

Besides the policies in this syllabus, various University policies may apply to students during the semester. Policies that may be relevant appear in the Undergraduate Catalog, at www.umd.edu/catalog.

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 A AP 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 covered, then the major part of the material is an introduction to data structures and algorithms.

2 Class materials and textbook

Course materials will be made available via the University’s ELMS system, at www.elms.umd.edu. All registered students (and the top five students on the waitlist for each section during the drop/add period) will get access to ELMS for this course automatically. Essential announcements will be made via ELMS that students are responsible for reading.

The textbook is *Data Structures and Algorithms in Java, 6th Edition*, Michael T. Goodrich, Roberto Tamassia, & Michael H. Goldwasser, Wiley, January 2014, ISBN 978–1–118–77133–4 (recommended). A digital edition (ISBN 978–1–118–80314–1, that has the same content but is cheaper, is available by clicking on the book link next to the course sections in the University’s online Schedule of Classes.

Because this course is one of the largest on campus, the libraries have purchased a copy of the textbook, which is in McKeldin Library. You can check it out and read it for 4 hours at a time by asking for it at the Library Services Desk.

3 The instructional staff

Instructor

	Larry Herman
office	3211 A.V. Williams
phone	(301) 405–2762

Teaching TAs

Miles Zhang	teaching, 0101 & 0102
Alex McKay	teaching, 0103
Christine Jean	teaching, 0104
Andrea Zou	teaching, 0105
Sri Kankanahalli	teaching, 0106 & 0403
Matt Goldberg	teaching, 0107 & 0203
Angela Kuriacose	teaching, 0108
Shuo Li	teaching, 0201 & 0202
Yulu Wang	teaching, 0204 & 0404
Kaman Phamdo	teaching, 0401
John Mangino	teaching, 0402

Grading TAs

Adam Ackerman	grading
Brian Oluwo	grading
Charmi Patel	grading
Chen Zhao	grading
Christine Sewack	grading
Gio Managadze	grading
Jonggi Hong	grading
Matt Evanusa	grading
Mikey Saugstad	grading
Muftiat Ogunsanya	grading
Prath Kotgire	grading
Ronald Cheng	grading
Rui Qian	grading

3.1 Email contact

In a class of over 500 students the instructional staff is not able to explain course material via email; class discussion or personal communication are appropriate instead. Administrative issues as well as course material should be discussed in person (e.g., office hours, or before or after class if time permits). Send us email only in case of urgent or emergency matters. It is especially impracticable, in a large course, to provide information or assistance regarding programming assignments via email, so ask any questions about projects in person during the TAs’ office hours.

The instructional staff will only read and reply to email sent via ELMS (click on *Inbox* in ELMS). Due to the size of the course we may only read messages a few times a week. If you have a question or issue that takes, for example, an exchange of several messages to answer or resolve, this would take much longer than discussing it in person.

3.2 Office hours

Office hours will be provided in a separate handout shortly. While assistance is available for programming projects 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.courseeval.um.umd.edu. However, rather than waiting until the end of the semester, 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 lecture
Review of some CMSC 131 Java concepts (Ch. 1)	3 lectures
Inheritance (Section 2.2)	2 1/2 lectures
Abstract classes (Section 2.3)	1/2 lecture
Error handling and exceptions (Section 2.4)	1 lecture
Generics (Section 2.5)	1 lecture
Inner classes (Section 2.6)	1 lecture
Linear data structures (Ch. 3)	2 1/2 lectures
Algorithm analysis (Ch. 4)	1 1/2 lectures
Recursion (Ch. 5)	2 lectures
Stacks and queues (Ch. 6)	1 lecture

Topic	Approx. time
Iterators and Java collections (Ch. 7)	1 lecture
Trees and binary search trees (Ch. 8 & Section 11.1)	2 1/2 lectures
Heaps and priority queues (Ch. 9)	1 lecture
Hashing, sets, and maps (Ch. 10)	3 1/2 lectures
Graphs (Ch. 14)	3 1/2 lectures
Concurrency and threads	4 lectures
Introduction to Java I/O	1 lecture
Introduction to networking	1 lecture
Sorting (Ch. 12)	2 1/2 lectures
Introduction to software engineering and testing, object-oriented design, algorithm strategies, and design patterns	4 lectures

6 Class and attendance

Class locations and times are available in the Schedule of Classes 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 8 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 impossible. Instead, you would be responsible for finding out on your own what was missed and getting notes from a classmate who was present.

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

Attendance may be periodically or regularly taken in lecture.

On a regular basis a student is expected to attend the lecture and discussion section they are registered for, unless they have a reason to regularly attend a different one and ask the instructor for permission. If a **few times** during the semester, you cannot attend your registered lecture or discussion but are able to attend another one at a different time the same day you are expected to do that; there may be in-class graded coursework that you would otherwise miss and not receive credit for. If you miss your class when there is graded in-class coursework and cannot attend another class, and the absence was for a University-approved reason, the policies for excused absences in Section 8 may apply.

7 Coursework and dates

Grades will be recorded on the ELMS system mentioned above and may be checked for correctness there. There may be more assignments of each type in the gradebook than we will actually end up having; any unused assignments in the gradebook will just be deleted at the end of the semester. Do not make comments on grades in the gradebook; due to the size of the course they will not be read. Ask any questions or discuss any concerns about any grades in person.

7.1 Coursework and grades

Coursework will count toward the final grade according to the following percentages:

Midterms:	two midterms	28%	(equally weighted)
Final:	will be comprehensive	28%	
Programming projects	ten expected projects (but this could change)	28%	
Quizzes	in discussion section	9%	(equally weighted)
In-class (discussion or lecture) worksheets	these will typically be group work	7%	(equally weighted)

Quizzes will be given in discussion section and will cover discussion and lecture material. They will be announced in advance in an earlier discussion section.

Projects will be written in Eclipse and can be done on the machine of your choice, usually your own computer. A provided handout describes how to install and set up the necessary software. The Division of Information Technology (DIT) has computing labs on campus for those who need to use them; the locations are at www.it.umd.edu/wheretogo.

A handout with all of the project submission and grading policies will be provided when Project #1 is assigned. In order to be able to pass the course a student **must** submit versions of all projects that satisfy minimum criteria, as the policies will explain. All projects will be graded out of 100 points, but they will be weighted differently. (Because their relative difficulty can't necessarily be known in advance, their weights will be approximated in the gradebook, and finalized near the end of the semester.) Some projects will be much larger and more difficult, and will be assigned with more time to be done in. Some are expected to be much smaller and easier, and will be assigned for just a few days.

Besides the graded coursework, ungraded practice problems will be provided as worksheets done during discussion section, and as homework problems via ELMS. (Solutions to homeworks on ELMS will also be provided there.) 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 need help solving them, ask during the TAs' office hours (or discussion section, if time permits).

Some (but not all) in-class worksheets will be graded; these will be unannounced and may be group exercises.

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 graded exam is returned and solutions are provided. Keep in mind that the exam may be regraded in its entirety, and upon consideration of the explanation it may be determined that the exam deserves fewer points than given in the original grading. Therefore 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.

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

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.

7.2 Exam and project dates

Midterm exams will be held during lecture. Their dates below might vary depending on lecture progress or other factors (for example, weather closures requiring readjustment of the planned schedule). The final exam date below will be rescheduled **only** for students having another final at exactly the same time, or for students with more than three final exams scheduled on the same day. (The only courses that students who are enrolled in CMSC 216 should be able to take that have finals at the same time as its final are BMGT 221 and ENES 221.) 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 please inform the instructor immediately if you have a conflict with a scheduled midterm date.

The planned dates for projects should be considered to be **extremely tentative, and possibly subject to significant revision**. This is due to changes recently made in CMSC 131, which have necessitated adjusting and rearranging the material in CMSC 132. The dates indicate which projects are expected to be more difficult vs. easier.

Project #1:	Mon., Feb 13
Project #2:	Thu., Feb 23
Exam #1:	Fri., Mar 3
Project #3:	Tue., Mar 7
Project #4:	Mon., Mar 13

Project #5:	Thu., Mar 16
Project #6:	Thu., Apr 6
Project #7:	Mon., Apr 10
Project #8:	Tue., Apr 18

Exam #2:	Fri., Apr 21
Project #9:	Mon., May 1
Project #10:	Wed., May 10
Final exam:	Mon., May 15, 4-6

8 Excused absences and accommodations

An excused absence refers to missing class for a University–approved reason, which will not affect a student’s grade. The University’s course–related policies for excused absences and other situations are summarized at:

www.ugst.umd.edu/courserelatedpolicies.html

Most policies there are not repeated here– you should read that page carefully. Only a few points from that page are emphasized here, along with defining specifics for this course.

- The policy specifies that **advance notification** of excused absence must be provided, or for situations where that is not possible the instructor must be notified **as soon as it is practical**.
- Inform the instructor of an excused absence using the **Report an absence** link on ELMS under **Pages → Administrative and resources**. (Note that in almost any case it will still be necessary to discuss the situation with the instructor in person, to provide documentation for the absence and to determine or discuss how the absence will be handled, but first report the absence (in advance unless impossible) via ELMS.)
- Self–documentation of illness can be used only **once during the semester** for an excused absence.
- The major scheduled grading events (this term is defined in the policy on the page linked to above), which self–documentation of illness is not accepted for, are the two midterm exams and the final exam.
- For this course, any documentation provided to support an excused absence (as described in the policy) must be in **hardcopy** (not scanned or emailed).

8.1 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.

- An excused absence for an exam will be handled by giving a makeup exam.
- For an excused absence for a single quiz or a single in–class worksheet, rather than a makeup or extra time to complete it, the score will be computed **at the end of the semester** as the average of the student’s scores for the other quizzes or the other in–class worksheets.
- If a student misses multiple quizzes or multiple in–class worksheets due to excused absence it may be appropriate to give a make–up assignment; in such a case talk to the instructor as soon as possible.

Note that excused absences are **almost never justification for extensions on project assignments**. Projects 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 serious** illness, or severe emergency situations, **short** extensions on projects may be considered, depending upon the circumstances. Contact the instructor as soon as possible in such a situation, after reporting the absence via ELMS.

8.2 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 near the beginning of the semester. (Discuss in person in office hours, not after class.) All arrangements for exam accommodations as a result of disability **must** be made **at least three business days prior to the exam date** for accommodations to be received.

9 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.

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 project. These are things that convey no information about how to solve a project.
- When it comes to actually designing, writing, or debugging a project, 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 the coursework is the student's 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 TAs in office hours, rather than soliciting help from anyone else in violation of these requirements.

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, and to read the Code of Academic Integrity for yourself, using the links on the course's ELMS page. You may read the Office of Information Technology's policy regarding acceptable use of computer resources at

<http://it.umd.edu/security/Nethics/Policy/aup.html>.

10 Copyright for materials

Most course materials are copyright Larry Herman (and other CMSC faculty and instructors) © 2017. All rights reserved for these materials. Students are permitted to use course materials for their own personal use only. Course materials may not be distributed publicly or privately to others (excepting other students in the course), in any way or format. The University provides that students who distribute copyrighted material in ways they have not been given permission to for example, uploading materials that are copyrighted by the instructors to online websites) are subject to being forwarded to the Office of Student Conduct.