CS 251: Intermediate Computer Programming
Fall 2024

Lecture Meeting Times

Section	Time	Day	Room	Lecturer
401	10:30am-11:20am	TR	EMS E180	Robert
402	3:30pm-4:20pm	TR	EMS E180	Sadia

Laboratory Meeting Times

Section	Day / Time	Room	TA
LAB 801	W 11:30am-1:20pm	KIRC 1130	Indrasena
LAB 802	W 2:30pm-4:20pm	KIRC 1130	Indrasena
LAB 803	W 5:30pm-7:20pm	EMS E169	Hakim
LAB 804	F 11:30am-1:20pm	EMS W119	Yash
LAB 805	W 11:30am-1:20pm	KIRC 1140	Chris
LAB 808	W 6:00pm-7:50pm	KIRC 1130	Yash

Lecturers

Robert Sorenson	Sadia Nowrin
Office: EMS 386F	Office: EMS 817
Phone: 229-2796	
E-mail: rds@uwm.edu	E-mail: nowrin@uwm.edu
Office hrs: TR 2:20 - 3:20pm or by appointment	Office hrs: TBA or by appointment

Teaching Assistants

Hakim	Indrasena Kalyanam
Office: EMS E218 / Online	Office: EMS E218 / Online
E-mail: hakimm@uwm.edu	E-mail: kalyana3@uwm.edu
Office hrs: TBA or by appointment	Office hrs: TBA or by appointment

Chris Harry Patrick	Yash Ananta Zode
Office: EMS E218 / Online	Office: EMS E218 / Online
E-mail: patric55@uwm.edu	E-mail: yashzode@uwm.edu
Office hrs: TBA or by appointment	Office hrs: TBA or by appointment

The TAs are glad to help you with your questions during their office hours, regardless of which lab section they lead. Outside office hours, please make an appointment, or use email for simple questions.

Course Objectives

CS 251 seeks to teach its students basic object oriented programming skills using a modern Object Oriented language. Specifically a successful student will have the ability to:

- Use Class objects to construct programs
- Create simple Classes
- Use container Classes and iterators
- Create Class hierarchies
- Model and implement inheritance and utilize polymorphism
- Write exceptions and utilize exception handling
- Read and write to files

Key Policies and Student Responsibilities

Workload: This course entails a fair amount of work doing homework assignments and quiz / exam preparation. The following is a breakdown of the expected course workload (in hours):

Activity	hours spent
Lecture meetings	30
Preparation for lectures	15
Lab meetings	30
Writing weekly programs	50
Studying for weekly quizzes	15
Studying for midterm exams	5
Studying for the final exam	5
TOTAL	150

Late Policy: Homework assignments are only accepted late when an extension has been granted to the entire class. You are strongly advised to start early on the homework assignments. Unfortunately, computer systems sometimes go down before an assignment is due. You need to plan for these, and other, unexpected events. Homework assignments are not accepted after the due dates.

Make-up Policy: Failure to attend an exam without substantial and verifiable cause will not in any way warrant a make-up. The exam dates are posted below, please plan accordingly. Also students must contact their instructor as soon as possible to be eligible for a make-up.

Accommodations and Religious Obligations: Please see the official UWM policy statement for complete descriptions.

`http://www.uwm.edu/Dept/SecU/SyllabusLinks.pdf`

COVID Considerations: Please see the official UWM policy statement for complete descriptions.

`https://uwm.edu/cetl/covid-19-syllabus-statements/`

Prerequisite

- Math Placement Code of 40 or Math 116(P) or Math 211(P)
- A grade of C or better in CompSci 250(201)(P).

To be ready to take CS 251, a student must be comfortable with intermediate algebra (as taught in UWM's Math 116) because programming requires writing formulaes that are very similar to algebra problems. If you have any questions about this prerequisite, please feel free to talk to your instructor.

Course Materials

Required Text:

- Dean and Dean.
  - *Introduction to Programming with JAVA, A Problem Solving Approach*
  - Second Edition
  - McGraw-Hill (Higher Education), 2014
  - ISBN 978-0-07-337606-6
    MHID 0-07-337606-x

Grading

- Programming Assignments (8 or more) = 10% of course grade. The lowest single assignment score will be dropped.
- Lab Exercises (8 or more) = 10% of course grade. The lowest single lab score will be dropped.
- Lab Quizzes (8 or more) = 25% of course grade. The lowest single quiz score will be dropped.
- In Class Examinations (3):
  - Midterm I = 17% of course grade.
  - Midterm II = 21% of course grade.
  - Final = 17% of course grade.
- Course letter grades will be assigned using the following scale, unless we decide that this scale is too severe, in which case we will adjust the scale downward.

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
Minimum Score	92	88	84	80	77	74	70	67	64	60	57	0

Programming Assignments

Most weeks you will be given a problem description / specification which you are to write a computer program which solves the problem / satisfies the specification. Large portions of the quizzes and exams will test your understanding of course material that is illustrated in these assignments. Each program will be graded on a 10-point scale.

You are allowed to work together (collaborate) on the Programming assignments, ONLY in regards to the big ideas and general techniques - NEVER share actual code. In general, you should strive to be able to write your programs with minimal to no collaboration with others.

Program descriptions with their due dates are posted on the course home page weekly. You will "hand in" your program solutions by means of Canvas file submissions.

Lab Exercises

Most weeks you will be given a lab exercise to be completed during your lab time. The lab exercises will be counted as completed or not completed.

Lab Quizzes

Most weeks you will be given a quiz in your lab section, except when you have a midterm in the same week. The quizzes cover material from recent lectures and homework assignments. Each quiz will be graded on a 10-point scale.

Examinations

You will take two midterms and a final examination, which will be based on the material covered by lectures, assignments, labs, quizzes, and the Dean and Dean textbook.

The midterm examinations will be held at your normal lecture time in your normal lecture room, the examinations are closed notes and book.

The final examination will be held at a time and location to be announced in lecture and on the course home page when it is known, this examination is also closed notes and book.

Academic Misconduct

You can find extensive information on UWM's Academic Misconduct Policy at this URL:

`http://www.uwm.edu/CHS/administrationinfo/acadmisc.html`

Course Schedule

Lecture	Topics	Reading
1 : 9/3	Syllabus	Canvas
2 : 9/5	Object-Oriented Programming	Chapter 6 (6.1 - 6.3)
3 : 9/10	Object-Oriented Programming	Chapter 6 (6.4 - 6.5)
4 : 9/12	Object-Oriented Programming	Chapter 6 (6.6 - 6.11)
5 : 9/17	Object-Oriented Programming+	Chapter 6/7 (6.12, 7.1 - 7.4)
6 : 9/19	Object-Oriented Programming+	Chapter 7 (7.5 - 7.7)
7 : 9/24	Object-Oriented Programming+	Chapter 7 (7.8 - 7.12)
8 : 9/26	ArrayList	Chapter 10 (10.1 - 10.3)
9 : 10/1	ArrayList & LinkList	Chapter 10 (10.4 - 10.7)
10 : 10/3	**Review for Midterm I (Chapters 6, 7, 10)**	
11 : 10/8	**Midterm I (Chapters 6, 7, 10)**	
12 : 10/10	Type Details & Coding Mechanisms	Chapter (12.1 - 12.9)
13 : 10/15	Type Details & Coding Mechanisms	Chapter (12.10 - 12.14)
14 : 10/17	Aggregation & Composition	Chapter (13.1, 13.2)
15 : 10/22	Inheritance	Chapter (13.3 - 13.9)
16 : 10/24	Inheritance & Polymorphism	Chapter (14.1 - 14.4)
17 : 10/29	Polymorphism & Dynamic Binding	Chapter (14.5, 14.7)
18 : 10/30	abstract & protected & Interface	Chapter (14.8, 14.10)
19 : 11/5	Multi-Dimensional Arrays	Chapter (9.9)
20 : 11/7	Exception Handling	Chapter (15.1 - 15.6)
21 : 11/12	**Midterm II - Day I (Chapters 9.9, 12 - 15)**	
22 : 11/14	**Midterm II - Day II (Chapters 9.9, 12 - 15)**	
23 : 11/19	Exception Handling	Chapter (15.7 - 15.12)
24 : 11/21	Files	Chapter (16.1 - 16.4, 16.6)
25 : 11/26	**Topics**	
–	**Thanksgiving Break**	Turkey
26 : 12/3	**Topics**	
27 : 12/5	**Topics**	
28 : 12/10	**Topics**	
29 : 12/12	**Review for Final (Chapters 15 - 16)**	

Dates to remember

(Consult the official UWM class schedule for full listings and details.)

- September 3rd: First day of classes.

- October 8th: Midterm I : This will be a fifty-minute, closed book exam and will be given during your normal lecture time.
- November 12th: Midterm II - Day I : This will be a fifty-minute, closed book exam and will be given during your normal lecture time.
- November 14th: Midterm II - Day II : This will be a fifty-minute, closed book exam and will be given during your normal lecture time.
- November 27th - 29th: Thanksgiving Break (No Classes).
- December 12th: Last day of classes.
- **Final Exam:**
  Tuesday
  December 17th
  11:00 - 1:00pm