2024 Spring CS234 Computer Science II

Instructor: Eduardo Ceh-Varela
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For a faster response, please do **NOT** send me a message on Canvas. Only emails.

Office: JWLA 211 I
Office Hours:
M: 3:00 p.m. – 4:00 p.m. (Mountain Time)
T,R: 11:00 a.m. -12:00 a.m. (Mountain Time)
T,R: 2:00 p.m. -3:00 p.m. (Mountain Time)
W: 3:00 p.m. – 4:00 p.m. . (Mountain Time)

Or by appointment here
We can meet using *MS Teams* *

Office Phone: (575) 562-2945

Course Description:
Advanced procedural programming. Object-oriented programming techniques: abstraction, inheritance and interface, polymorphism. Object-oriented analysis and design. Recursion. Basic data structure and basic sorting and searching.

About this course:
Throughout this course, you will master essential concepts like abstraction, inheritance, and polymorphism while gaining insight into object-oriented analysis and design. Moreover, explore fundamental data structures from the Collections framework, enabling you to efficiently store, organize, and manipulate data. This course takes your learning further by introducing you to the creation of complex Graphical User Interface applications. You will develop the skills to design intuitive and interactive interfaces that enhance user experiences.

Prerequisites
CS 123

Programming prerequisites
Knowledge of basic Java programming.

Software requirements
Students must be able to have access to a computer and must be able to install and use any required tool/software/platform to complete the assignments in this course.

Lectures:
MTRF* 10:00 a.m. – 10:50 a.m. (Mountain Time)
JWLA 218 / Mediasite

Course dates:
Starts: January 16, 2023

Ends: May 10, 2023
Weeks: 16
Last day to drop: January 23, 2024
Last day to withdraw: April 5, 2024

Required Materials:

Big Java: Late Objects 2nd Edition by Cay Horstmann. Publisher: Wiley
(Previous editions could be used) *
(If you cannot find the previous book, you can use this one: Java for Everyone – Late Objects, Big Java, Early objects) *
[* Be careful with the activity numbers. These may not match between versions.]

Suggested Materials:
Java Programming with NetBeans for A-level Computer Science, by Graham Hall. Publisher: Lulu.com*
Java. An introduction to Problem Solving & Programming 6th Ed., by Walter Savitch. Publisher: Prentice Hall
UML Tutorial: Learn UML online for Free. https://www.guru99.com/uml-tutorial.html

Contact me if you cannot get the textbook (e.g., library, Internet).

Learning Objectives:
At the completion of the course, students will be able to,
- State problem-solving techniques in computing.
- Apply fundamental concepts of classes and objects.
- Design and write algorithms as working programs.
- Choose the best data structure to be utilized in a program.
- Demonstrate the usage of GUI components
- Produce basic UML diagrams to represent classes and their relationships

Topics.
We will do a ***quick review*** on:
Problem solving, pseudocodes, flowcharts.
Chapter 2. Fundamental Data Types
Chapter 3. Decisions
Chapter 4. Loops
Chapter 5. Methods
Chapter 6. Array and Array Lists

In this course, we will cover more in detail:
Chapter 8 (Objects and Classes)
Chapter 9 (Inheritance and Interfaces)
Chapter 15 (The Java Collections Framework)
Chapter 10 (Graphical User Interfaces)
Chapter 11 (Advanced User Interfaces)
Java Programming with NetBeans (Chapters: 1,2,3,7, and 10)

If we have time, we will cover the following topics:
Chapter 12 (Object-Oriented Design)

Chapter 18 (Generic Classes)

The following is a schedule of the topics. Be aware that the schedule and/or the topics covered might change during the semester.

Week	Period			Topic
1	1/15/2024	-	1/19/2024	Syllabus, project, rubric, peer grading
2	1/22/2024	-	1/26/2024	Review
3	1/29/2024	-	2/2/2024	Review (Conditionals)
4	2/5/2024	-	2/9/2024	Review (Loops, Methods)
5	2/12/2024	-	2/16/2024	Review (Arrays), Objects and Classes
6	2/19/2024	-	2/23/2024	Objects and Classes
7	2/26/2024	-	3/1/2024	Inheritance
8	3/4/2024	-	3/8/2024	Inheritance
9	3/11/2024	-	3/15/2024	**Spring break**
10	3/18/2024	-	3/22/2024	Interfaces/The Java Collection Framework
11	3/25/2023	-	3/29/2024	The Java Collection Framework
12	4/1/2024	-	4/5/2024	The Java Collection Framework
13	4/8/2024	-	4/12/2024	GUI
14	4/15/2024	-	4/19/2024	GUI
15	4/22/2024	-	4/26/2024	GUI
16	4/29/2024	-	5/3/2024	GUI
FINALS	5/6/2024		5/10/2024	PRESENTATIONS

Course Grading:

Labs	Quizzes	Attendance & Participation	Project part 1	Project part 2	Project Part 3	Project Part 4	Total
40 %	10 %	5%	5%	5%	20%	15 %	100 %

Grading Scale:

A	B	C	D	F
[90,100]	[80, 90)	[70, 80)	[60, 70)	[0, 60)

Course preparation:
On average, students should plan to spend at least **12-15** hours per week reviewing the class material and/or working on homework. Please, do not procrastinate.
The student has the responsibility to attend to my office hours (in-person or remote) if any topic is not clear.

In-person and remote students
For this course the only difference between in-person and remote students is that remote students are not physically in the classroom.
For assignment, quizzes, participation, etc., there is no difference between these types of students. The deadlines are the same.
The remote section follows the pace of the in-person section.

Assignment Policy

*Unless otherwise specified by the professor, all tests and other tasks must be performed by the student **alone**, with no improper help.*

On a homework assignment, project, or paper, students can "collaborate." This is not, however, authorization to break the standards of honesty by simply asking someone else for answers or presenting another student's work as your own.

Unless the professor says otherwise, every work submitted for a grade is presumed to be the result of the student's own knowledge, represented in the student's own words, computations, computer code, and so on. It is fair for a professor to conclude that academic dishonesty has occurred when a student's work is identical or substantially similar to another's at moments when unique variances in expression would be expected.

Assignments will be given at the instructor's discretion depending on the class progress. It is the students' **responsibility** to check Canvas **daily** for a new assignment or announcement.

Students with unusual circumstances should contact the instructor of their situation **before** any submission (i.e., medical issues, accidents, etc.).
The maximum extra time for these situations is 24 hours from the due date.

Quizzes

- Students must prepare themselves for a *possible* quiz after each topic. Each quiz may contain several multiple-choice, True/False, or short-answer questions.
- Quizzes will be conducted on Canvas. It is the students' **responsibility** to check Canvas for a new quiz.
- **No second attempt** will be allowed on a missed quiz unless a medical certificate is presented.
- Once a quiz starts, it needs to be finished.
- Quizzes will have a maximum time to be answered, and they will close automatically after the time expires.

Remote students:
The quizzes will be assigned depending on the pace of the in-person class. So, it is important that you watch the lessons as soon as they are available.

Labs
Students will solve selected problems that are representative of each topic.

- One session will be dedicated to the lab. The "Lab Day" is the last session of the week (Friday). This day I will explain the details about the laboratory. Moreover, you can discuss with me Project/Lab related problems during lab hours.
- There will be at least *11* Labs. Labs could include programming assignments from the textbook.
- Please submit your homework to the assignment space provided on Canvas.

I do not receive homework via email. Everything must be sent through Canvas. I do not receive homework in the comments section. Although you will have plenty of time , do not procrastinate.

- The submission deadline for a Lab assignment is ***before*** the next Lab (i.e., next Friday ***9:59 a.m.***). ***This applies to all students.***
- I will use a ***grading rubric*** to grade your programming assignments. Please, it is your responsibility to review it before each submission to validate you are covering all the points mentioned in there. Use the grading rubric for programming assignments.
- Important! Please, use ***only*** the concepts presented in the course (i.e., **do not use** libraries, modules, or code **not presented** in the lectures). If you do, this action will hurt the standardization of the course for all students. If you use concepts not presented in the lectures your solution will have a heavy grade deduction.
- Important, validate that the correct solution is uploaded according to the assignment instructions. I will grade what is on Canvas.
- **Do not assume things**. If you have any question, ask me before start working on your solution.
- **No late submission is accepted.**

Remote students:
The labs will be assigned depending on the pace of the face-to-face class. So, it is important that you watch the lesson as soon as they are available.

Programming project

This is a semester-long project.
Students will create a **computer system** in Java using the elements from the course (**see the Project_Spring_2024.pdf document in** Canvas)

- Students **MUST** form teams of maximum **3** members.
- The project is divided into **four stages**.
- There will be **four** submissions (one per stage)
- For the **final** stage, one member of each team will have no more than **10 minutes** to present their project (GUI stage).

  Project presentation:
  Thursday May 9th, Time: **TBD**. (Mountain Time)

  Remote students: make your arrangements to be available to present your project.

  If a team *does not present* the project, **no points** will be granted for the **last stage** of the project, and the grade for this part will be **zero**.

Peer-grading

- Each team member **MUST** **grade the participation and work of their teammates**.
- Your grade for a particular stage of the project will be determined by how your teammates perceived your effort and participation in the project. *There are no free rides!*
- Read the document "Project Evaluation Form.doc" for more details.

Attendance & Participation

- **All in-person** students are **expected** to attend all classes.
- All students are responsible for all the materials covered in the lecture in their presence and absence.
- To be aware of the announcements and topics covered, **all *remote students*** are *expected* to *watch* the class videos the *same day of the lectures or at most the following day*.
- All **remote students are welcome** to come to class with local students. We have available seats.
- Attendance will be taken for **all** students.
  However, for **remote students**' attendance will be taken through a one-question quiz on Canvas. For these students, the quiz will be open for **two days** (the lecture day and the next day). This *is not a Web course.*
  For in-person students, attendance will be taken inside the classroom.
  Attendance will start January, Monday, 22.
- Students will be held responsible for all **announcements** made in class.
- If you feel sick, please do not expose the class.

Students with disabilities: This is not a regular quiz. It is an activity for attendance and participation. Therefore, there is no extra time for this activity.

Grades on Canvas.

Your grade on Canvas is just a *reference* of your final grade. They are **not the final** grade. The final grade is in a different system.
The grades shown on Canvas are more likely to improve based on the overall class grades.
You will be considered for possible grade improvement **if and only if you had at least 70% of participation** (see the attendance and participation quiz).
Therefore, there are **no remediation assignments** to improve grades. The only consideration could be for those students with an **F** and with *real* possibilities to get a **D**.

Syllabus Modification:

The instructor reserves the right to modify any part of the syllabus, including course policies, course and assignment schedule, grade weights.

Response Time for Questions and Assignment Feedback

For a faster response time, send your questions by email (use your ENMU email).
You may use the message system in Canvas, but it is not as immediate as an email. I will try to answer your emails in a 24-hour frame. Expect delays for replies during weekends.
Is the student responsibility to check and reply to emails, messages, and announcements on time. Please, reply to my emails within a 24-hour frame.
I really encourage you to use **MS Teams**. Send me a direct message. I'll reply to you right away.

Expect feedback for your assignments within 1-2 weeks after submission. However, I will post a solution for ***some*** assignments after the due date, so you can verify if your answer was on the right track.

Once the solutions are published, no work can be received (e.g., in case you had an extraordinary situation for which you had an extension)

Announcements/Communication

- If needed, I will use announcements through Canvas. Please, is the student responsibility to have their Canvas notifications **activated**.
- I encourage you to use the Canvas App for Students.
- There will be a team for this class in MS Teams. Is the student responsibility to install the app.
- Is the student responsibility to check and reply to emails, messages, and announcements on time.

Learning Management System

The university has provided us with a new learning management system called **Canvas**. You can access Canvas from the myENMU Portal or directly at the university's Canvas Login Page.

Canvas works with most computers, mobile devices, and browsers. You can check this webpage to see if your computer/device and browser are compatible: What are the browser and computer requirements for Canvas? - Canvas Community (canvaslms.com). Mobile apps for Android and Apple devices can be downloaded at no cost from Google Play and the Apple App Store, respectively.

If you are new to using Canvas, here are a few tips:

- **Welcome Tour** - A welcome tour will pop up and show you the main features of the system. This is a great way to get started.
- **Passport to Canvas** - This self-paced student workshop will teach you everything you need to know about Canvas. Check your Dashboard or Courses menu to access the workshop.
- **Help Menu** - If you need help, click on the Help menu**.** You can:
  - Watch Canvas Overview Videos
  - Search the Canvas Guides for step-by-step help
  - For help with the mobile app, check out the guides for Android or Apple devices
  - Call or live chat with Canvas Support 24/7, 365 days a year
  - And more - click Help to see all the support the university has provided for you.

Academic Integrity Policy:

Plagiarism and Cheating of any kind on an examination, quiz, or assignment will result at least in an "F" for that assignment (and may, depending on the severity of the case, lead to an "F" for the entire course) and may be subject to appropriate disciplinary action. See the Student Handbook for further information. I will assume for this course that you will adhere to the academic creed of this University and will maintain the highest standards of academic integrity. In other words, don't cheat by giving answers to others or taking them from anyone else. **Additionally, the use of AI-generated content (for example, via ChatGPT and other AI tools) and the attempt to submit AI-generated content as your own work is considered academic dishonesty.** I will also adhere to the highest standards of academic integrity, so please do not ask me to change (or expect me to change) your grade illegitimately or to bend or break rules for

one person that will not apply to everyone. Plagiarism is a serious offense. When in doubt, please cite your sources! Please refer to the Catalog for information concerning plagiarism; action can include but is not limited to failure of the assignment; failure of or a reduced grade for the course; suspension or dismissal from your program of study.

Disability Statement:
If you have, or believe you have a disability, you may contact the Accessibility Resources and Testing Center to coordinate reasonable classroom accommodations, access to technology, or other academic assistance. The Accessibility Resources and Testing Center serves students with a wide range of disabilities including but not limited to medical or health impairment, vision or hearing disability, physical disability, learning disabilities, attention deficit disorder, or mental health impairment. All information will be treated confidentially.

Accommodations are not retroactive. They begin only after:

1) Appropriate documentation has been received and accepted by the Coordinator of Disability Services;

2) Letters of Accommodation (LOA) have been prepared; and

3) You have delivered your Letters of Accommodation to your instructors.

Appropriate academic accommodations may then be provided for you. You may contact Accessibility Resources and Testing Center by visiting Room 186 of the Student Academic Services building, or contacting them via telephone at (575)562-2280.

FERPA and Privacy:
As a student, your educational records are considered confidential. Under FERPA (Family Educational Rights and Privacy Act), your records are confidential and protected. Under most circumstances your records will not be released without your written and signed consent. However, some directory information may be released to third parties without your prior consent unless a written request to restrict this is on file. You can learn more about student rights to privacy on the university's FERPA webpage.

In this course, we will be working with third party applications online (i.e., wikis, blogs, and other Web 2.0 applications). The different proprietors of these sites may or may not have privacy guarantees and the FERPA policy at ENMU does not apply to these sites. It will be your responsibility to read the privacy documentation at each site. There are many other options to protecting your information at these sites. If you have filed the paperwork and are classified as protected under the ENMU FERPA qualifications, it will be acceptable for you to use an alias when using the Web 2.0 sites required for this course. If you still have concerns, please e-mail me as soon as possible to discuss your options.

Copyright:
This course may contain copyright protected materials such as audio or video clips, images, text materials, etc. These items are either linked to or are being used with regard

to the Fair Use doctrine in order to enhance the learning environment. Please do not copy, duplicate, download or distribute these items. The use of these materials is strictly reserved for this online classroom environment and your use only. All copyright materials are credited to the copyright holder.

Title IX:
ENMU is committed to fostering a safe, productive learning environment and we comply with all aspects related to Title IX of the Educational Amendments of 1972 and 34 C.F.R. Part 106. Title IX prohibits sex discrimination to include all forms of sexual harassment as defined in the university's Title IX Policy.

Incidents of harassment or assault can be reported to the Title IX Coordinator by phone at (575)562-2991 or by email at titleix.coordinator@enmu.edu. You may report any crime including sexual assault to the ENMU Police Department by calling (575)562-2392. If you wish to receive fully confidential support and victim's advocacy you can contact Arise Sexual Assault Services at (575)226-7263.

Confidentiality and Mandatory Reporting:
As an instructor, one of my responsibilities is to help create a safe learning environment on our campus. I also have a mandatory reporting responsibility. I am required to share information regarding sexual misconduct or information about a crime that may have occurred on ENMU's campus with the Title IX Coordinator and/or the ENMU Police. Students may speak to someone confidentially by contacting Arise Sexual Assault Services at (575)226-7263.