Course Information	Course Title: **95712 Object Oriented Programming in JAVA**			
	Section	Lecture	Lab	Location
	A	Mon: 8.35-9.55 am	Wed: 8.35-9.55 am	HBH A 301
	B	Mon: 10.10-11.30 am	Wed: 10.10-11.30 am	HBH A 301
	D	Mon: 4.40-6pm	Wed: 4.40-6pm	HBH A 301
	Instructor: Neelam Dwivedi (ndwivedi@andrew.cmu.edu)			
Office hours	Please visit the course Home page on canvas to see the instructor's and TA's office hours schedule.			
Prerequisites	None			
Description	This course is an in-depth look at the popular programming language Java. It is not intended for first time programmers. An exemption exam is given to students during orientation. After some preliminaries devoted to basic syntax and program structure, classes, composition, inheritance and polymorphism are examined. The Java collection classes are studied in some detail, as is the rather complex set of I/O classes. Additional topics include exception handling, building GUIs with JavaFX, and multi-threading. Throughout the second half of the course, a series of homework problems develops a non-toy application, illustrating by example how larger object-oriented programs are organized.			
Course Materials	• Reference Textbook (supplemental): 　○ [Core Java Vol 1 - Fundamentals](#) 　○ [Heads First Java: Sierra and Bates](#) • Software (required): Java JDK 11 ; Eclipse for Java SE / EE			

Evaluation Method

Activities: Count	Scoring	Points	%
Prereq test	15 points	15	3.75%
Self-assessment: 14	2 points each	28	7.00%
Homework: 3	25 points each	75	18.75%
Lab assignments: 9	Top8 considered for 10 points each	80	20.00%
Class quizzes: 10	Top8 considered for 10 points each	80	20.00%
Midterm Exams: 3	Top 2 considered for 35 points each	70	17.50%
Final Exam: 1	52 points	52	13.00%
Total		400	100.00%

Learning / Course Objectives

1. Use a Java IDE as well command line to test code snippets and author professional programs.
2. Learn Java language basics, including types, operators and program control.
3. Develop problem solving skills through practice and understanding of the divide-and-conquer and top-down approaches.
4. Form and manipulate collections of data (such as lists, dictionaries, tuples).
5. Learn the principles of object oriented programming in Java with usage of classes, inheritance, polymorphism, interfaces, containers and design patterns - with the goal of understanding code reuse and building scalable programs.
6. Be exposed to the SDLC (software development lifecycle) to understand how software applications are authored in industry. This includes basic UML usage and design concepts.

Grading Scale

A+ 100%	B+ 87 - 89%	C+ 77 - 79%
A 93 - 99%	B 83 - 86%	C 73 - 76%
A- 90 - 92%	B- 80 - 82%	C- 70 - 72%

Course Policies & Expectations

Activities: A typical week in this course will have several activities spread through the week, as listed below:

1. **Videos & Self-assessments**:There is a significant part of course-content provided in the form of videos that you must watch before coming to the class each week. This will help us spend the class-time more effectively on Q&A, code-review, and labwork. You are expected to complete the weekly self-assessment based on the video-content for which you will get two attempts. The higher of the two scores will be considered for grading. This must be completed each week before Sunday midnight.

2. **Class Quiz (CQ)**: There are 9 short multiple-choice quizzes through the semester. Top 8 scores will be considered for your final grade.

3. **Lab assignments**: There are 9 lab-exercises through the semester. Each lab-exercise is a short programming problem related to a topic discussed in the previous class for which you will submit a Java program before the end of the class. Top 8 scores will be considered for your final grade. You can consult with me, the TAs or your classmates during the class time for labwork. Unless specified otherwise, you will need to submit your lab-solution within the class time to be graded on full score. In case of any delay in submission beyond this, you may submit within next 24 hours but will score only 30% of the points provided your program is complete and correct.

4. **Homework**: There are 3 homework assignments and all three will be considered for your final grade.

5. **Mid-Terms**: There are 3 mid-term exams during the semester comprising questions and programming test. Top 2 will be considered for your final grade. The mid-term format will be same as the Labs except that you cannot consult with any one.

6. **Final Exam:** The format of final exam is similar to mid-term exams but may be longer, and is mandatory.

Others

7. **Class Attendance**: As evident from all the activities listed above, labs, quizzes, and exams require your presence in the class. If you miss any lab / quiz / exam, it will be adjusted as the lowest score. No makeup lab / quiz / exam will be accepted unless there is an emergency, in which case a documented evidence may be required. Job interviews do not count as an emergency. You need to be present in-person in class to take the quizzes, labs, and exams. Attempts to take them from outside the class without instructor's written permission will be considered as integrity violation and will be dealt with as per university policies.

8. **Grades**
   a. Grade disputes, if any, must be reported to the TA or the instructor within one week after grade-distribution.
   b. While you can seek help from your classmates in labs for clarificarions and debugging, it does not mean you can copy their code and submit as your own. No collaboration is allowed for quiz, homework, and exams. Copying from any source without citation, sharing your work with other students, or copying from other students will be considered as cheating and plagiarism and will be addressed according to the university policies http://www.cmu.edu/academic-integrity/.
   c. You are responsible for being familiar with the university standard for academic honesty and plagiarism. Please see the CMU Student Handbook for information. In order to deter and detect plagiarism, online tools and other resources are used in this class.

Course Schedule / Topical Outline: (Subject to change as needed)

Wk	Dates	Topic	Sunday	Monday	Wednesday	Sunday*
Wk1	Aug 30, Sep 1	Intro	Videos + SA1	Intro etc	Lab setup and practice	
Wk2	Sep 6, 8	Data types	Videos + SA2	NO CLASS	Pre-req test	
Wk3	Sep 13, 15	Data types, program flow	Videos + SA3	CQ1	Lab1	
Wk4	Sep 20, 22	Classes and objects	Videos + SA4	CQ2	Lab2	
Wk5	Sep 27, 29	Inheritance	Videos + SA5	CQ3	Exam1	HW1 Due Oct 3
Wk6	Oct 4, 6	Encapsulation	Videos + SA6	CQ4	Lab3	
Wk7	Oct 11, 13	Polymorphism	Videos + SA7	CQ5	Lab4	
Wk8	Oct 18, 20	Java FX	Videos + SA8	CQ6	Lab5	
Wk9	Oct 25, 27	Collections (Indexed)	Videos + SA9	CQ7	Exam2	HW2 Due Nov 7
Wk10	Nov 1, 3	Collections (Hashed)	Videos + SA10	CQ8	Lab6 (Indexed)	
Wk11	Nov 8, 10	Exceptions + I/O	Videos + SA11	CQ9	Lab7 (Hashed)	
Wk12	Nov 15, 17	Multithreading	Videos + SA12	Lecture	Exam3	
Wk13	Nov 22	Multithreading	Videos + SA13	CQ10, Lab 8	NO CLASS	HW3 due Dec 5
Wk14	Nov 29, Dec 1	Reflection	Videos + SA14	Wrapup	Lab 9 (Multithreading)	
	Final exam	Please refer to https://www.heinz.cmu.edu/current-students/final-exam				

Students with Disabilities:
Our community values diversity and seeks to promote meaningful access to educational opportunities for all students. CMU and your instructors are committed to your success and to supporting Section 504 of the Rehabilitation Act of 1973 as amended and the Americans with Disabilities Act (1990). This means that in general no individual who is otherwise qualified shall be excluded from participation in, be denied benefits of, or be subjected to discrimination under any program or activity, solely by reason of having a disability.

If you have a disability and have an accommodations letter from the Disability Resources office, I encourage you to discuss your accommodations and needs with me as early in the semester as possible. I will work with you to ensure that accommodations are provided as appropriate. If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, I encourage you to contact them at access@andrew.cmu.edu .

Academic Integrity:
Carnegie Mellon University sets high standards for academic integrity. Those standards are supported and enforced by students, including those who serve as academic integrity hearing panel members and hearing officers. The presumptive sanction for a first offense is course failure, accompanied by the transcript notation "Violation of the Academic Integrity Policy." The standard sanction for a first offense by graduate students is suspension or expulsion. Please see http://www.cmu.edu/academic-integrity/ for any questions.

Cell Phones, Smartphones and other handheld wireless devices: Other than during class breaks, please silence ring tones and refrain from engaging in calls, messaging or other use during class time.

Policy Regarding Students Using English as a Foreign Language:
Assignments in this course are graded with reference to evidence of the acquisition of concepts, presentation format, and accuracy of information. Having done business in countries that use languages other than English, we understand that the use of an unfamiliar language can result in unusual word choices or grammatical errors that are not critical to the overall understanding of the information. Therefore, we will take into account your need to function in a language that may be unfamiliar to you. We will provide feedback as appropriate if we feel that language or grammar you have used in assignments would be best if it were configured in a different way.

Use of Canvas System for this course:
In this course, we will use the Canvas system generally to post lecture notes and related documents and to receive assignments electronically from students. To access Canvas, go to https://cmu.instructure.com

Take care of yourself.

This semester is unlike any other. We are all under a lot of stress and uncertainty at this time. Attending Zoom classes all day can take its toll on our mental health. Make sure to move regularly, eat well, and reach out to your support system or me if you need to. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress.

All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. Counseling and Psychological Services (CaPS) is here to help: call 412-268-2922 and visit their website at http://www.cmu.edu/counseling/. Consider reaching out to a friend, faculty or family member you trust for help getting connected to the support that can help.