

1 Prerequisites and description

This course is 4 credits. Its prerequisites are: a C– or better in CMSC 131 (or a score of 5 on the Java AP Computer Science A exam, or passing the CMSC department’s placement exam), and a C– or better in MATH 140.

CMSC 132 is the second part of a two–semester introduction to object–oriented programming for computer science and computer engineering majors, using Java. It provides an introduction to the use of computers to solve problems using software engineering principles. Students will design, build, test, and debug medium–sized software systems, and learn to use relevant tools. Object–oriented methods are used to create effective and efficient problem solutions. Students will use and implement application programming interfaces (APIs). Some concepts about Java that CMSC 131 did not cover are first explained. Then the major part of the material is an introduction to data structures and algorithms.

Besides the policies in this syllabus, various University policies apply to students. Many policies in the Undergraduate Catalog, which can be accessed by clicking on www.umd.edu/catalog, may be relevant.

2 Class materials and textbooks

Course materials will be made available via the University’s ELMS site, at www.elms.umd.edu. All registered students will get access to ELMS for this course automatically. Essential announcements may be made via ELMS.

The textbooks are:

- *Data Structures: Abstraction and Design Using Java, 2nd Edition*, Elliot B. Koffman & Paul A. T. Wolfgang, Wiley, January 2010, ISBN 978–0–470–12870–1 (required)

The first edition of this text is acceptable but the second is preferred. An eTextbook digital edition (ISBN 978–0–470–57406–5), that has the same content but is cheaper, is available either from the campus bookstore, or at www.coursesmart.com/9780470128701, however note that access to it only lasts a year.

- *Java Precisely, Second Edition*, Peter Sestoft, The MIT Press, 2005; ISBN 978–0–2–6269325–7 (recommended)

3 The instructional staff

3.1 Instructor

	Larry Herman
office	1111 A.V. Williams
phone	(301) 405–2762

3.2 Teaching assistants

name	duties
Mahmoud Sayed	teaching, 0201 & 0202
Cynthia Gan	undergraduate, teaching, 0203
Maria Furman	undergraduate, teaching, 0301
Qian Wu	teaching, 0302 & 0303
Joan Zhang	undergraduate, teaching, 0401
Konstantinos Xirogiannopoulos	teaching, 0402 & 0403
Mohamed Geunady	grading
Jonggi Hong	grading
Ugur Koc	grading
Jyna Maeng	undergraduate, grading
David Woodward	undergraduate, grading

3.3 Email contact

In a class of 275 students the instructional staff is not able to explain most course material via email; class discussion or personal communication are more appropriate. Administrative issues as well as course material should be discussed in person whenever possible (office hours, and before and after class are good times). Send us email in case of urgent or emergency matters only. It is also not feasible in a large course, to provide information or assistance regarding programming assignments via email, so ask any questions about coding assignments in person during office hours.

The instructional staff will only read and reply to email messages sent via the ELMS system mentioned above. Due to the size of the course, we will typically read and reply to emails a few times a week. If you have a question or issue

that takes, for example, an exchange of three or four emails to answer or resolve, it would take over a week to handle it via email. (You will almost always get a quicker answer by discussing issues with us in person.)

3.4 Office hours

Office hours will be provided in a separate handout shortly, and the course office hours will begin when it is provided.

While assistance is available for programming assignments from the TAs during office hours, you are ultimately responsible for developing and debugging them on your own, as they are your coursework that you're receiving a grade for. It is not the instructional staff's responsibility to get these assignments to work for you. If you come to office hours for help with program debugging, expect the TAs to point you in the right direction, after which it would be up to you to continue working on the problem on your own.

4 Course evaluations

Course evaluations are important, and the department and instructors take student feedback seriously. The system may be accessed near the end of the semester at www.courseevalum.umd.edu. However, rather than waiting until the end of the semester to give feedback, please bring any suggestions or concerns to our attention during the course, in person whenever possible. Although we cannot guarantee to be able to change anything that is brought up, we welcome hearing any comments or questions, that you may have, and will see if they can be addressed.

5 Course topics (SUBJECT TO CHANGE)

The following list of topics may vary according to the pace of lecture, so their order and duration are approximate.

Topic	Approx. time
Course introduction	1/2 lecture
Review of Java language concepts from CMSC 131	4 1/2 lectures
Some new Java language concepts	2 lectures
Error handling and exceptions	1 lecture
Introduction to Java I/O	1 lecture
Abstract classes	1/2 lecture
Inner classes	1 1/2 lectures
Generics	1 1/2 lectures
Linear data structures	3 1/2 lectures
Recursion	1 1/2 lectures
Trees	3 lectures

Topic	Approx. time
Algorithmic complexity (efficiency)	3 1/2 lectures
Sets and maps	1 lecture
Hashing	2 lectures
Heaps and priority queues	1 lecture
Graphs	3 lectures
Concurrency and threads	3 1/2 lectures
Introduction to networking	1 lecture
Sorting	2 1/2 lectures
Introduction to software engineering and testing, object-oriented design, algorithm strategies, and design patterns	3 lectures

6 Class and attendance

Class locations and times are available on Testudo at <https://ntst.umd.edu/soc>. Students are responsible for all academic and administrative material discussed in lecture and discussion section, whether they were in class or not. Other than cases of excused absences (see Section 9.1 below), or University cancellations, students are expected to attend all lectures and discussion sections. If you miss class for any reason, even an excused absence, the instructional staff cannot explain via email what you missed; the course size makes this infeasible. Instead, you would be responsible for finding out what was missed and getting notes on your own from a classmate who was present.

After the two-week drop/add period is over attendance will be taken in lecture.

Laptop computers, tablets, and cell phones may not be used during lecture.

7 Coursework and grades

Grades will be recorded on the ELMS system mentioned above, and may be checked for correctness there. Coursework will count toward the final grade according to the following percentages:

Midterm exams:	two midterms	30%	(equally weighted)
Final:	will be comprehensive	25%	
Quizzes:	in discussion section	8%	(equally weighted)
Programming projects:	seven to nine coding assignments	30%	
Practice programming exercises	either handed out or done in discussion section	7%	(equally weighted)

Besides the graded coursework, ungraded practice problems will be provided as worksheets done during discussion section, and via ELMS. (Solutions to problems on ELMS will be provided there also.) These problems will allow you to test your knowledge of the material and prepare for later graded coursework. If you have questions about these problems, or have trouble solving them, ask during office hours (or discussion section, if time permits).

Submission and grading policies for programming coursework will be provided when the first one is assigned. Projects will be graded out of 100 points, but depending upon their relative difficulty, which can't be predicted in advance, their weights will not all be the same, and these will be determined at the end of the semester.

Programming assignments will be written in Eclipse, and can be done on the machine of your choice, usually your own computer. A handout provided shortly will describe how to install and set up the necessary software. The Division of Information Technology (DIT) has several computing labs on campus for those who need to use them; the locations are at www.it.umd.edu/wheretogo. Eclipse is installed on the machines in the DIT PG2 lab, which is open 24/7.

In order to be able to pass the course a student **must** submit versions of all projects that satisfy certain minimum criteria, as the policies to be provided will explain.

Practice programming exercises will be short, and able to be done either during discussion section in some cases, or within a day in other cases. These will usually provide practice with concepts needed for later projects.

Final course grades will be curved if necessary, based on each student's total score for all coursework at the end of the semester. However, whether there is a curve, or it would look like if there is one, cannot be predicted in advance.

A student who feels that something was graded incorrectly on an exam may provide a written (not emailed) explanation within a week of when the exam is returned and solutions are provided. Keep in mind that the exam may be regraded in its entirety, and if upon consideration of the explanation it is determined that the answer deserved fewer points than given in the original grading, the grade will be adjusted accordingly. In other words, if a request is made for specious reasons the grade may be lowered, so it is in your interest to check your answers carefully, and make sure that something is really more correct than how it was graded, before asking for the grading to be reconsidered.

If you experience difficulty during the semester keeping up with the academic demands of your courses, you may consider contacting the Learning Assistance Service in 2201 Shoemaker Building at (301) 314-7693. Their educational counselors can help with time management issues, reading, note-taking, and exam preparation skills.

8 Quiz, midterm exam, and final exam dates

Quizzes will be given in discussion section, and cover discussion and lecture material. They will be announced in a prior class. Practice programming exercises typically will be handed out in discussion section but not announced in advance.

Midterm exams will be given during lecture, and tentative dates are below. These will be confirmed later, and may have to be changed depending on lecture progress or other factors.

The final exam date and time can **only** be rescheduled for students having another final at exactly the same time, or having more than three final exams on the same day. If either of these situations applies to you, you must inform the instructor **at least two weeks in advance** of the final exam time. Also inform the instructor immediately if you have a conflict with a scheduled midterm date, or any other important date as the semester progresses.

Exam #1	Exam #2	Final exam
Friday, March 6	Friday, April 17	Friday, May 15, 4-6 p.m.

9 Absences and accommodations

9.1 What are considered to be excused absences

An excused absence refers to missing class for an approved reason. An excused absence will not affect a student's grade. A student can be excused for an absence from a single lecture or discussion section for medical reasons if:

- They make every attempt to inform the instructor of their illness prior to the class if at all possible; if not, then as early as possible.
- Upon returning to the class, they present the instructor with a self-signed note (on paper, not email) attesting to the date of their illness, which **must** say that the information provided is true and correct, **and** that the student understands that providing false information is punishable under the University's Code of Student Conduct.

(Providing any false information is prohibited under of the Code of Student Conduct– see Part 10 (j) of the policy available at <http://www.president.umd.edu/policies/docs/V-100B.pdf>– and will result in being submitted for disciplinary action.)

Self-documentation of illness may not be used for the major scheduled grading events as defined below, and may only be used **only once** during the semester. (After using self-documentation for one excused absence, medical documentation is required for any subsequent one.)

If a student needs to be excused for a prolonged illness (for this course this means missing two or more consecutive class meetings), or if a major scheduled grading event is missed due to illness, written documentation from the Health Center or an outside health care provider **must** be provided. It must include the provider's contact information, verify dates of treatment, and indicate the time that the student was incapacitated and unable to meet academic responsibilities, in the provider's opinion. (Confidential or diagnostic information about the illness does not need not be included.) The major scheduled grading events for this course are the two midterms and the final exam.

Other University-approved situations, such as religious observance, participation in required university activities, or family or personal emergency, will also be considered excused absences, provided that written documentation of the cause of the absence is provided whenever possible, and the maximum possible advance notice is given. To find out whether a situation may constitute an excused absence, talk to the instructor about it.

9.2 How excused absences will be handled

All arrangements for excused absences must be made with the instructor, even if the coursework that was missed, was in discussion section. Any request for an excused absence must be made in writing (not via email).

- In the case of an excused absence for a practice programming exercise, extra time will be allowed to submit it.
- An excused absence for an exam will be handled by giving a makeup exam.
- For an excused absence for a quiz, rather than a makeup, the score will be computed as the average of the student's scores for the other quizzes at the end of the semester.

Excused absences will not affect projects. These will be assigned with sufficient time to be completed by students who have a reasonable understanding of the necessary material and begin promptly, even if an excused absence occurs. In cases of **protracted, extremely major** illness, or severe emergency situations, **short** extensions on projects may be considered, depending upon the circumstances. In such a situation you must contact the instructor as soon as possible.

9.3 Students with disabilities

An eligible student requesting reasonable academic accommodations due to a disability must provide a letter of accommodation from the Office of Disability Support Services (DSS) to the instructor in the first two weeks of the semester.

All arrangements for exam accommodations as a result of disability **must** be made and arranged with the instructor **at least three business days prior to the exam date**, or accommodations cannot be made.

10 Academic integrity

The Campus Senate has adopted a policy asking students to include the following statement on each examination or major assignment in every course: *I pledge on my honor that I have not given or received any unauthorized assistance on this examination* (or assignment). Consequently, you will be requested to include this pledge on exams and projects.

Please carefully read the Office of Information Technology's policy regarding acceptable use of computer resources at www.nethics.umd.edu/aup.

Unless otherwise noted, all graded coursework– including programming coursework– is to be done **individually**, so cooperation or use of unauthorized materials on these is a violation of the University's Code of Academic Integrity. **Any evidence** of this, or of possible violations of the Honor Code on exams or quizzes, **will be submitted** to the Student Honor Council, which could result in an XF for the course, suspension, or expulsion.

For academic honesty purposes, **programming assignments are to be considered comparable to a take-home exam. That is, any cooperation or exchange of ideas would be prohibited on an exam is also prohibited on a programming assignment**. Note the following:

- In learning the material students are welcome to study together or to receive help from anyone else. It's OK to discuss with others the Java language, what was covered in class, **general** debugging techniques, or the requirements of a programming assignment. These are things that convey no information about how to solve an assignment.
- When it comes to actually designing, writing, or debugging a coding assignment, other than help from the instructional staff, these must solely and entirely be a student's **own work**. Working with anyone else, or using anyone else's work in any way (except as noted below) is a violation of the code of academic integrity.

VIOLATIONS OF THE CODE OF ACADEMIC INTEGRITY MAY INCLUDE, BUT ARE NOT LIMITED TO:

1. Failing to do any of the work on a programming assignment by yourself, other than assistance from the instructional staff.
2. Using any ideas or any part of another person's program, or copying anyone else's work in any way.
3. Giving any parts or ideas from your program, including test data or test cases, to another student.
4. Transferring any part of a program to or from another student or individual by any means.
5. Putting a program anywhere (for example online) that any other student could access it.

In designing or writing programming assignments, students are free to use information and code provided by the instructional staff, **only** if the source is cited in a comment in the relevant section of the program, only short sections of provided code are used, and the substantial part of a student's program remains their own individual work.

If you have any question about a particular situation or source, ask the instructor in advance. Should you have difficulty with a programming assignment you should see the teaching assistants in office hours, rather than soliciting help from anyone else in violation of these rules.

Note that after the semester is over, providing copies of your coursework to others who are taking this course in a later semester is still considered an academic integrity violation by the University.

IT IS THE RESPONSIBILITY, UNDER THE HONOR POLICY, OF ANYONE WHO SUSPECTS AN INCIDENT OF ACADEMIC DISHONESTY HAS OCCURRED TO REPORT IT TO THE INSTRUCTOR, OR DIRECTLY TO THE HONOR COUNCIL.

You are encouraged to learn more about academic integrity at the UMCP Student Honor Council's website, by clicking on www.shc.umd.edu.

11 Right to change information, and copyright

Although this syllabus is believed to be complete and accurate, errors may be discovered, or situations that arise during the semester could require adjustments later. Consequently, the instructor may need to change information or policies in this syllabus (or in other course materials) if necessary.

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