

CS 211: Object Oriented Programming - Spring 2024

George Mason University - Department of Computer Science

Course Information

Prerequisites: CS 112 (C or better)

Format: Lecture plus weekly lab

Instructors:

Instructor Name	Email	Office	Office Hours
Prof. David I. Gonzalez Samudio	dgonza10@gmu.edu	Buchanan Hall D215F	Tuesday 3:00pm-5:00pm
Dr. Brian Hrolenok	hrolenok@gmu.edu	ENGR 4708	Tuesday 1:00pm-3:30pm

Graduate Teaching assistants:

TA Name	Email	Office	Hours	location	Office Hours
A. H. M. Rezaul Karim	akarim9@gmu.edu	TBA			Friday 10:30am-12:30pm
Mainul Hossain	mhossa6@gmu.edu	TBA			Thursday 11:30am-01:30pm
Sabrina Akter	sakter6@gmu.edu	TBA			Thursday 2:00pm-4:00pm
Chenghao Du	cd9@gmu.edu	TBA			Monday 10:00am-12:00pm
Sthitadhi Sengupta	ssengup2@gmu.edu	TBA			Tuesday 11:00am-1:00pm
Minh Duc Nguyen	mnguy21@gmu.edu	TBA			Monday 1:00pm-3:00pm
Raj Patel	rpatel17@gmu.edu	TBA			Friday 3:00pm-5:00pm
Fatemeh Vares	fvares@gmu.edu	ENGR 4456			Wednesday 10:00am-12:00pm

Lectures

Section	Day(s)	Time	Instructor	Location
001	Monday & Wednesday	1:30-2:45pm	Hrolenok	Innovation Hall 105
002/H02	Monday & Wednesday	3:00-4:15pm	Hrolenok	Lecture Hall room 1
003	Tuesday & Thursday	9:00-10:15am	Gonzalez Samudio	Lecture Hall room 1
004	Tuesday & Thursday	1:30-2:45pm	Gonzalez Samudio	Innovation Hall 105

Labs

Section	Day	Time	Instructor	UTA	UTA	UTA	UTA	Location
201	Thursday	10:30am-11:20am	Mainul Hossain	Sakib Ahmed	Duc Nguyen	Katherine Fadeyeva	Rimika Shrestha	Horizon Hall 2009
202	Thursday	9:30am-10:20am	Chenghao Du	Joniel Augustine Jerome	Daniel Burnayev	Faraaz Rahman	Tyler Aquiro	Buchanan Hall D023
203	Thursday	12:30pm-1:20pm	Sabrina Akter	Mohit Darla	Joniel Augustine Jerome	Sydney To	Riyaz Rabbani	Exploratory Hall L102
204/2H4	Thursday	1:30pm-2:20pm	Fatemeh Vares	Duc Nguyen	Rimika Shrestha	Sydney To	Riyaz Rabbani	Buchanan Hall D023
205	Friday	9:30am-10:20am	A. H. M. Rezaul Karim	Duc Nguyen	Riyaz Rabbani	Katherine Fadeyeva	Jahnavi Paladugu	Horizon Hall 2008
206	Friday	10:30am-11:20am	Sthitadhi Sengupta	Joniel Augustine Jerome	Daniel Burnayev	Duc Nguyen	Riyaz Rabbani	Buchanan Hall D023
208	Friday	12:30pm-1:20pm	Aaron Nguyen	Joniel Augustine Jerome	Daniel Burnayev	Duc Nguyen	Mohit Darla	Buchanan Hall D023
209	Friday	1:30pm-2:20pm	Raj Patel	Mohit Darla	Daniel Burnayev	Nathan Abando	Khoi Le	Exploratory Hall L102

Textbooks (required)

- (**ZyBooks**) CS 211: Object-Oriented Programming. Available online at [learn.zyBooks.com](https://www.zybooks.com). When purchasing your textbook, use the code "GMUCS211Spring2024" to link your assignments to this semester's sections. If you have any trouble with purchasing, or if you've taken this course before and paid for a subscription once already, contact support@zybooks.com. Please make sure you create an account using your @gmu.edu email address.
- (**Supplemental**) textbook. Available as a set of free PDFs here: cs.gmu.edu/~marks/211/textbook/.

Piazza: We will use [Piazza](#) to provide course resources (slides, code, links), for official announcements, asynchronous discussions, Q&A, and help with assignments outside of office hours. **Never post any code publicly** - when in doubt, ask before posting, as TAs can change the visibility of posts to public when appropriate. Please reserve email for academic/grading issues - Piazza is the place for help on assignments.

Gradescope: We will use [Gradescope](#) for all assignment and exam feedback. Please make sure you create an account using your @gmu.edu email address.

Blackboard: We will use [Blackboard](#) for limited cases only. Please consult with your instructor.

Students will be manually added to Piazza and Gradescope in the first or second week once enrollments are finalized.

Course Description

This course presents a thorough treatment of programming according to object-oriented principles. Introduces classes, interfaces, inheritance, polymorphism, and single dispatch as means to decompose problems. Covers intermediate programming techniques including error handling through exceptions, arrangement of source code into packages, and simple data structures. Intermediate debugging techniques and unit testing are covered.

Outcomes:

- An understanding of basic object-oriented programming concepts and principles
- An ability to apply basic object-oriented principles and techniques in the design and development of software systems using a specific programming language.
- An ability to effectively use both basic command line tools and sophisticated integrated development environments, and to understand the benefits and limitations of each.
- An ability to successfully perform debugging operations and techniques.

Coursework

In this course students will be evaluated using several different kinds of coursework:

- Readings:** online textbook with interactive practice problems; weekly deadlines; automated grading.
- Class participation:** engaging with in class, in lab, and online activities. Contact your instructor for more details.
- Labs:** programming exercises during lab sessions; collaboration/group work allowed.
- Exercises:** small programming assignments (5-7 days); collaboration/group work allowed.
- Projects:** large programming assignments (10-14 days); individual work only.
- Exams:** in-class, individual work only.

Grading Procedures

Coursework	Weight	Notes
Class participation	5%	
Readings	5%	Lowest 15 subsections dropped
Labs	15%	weekly, no drops
Exercises	9%	3% each, no drops
Projects	21%	7% each, no drops
Midterm exam	20%	replaced by final exam grade if final exam grade is higher
Final exam	25%	must pass final to pass the course

Grading Policies

- By department policy, students **must pass the final exam with a passing grade (≥ 60) in order to pass the course.**
- The final exam is cumulative; a higher final exam score dominates (replaces) a lower score on midterm.
- For projects and exercises, any number of re-submissions are allowed (the most recent is used), however a re-submission turned in after the deadline will be considered a late submission.
- Late submission is allowed for projects and exercises only, and only up to 48 hours.
- Late submission policy: Less than 24 hours is 10% off. From 24 hours to 48 hours is 20% off. More than 48 hours is 0. Submission times are automatically recorded, and there is no distinction between a 1-minute late and a 23-hours late.
- Code which does not compile or pass initial validation checks will receive a zero in most cases.**
- Save backups regularly because the unexpected happens and cannot be used as an excuse to get an extension. Save backups on a cloud service because the local file system timestamp is not acceptable.
- To receive a grade, the submission must be gradable. This means submitting .java source rather than compiled .class files or word documents containing the source. It also means that the code must be submitted rather than simply saved.
- There are no make-ups for absences to classes and labs.
- If you feel your assignment was **graded incorrectly**, let your TA and instructor know within one (1) week of when the grade was returned. Resubmitting after the due date with new code to improve your score is not permitted.

Grading Scale

Grade	Range
A+	[98,100]
A	[92,98)
A-	[90,92)
B+	[88,90)
B	[82,88)
B-	[80,82)
C+	[78,80)
C	[72,78)
C-	[70,72)
D	[60,70)
F	[0,60)

Honor Code

Unless specific instructions are given to the contrary, projects are an individual effort, no group work is allowed. In addition to code, this includes the sharing of test cases, pseudocode, or approaches, receiving assistance in debugging code, as well as the use of external Internet sites.

Both the [GMU Honor Code](#) and the [CS Department Honor Code](#) apply in this class. Any use of a direct contribution on any program, homework, quiz, or exam will be reported as a violation of the honor code.

We take the honor code quite seriously. Any attempts at copying or sharing code, algorithms, or other violations of the honor code simply will not be tolerated. We use automated software to flag suspicious cases, and then review them to find the cases that must be submitted to the Office of Academic Integrity. The penalty for cheating will always be far worse than a zero grade, to ensure it's not worth taking the chance. Confirmed cases of cheating almost always translate into course failure.

Some kinds of participation in online study sites violate the Mason Honor code: these include accessing exam or quiz questions for this class; accessing exam, quiz, or assignment answers for this class; uploading of any of the instructor's materials or exams; and uploading any of your own answers or finished work. Always consult your syllabus and your professor before using these sites.

Student Resources And Accommodations

Students who are entitled to accommodations based on recommendations from University offices should promptly initiate a discussion with their instructors. It is the student's responsibility to acquire this information directly from the respective office.

Prioritizing your well-being is paramount in achieving academic success. We strongly urge students to take advantage of the available [university resources](#) designed to support their journey. We, as educators, may not possess the expertise to evaluate unforeseen and challenging circumstances that could arise; therefore, we rely on specialized offices for appropriate guidance and accommodations. These designated offices hold the responsibility of providing insights and ensuring your rights, as outlined in acts such as [FERPA](#) or [ADA](#), are comprehensively understood and respected.

A brief list of the services at no cost to GMU students:

- [Learning Services](#)
- [Counseling and Psychological Services](#)
- [Timely Care](#)
- [Disability Services](#)

Disability Services at George Mason University is committed to providing equitable access to learning opportunities for all students by upholding the laws that ensure equal treatment of people with disabilities. If you are seeking accommodations for this class, please first visit <https://ds.gmu.edu/> for detailed information about the Disability Services registration process. Then please discuss your approved accommodations with me. Disability Services is located in Student Union Building I (SUB I), Suite 2500. Email: ods@gmu.edu | Phone: (703) 993-2474

Mason Safe Return to Campus Guide

For the collective safety of all students and staff, please follow Mason's [Safe Return to Campus Guide](#).

Schedule

Please note: the following schedule may be adjusted throughout the semester. Always check for announcements, and follow due dates posted on Blackboard, Gradescope, and zyBooks. The dates listed below are the Sunday at the beginning of the given week; they are **NOT** due dates. Final exam dates (which you can find [here](#) for **ALL** classes) are set by the registrar for each section based on the time and days of the week that lecture meets.

Week	Dates	Topic	zyBooks reading	Supplemental reading	Assignments
Week 1	14-JAN	Introduction; Basics; Flow Control	1, 2, 3	1, 2, A2	E1
Week 2	21-JAN	Arrays; File I/O	4, 5	3, 5	E1
Week 3	28-JAN	Classes; Objects; Methods; Fields	6, 7	4, 6	P1
Week 4	04-FEB	Command line args; Packages; Javadoc	8	11, 13	P1
Week 5	11-FEB	Inheritance; Polymorphism; Dynamic dispatch	10	7	E2
Week 6	18-FEB	Abstract classes; Interfaces; Enums	11	8, 9	E2
Week 7	25-FEB	Midterm review; Midterm			
Week 8	03-MAR	Spring break, no classes			
Week 9	10-MAR	Exceptions, Unit testing	12	10, 12	P2
Week 10	17-MAR	Generics	13	14	P2
Week 11	24-MAR	Collections, Lists & Queues	9, 14		E3
Week 12	31-MAR	Recursion	15	15	E3
Week 13	07-APR	Searching & Sorting	16	16	P3
Week 14	14-APR	Nested classes; Lambda expressions	19	A1	P3
Week 15	21-APR	Graphical User Interfaces	17,18		P3
Week 16	28-APR	Review			