
- You have only one attempt
- Backtracking is NOT allowed
- Quizzes are posted on Canvas
- Quizzes must be submitted on Canvas before the due date.
- Combination of Multiple choice, short answer.
- 8 Projects (**70** %)
- Projects 1 7 % each
- Projects 2 to 8 9 % each
- Projects are posted on Canvas a week before the due date.
- Projects must be submitted online on Canvas before the due date.
- Projects must be submitted in JAVA format
- Midterm Exam (10%)
- Midterm has two parts (Quiz and programming)
- Both parts will be available on Canvas any time from 12:00 AM to 11:59 PM on exam day.
- The quiz part 2%
- The quiz part is a combination of Multiple choice, short answer questions.
- For the quiz part Backtracking is NOT allowed
- The quiz part is timed (2 hours)
- Programming part (file response) 8%
- Programming is not timed, upload the Java program any time on exam day.
- The programming part must be submitted in JAVA format
- Total = 100%

Late Assignments

The due date for the assignments, quizzes, and exams are very firm. All the assignments are open at the beginning of the semester therefore 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 instructor's discretion.

If you must miss an exam, you must contact your instructor a couple of days before the day of the exam in order to discuss a make-up test. Make-up tests will be given solely at your instructor's discretion and only in cases of well documented excused absences. If you miss an exam and do not contact your instructor immediately, you may be dropped from the course. No early exams will be permitted except in documented emergencies: flight reservations, weddings, vacations, birthdays, non-NCAA sporting events etc. are not considered emergencies.

Teaching Materials

- 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.

Your Responsibility

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.

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.

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: https://pathfinder.unm.edu/code-of-conduct.html

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,
- reading material or watching media on a mobile device not related to this course or at a time that is inappropriate,
- refusing to participate in the class activities.

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, or make an appointment to get help.
- Form study groups: You may work together with other members of our class on Canvas discussion board.
- Free Tutoring: The Math Center at Valencia campus has free tutoring and open labs. Call 505-925-8907 for more information. CAPS on main campus also provides tutoring for which I can get documentation. "LRC"
- Student Services: There are various services provided in our Student Services Department. Read about Office of Equal Access. Also, we have a testing center, advising, and career placement available: Valencia Student Services

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 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.

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/list/ocr/docs/qa-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

Disabilities Policy: Office of Equal Access

Contact Office of Equal Access at 925-8560 to schedule an appoint-ment.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

 $\begin{tabular}{ll} \bf UNM & \bf Deadlines: http://registrar.unm.edu/semester-deadline-dates/index.html And.... & \bf Academic & \bf Calendar: https://hr.unm.edu/calendars \\ \end{tabular}$

Library

We have a library at UNM-Valencia. You should already know where the library is!

Topics

Topics

Introduction and Variables
Program Organization
Control Structures
Methods (subroutines)
Classes and Objects
Arrays, Searching and Sorting

CS 152L Schedule Spring 2023 Day of CS 152L Schedule subject to change if necessary First day of semester: January 16th & Last day of semester: May 13th Final Exams: May 8^{th} to 12^{th} Holidays: Martin Luther King Jan 16^{th} & Spring break March 12^{th} to 19^{th} Jan 17 Introduction Jan 19 2.1: The Basic Java Application Jan 24 2.2: Variables and the Primitive Types Jan 26 2.3: Classes, Objects, Strings, Subroutines Note: Quiz 1 and Project 1 Due Jan 31st, 11:59 pm Jan 31 2.4: Text Output and Input Feb 02 2.5: Details of Expressions Note: Project 2 Due Feb 09th, 11:59 pm Feb 07 3.1: Blocks, Loops, and Branches Feb 09 3.2: Algorithm Development Note: Quiz 2 Due Feb 14th, 11:59 pm 3.3: The while and do. while Statements Feb 14 Feb 16 3.4: The for Statement Note: Project 3 Due Feb 21st, 11:59 pm Feb 21 3.5: The if Statement 3.6: The switch Statement Feb 23 Note: Quiz 3 Due Feb 28th, 11:59 pm Feb 28 3.7: Intro to Exceptions and try..catch Mar 02 3.8: Introduction to Arrays Note: Quiz 4 and Project 4 Due Mar 07th, 11:59 pm Mar 07 Review for Midterm Exam Note: Midterm Due Mar 09th, 11:59 pm Mar 09 Mar 21 4.1,2: Black Boxes, Static Subroutines, Vars Mar 23 4.3: Parameters Note: Quiz 5 and Project 5 Due Mar 28th, 11:59 pm Mar 28 4.4: Return Values Mar 30 4.8: The Truth About Declarations Note: Quiz 6 and Project 6 Due Apr 04th, 11:59 pm Apr 04 5.1: Objects, Instance Methods and Variables Apr 06 5.2: Constructors and Object Initialization Note: Quiz 7 Due Apr 11th, 11:59 pm

Note: Quiz 8 and Project 7 Due Apr 18th, 11:59 pm

Review Note: Quiz 10 Due May 04nd, 11:59 pm

Review Note: Project 8 Due May 09th, 11:59 pm

5.3: Programming with Objects

Note: Quiz 9 Due Apr 25th, 11:59 pm

7.1: Array Details

7.3: Array List

7.2: Array Processing

7.4: Searching and Sorting7.4: Searching and Sorting

Apr 11

Apr 13

Apr 18

Apr 20

Apr 25

Apr 27

May 02

May 04

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