

Syllabus and Class Information

Com S 227

Spring 2020

This is not an introductory programming course! If you don't have prior coding experience, consider taking Com S 127 instead. See the [course content](#) section for details.

Note: Remember to refresh your browser to see updates to this document. Rooms, office hours, and other details are subject to change!

Recording or photographing lectures is not allowed unless you have obtained explicit permission, in advance, from the instructor. Please turn off and put away your phone during class.

Quick Links: [Content](#) [TA List](#) [Office Hours](#) [Piazza](#) [Software](#) [Textbook](#) [Exams](#) [Grades](#) [Homework](#) [Attendance](#) [Lab Policies](#) [Academic Dishonesty](#).

Meeting times

Lectures:

Section A: MWF 3:10 - 4:00 in Carver 0101
Section B: MWF 1:10 - 2:00 in Carver 0101
Section C: MWF 11:00 - 11:50 in Molecular Biology 1414
Section D: MWF 10:00 - 10:50 in Gilman 1352
Section E: MWF 11:00 - 11:50 in Marston 2200

Labs:

Labs will start the second week of classes.

Everyone should be registered for one of the numbered lab sections (1 through 15) in addition to one of the lecture sections (A, B, C, D, or E). The lab meets for a two-hour period once per week.

Lab locations

Labs 3 and 15 meet in Pearson 0158; all other labs meet in Pearson 105/109. *Check your schedule.*

Instructors

Don Stull (Lecture section C, MWF 11:00)
Office: Communications 1200F
ISU email: dstull
Phone:

Office Hours: to follow

Jeremy Sheaffer (Lecture sections A and D, MWF 3:10 and 10:00)

<https://www.cs.iastate.edu/people/jeremy-sheaffer>

Office: Communications 1200E

ISU email: sheaffer

Phone: 294-7329

Office Hours: to follow

Guang Song (Lecture section B, MWF 1:10)

<http://www.cs.iastate.edu/people/guang-song>

Office: Atanasoff 107

ISU email: gsong

Phone: 294-1696

Office Hours: to follow

Sayantani (June) Ghosh (Lecture section E, MWF 11:00)

ISU email: ghosh

Office Hours: to follow

Teaching Assistants

(Complete list of teaching assistants will be available after the first week of classes.)

TA office hours are held in Pearson 0113. Labs are either in Pearson 105/109 or Pearson 158; check your schedule.

General Contact Instructions

If you have a general question about the course, about an assignment, or about Java, the best place to start is on Piazza, where your question (if it is not answered already) can be seen by the instructor, the TAs, and the rest of the class. However, *please do not post personal information, or source code for an assignment, on Piazza.*

If you need to send an email to the instructors or the TAs, please begin the subject line with "CS 227".

Office Hours Summary

(Staff office hours will begin the second week of classes)

You are welcome to see any of the TAs or instructors if you have questions. For late lab checkpoints please see one of the TAs. We can also be reached by appointment if you can't make the regular office hours and need to speak to a specific staff member.

Office hour locations:

All TA office hours are held in Pearson 0113. (*Afternoon office hours normally begin at 10 minutes past the hour.*)

* **Guang's** office hours are in Atanasoff 107.

* **Don's** office hours are in Communications 1200F.

* **Jeremy's** office hours are in Communications 1200E.

* **June's** office hours location will follow.

The Help Room in Communications 1200

In addition to the office hours for the 227 staff listed above, the CS department will be running a help room staffed by students. It is located in Communications 1200.

Most of the help room tutors should be able to help you with general questions about Java programming, though they will not be directly familiar with the assignments for 227. **Please note that the help room tutors cannot review late lab checkpoints or view your scores on Canvas.**

Prerequisites and course content

Prerequisites

- Placement into Math 143 or Calculus. You'll be expected to understand variables and functions and to do basic algebra.
- SE 185, Com S 127, a previous high school programming course, or other programming experience. (That is, although this course is an introduction to *object-oriented programming and design*, it is not the course to take as an introduction to *programming*).

Outcomes

At the end of Com S 227 the students should be able to:

- Write, debug, and document well-structured Java applications of up to 500 lines
- Implement Java classes from specifications
- Effectively create and use objects from predefined class libraries
- Understand the behavior of primitive data types, object references, and arrays
- Use decision and iteration control structures to implement algorithms
- Write simple recursive algorithms
- Use interfaces, inheritance, and polymorphism as programming techniques
- Use exceptions

Major topics covered

- Managing files; using an integrated development environment
- Objects, classes, methods, fields, and constructors
- Primitive types and references
- Arithmetic expressions, String operations
- Overview of the software engineering process
- Unit testing with the JUnit framework
- Conditional statements and Boolean expressions
- Iteration
- Basic console and text file I/O
- One-and two-dimensional arrays
- Using a symbolic debugger
- Designing with interfaces
- Inheritance, polymorphism, abstract classes
- Exceptions and exception handling
- Recursion
- Searching and sorting

If you want a more detailed look ahead, check out the [archive from last semester](#). Please note that the content may change slightly from semester to semester.

Attendance

Attendance in labs is required. Attendance in lectures is expected, but will not generally be checked unless there is an in-class quiz. (See the "Grades" section of the document to understand the impact of

these things on your grade.)

The Equal Opportunity Attendance Policy

If you miss lab or you miss an in-class activity *for any reason*, it's a zero. You can oversleep, go to the beach, perform in the symphony, get the flu, attend a funeral, or fly to Afghanistan with the ISU Beef Team; we promise not discriminate. Therefore **you do not ever need to provide excuses** when you miss class or lab. We see your lips move, but we cannot hear you.

- Ok, for a serious, extended illness or other unusual circumstances, exceptions may be made; please DO discuss the situation with your instructor.

We will drop the two lowest lab scores (*excluding the last lab*) and the two lowest quiz scores, so you can get sick for a couple of days or go home for an emergency without any negative impact on your grade. *Choose wisely.*

If you miss the lecture, it is your responsibility to find out what was covered and study it on your own. Please do **not** ask the professor what happened in class, just consult the "topics" pages. These pages summarize the topics covered, give relevant sections of the text, and include links to all code examples discussed in class. For links, see "Notes and sample code" in the pinned messages at the top of the Piazza Q & A.

Piazza and Canvas

We will be using a forum called [Piazza](#) for announcements and discussions in this course. **All students are expected to check Piazza every day for announcements about the course, homework, or exams.** For access to Piazza, just log into Canvas, go to the Com S 227 page, and click on "Piazza" in the navigation menu at left. You'll be asked to choose a password that you can then use to log in to Piazza outside of Canvas. If you have previously created a Piazza account using your ISU email address, you should be able to use that same account.

Turning off email notifications

By default, Piazza sends out periodic emails. It is easy to turn these off. After you sign up for Piazza,

1. Find your name in the upper-right corner of the Piazza screen
2. Click the drop-down menu and select "Account/email settings"
3. Under "Class and email settings", find Com S 227
4. Click on the link "Edit email notifications" in the small, blue font
5. Edit as you see fit, e.g. "No Email"

Note that even if you select "No Email", you will still get course announcements that we believe to be either urgent or important. We will keep this to a minimum.

The Piazza Q & A

The most useful aspect of Piazza will be the question-and-answer discussion forum. This is the first place to look when you have questions about a homework assignment, about the course or about Java in general. As you familiarize yourself with Piazza, you'll find that you can easily search the posts using any word or phrase, but you can also search using special tags called *folders*. For example, any posts that concern Exam 1 should be tagged with exam1 to make it easy to find them. Whenever you post a question on Piazza, you'll be prompted to select one of the pre-defined folders for it. For example, here are the folders that we'll be using this semester:

general
java

General questions about the course
Questions about Java or Eclipse

miniassignment1, miniassignment2, etc.	Questions about the miniassignments
assignment1, assignment2, etc.	Questions about the assignments
exam1, exam2, final	Questions about the exams
other	Anything else...

Canvas

We will use *Canvas* for submitting homework and recording grades. **All assignments and miniassignments must be submitted electronically via Canvas.** We will review the procedure for doing this during the first couple of labs.

You can log into Canvas with your ISU NetID and password at

<https://canvas.iastate.edu>.

Textbook

Cay Horstmann, *Java Concepts (Early Objects)*, 7th/8th edition **OR**

Cay Horstmann, *Big Java*, 6th edition

Using previous editions of the text

The 4th and 5th editions of *Big Java* are essentially the same as the 6th, and the 5th and 6th edition of *Java Concepts* are essentially the same as the 7th and 8th (which are identical as far as I can tell).

You can use one of these older books if you want. You'll just have to adjust the section references occasionally since some of the topics are covered in a slightly different order.

Check the [section number mapping](#) document for cross-references from the new editions to the older editions. *Note: the editions subtitled "Late Objects" cannot be used in this course and may cause permanent brain damage.*

Big Java vs. *Java Concepts*

The two books are essentially identical for the first 15 chapters (which include everything we cover in this course). *Big Java* includes 9 more chapters covering a lot of extra stuff that could be interesting to read. It overlaps somewhat with the material covered in 228 (but we use a different book for 228). *Big Java* is fat. *Java Concepts* is thin. There you have it.

Chapters 13-15 for *Java Concepts*

are online, and can be found here: http://www.cs.iastate.edu/~cs227/java_concepts/

Software

We will be using the Java programming language for this course, specifically version 8. In addition we recommend using a *development environment* called Eclipse for editing and debugging Java code. The Windows labs in the basement of Pearson (rooms 108 or 105/109, and 158) include 80 or so computers with Java and Eclipse installed.

If you wish, you can also install the software, which is all free, on your own computer. See [these instructions](#) for more details.

Exams

This course has night exams

Exam 1: Monday, February 24, 6:45 - 8:00 pm. Locations TBA

Exam 2: Monday, April 6, 6:45 - 8:00 pm. Locations TBA

Final Exam: Date, time, and locations TBA

Note: The final exam is a "combined" exam that will be scheduled by the Registrar and is NOT based on the first contact hour.

***** You must bring your university ID to all exams. *****

If you cannot attend an exam, you must notify your instructor at least **one week prior** to the exam to make other arrangements. The instructors will normally adhere to ISU policies regarding exam conflicts.

Exams will be returned to you in labs. If you feel that an error was made in the grading of an exam, please return it to your instructor with a brief statement *in writing* indicating where you think the error was made. Such appeals must be made *within one week* of the date on which the exams are returned in lab. (Note that a regrade may result in a lower score.)

The final exam will **not** be returned to you, but you may come to the instructor's office hours during the following semester to review it.

Grades

Letter grades will be based on an overall weighted average of the three exams, the homework, the labs, and in-class exercises (e.g. "group quizzes") with the following weighting.

Exam 1: 18%

Exam 2: 18%

Final Exam: 21%

Homework Assignments: 30%

In-class exercises or quizzes: 5%

Labs: 8%

Specifically, you can calculate your overall score as follows:

```
exam1 = 100 * (your Exam 1 score) / (Exam 1 total points)
exam2 = 100 * (your Exam 2 score) / (Exam 2 total points)
final = 100 * (your final exam score) / (final exam total points)
homework = 100 * (sum of your homework scores) / (total points for all homework)
quizzes = 100 * (sum of your quiz points) / (total quiz points)
labs = 100 * (sum of your lab points) / (total lab points)

overall = exam1 * .18 + exam2 * .18 + final * .21 + homework * .30 + quizzes * .05 + labs * .08
```

The total points for all homework is usually about 900. The two lowest lab scores and two lowest quiz scores are normally dropped.

Letter grades are not assigned until the end of the course. We can promise that your grade, determined by the overall weighted average described above, will be *at least* the grade given by a standard 10-point scale, that is,

90 and above A-

80 and above B-

- 70 and above C-
- 60 and above D-

In practice the scale above may be "curved" *very* slightly. An *approximate* guideline is that the overall median score for students completing the course will be at least a B-.

Homework Assignments

Important note regarding dead week: The last programming assignment will normally be due on the last day of classes and *may not be submitted late*.

See [this document](#) for detailed homework submission instructions.

Programming assignments will be posted on Piazza, and also on Canvas in the Assignments section.

Assignments and Miniassignments

There are two kinds of homework, *assignments* and *miniassignments*. Miniassignments are generally short exercises focused on one technique. The regular assignments are longer and often involve several interacting components.

The miniassignments are graded by an automated script that downloads your submission and runs some functional tests, and therefore your code must be submitted *exactly* as specified. **If your code is incorrectly submitted or cannot be run by the grading script, you will receive at most half-credit for a miniassignment.** For miniassignments we will provide you with the exact same test code that will be used to grade it, and you can run it as many times as you wish until you are satisfied with the results. In the first lab, we will give you some practice submitting a miniassignment so that the process will be familiar to you.

For the regular assignments we will read and evaluate your code in addition to running functional tests, so it is possible to assign partial credit even if there are errors.

The clarification thread

The homework specifications may also include design issues that require further clarification, and it is part of your job to identify such issues and resolve them (well in advance of the deadline). You are strongly encouraged to post questions about the homework specifications on Piazza for discussion. Clarifications that are believed to be relevant to all students will be posted on Piazza as an instructor note labeled as an "official clarification". **All official clarifications that are posted more than 24 hours before the assignment deadline are considered part of the homework specification** and you may lose points if you ignore them.

Documentation and style

Documentation and style will count for 10 to 15 percent of each assignment. Additional details will be provided with the assignment spec.

Early/Late policy

Unless otherwise specified, homework may be turned in up to 24 hours late with a 10% penalty, and after that it's a zero. *Exception:* the last assignment of the semester is normally due on the last day of classes and may NOT be turned in late.

In addition, there is a 5% *bonus* for turning in an assignment 24 hours *early*.

Submissions and feedback

All homework scores will be posted for you on Canvas. For the assignments, additional feedback is provided in the form of attached text files indicating where points were taken off and showing the results of whatever functional tests we performed. To see the attached file or files, go to your "Grades" page on Canvas and open the comments.

If you have questions about the grading or if you feel an error has been made in grading your assignment, first contact the TA that graded it, either during office hours or by email. In particular, requests for regrades must be made within one week of the date when the results were made available on Canvas. If you are not satisfied with the response from the TA, please contact your instructor promptly. If necessary, your homework will be regraded. Note that a regrade may result in a lower score.

Correct submission of homework is your responsibility. Remember that when submitting an assignment or miniassignment via Canvas, you can immediately check whether the submission was successful, and you can always download your submission and verify that it is what you intended.

[Click here for detailed submission instructions.](#)

Please note that it normally takes about three weeks for the staff to grade all the submissions for each assignment!

Labs

The lab period is the numbered section that normally meets 2 hours per week in one of the computer labs in the basement of Pearson. It is an opportunity to try things out while there are other people and TAs around to help you.

- Each lab is like a self-paced tutorial with things for you to do. There are occasional "checkpoints" which are tasks you have to show or explain to the TA. This is how we grade you in lab.
- We encourage you to collaborate and talk about things with the TA and the people around you, as long as you eventually complete the checkpoints yourself. However, if you are finishing the checkpoints outside of the lab period, collaboration is NOT allowed (of course, you can meet with any of the TAs during office hours for help).
- At the beginning of each lab period, you can find the lab writeup through the links on Piazza and start reading it. The TA will normally go over the new lab and help everyone get started as necessary.

Grading of lab work

- **Attendance and participation in labs is required.** "Attendance" means that you come at the beginning of your scheduled lab period and work on the lab material until either you finish the checkpoints or the period ends.
- Lab scores count for roughly 10% of your final grade (so an individual lab counts for only about 1%).
- **If you do not attend your scheduled lab period for any reason, you get a zero for that lab.**
- There are normally ten labs altogether, and we will drop your lowest two scores (*excluding the last lab*). This will allow you to get the flu, oversleep, or attend a funeral a couple of times without any negative impact on your grade.
 - If you have an extended illness or other unusual circumstances, please discuss the situation with your professor.
- If you aren't able to finish the checkpoints within the lab period, you have *6 days* (counting weekends and holidays) to finish it on your own. You can meet with any TA during office hours to have your checkpoints recorded or get additional help. **Late checkpoints will not be recorded more than 6 days after your lab period.** The deadline is the last TA office hour on that 6th day. Checkpoints will normally NOT be reviewed by email.
- **Late checkpoints will not be recorded if you did not attend the lab in the first place.**

Working ahead on labs

The lab writeup is normally posted at the beginning of the week, and you are welcome to start working on it early. If you finish the checkpoints before your lab period, **you still need to come to lab on time to get credit for it** (but you can leave as soon as the TA is able to check off your work).

Academic Dishonesty Policy

The class will follow Iowa State University's policy on academic dishonesty. Faculty are required to report apparent or suspected incidents of academic dishonesty to the Dean of Students Office. See <http://www.dso.iastate.edu/ja/academic/misconduct.html>.

What is academic dishonesty?

Unless specifically instructed otherwise, every assignment for this course is to be the product of your own intellectual effort and is to be done on your own.

If you turn in work that was based on or copied from someone else's work, you have committed plagiarism, which is one form of academic dishonesty. **However, you are also responsible for academic dishonesty if you allow someone else to copy your work or otherwise provide information.**

Anyone found responsible in an academic dishonesty case will receive an automatic F in this course.

How to avoid academic dishonesty

There is a simple guideline for this course that covers most cases:

Don't look at anyone else's code.

Don't let anyone look at your code.

Don't talk about the code at a level of detail that might lead to the same solution.

Here are some more specific examples of things you **may not do** when working on an assignment:

- Look at another student's source code. (*)
- Allow another student to look at your source code. (*)
- Type in a solution with another student and each turn in a copy.
- Write a program on paper with another student and type it up separately.
- Divide the work so that you and another student each write part of a program (for example, 3 methods each), then combine them, and each turn in a copy.
- Discuss the code in detail with another student but type it in separately.
- Get code from an outside source (such as a web site) and turn it in.
- Get code from an outside source (such as a web site), modify it, and then turn it in.
- Make available all or part of your code for someone else to see, whether by paper, email, ftp, Piazza discussion, shared network folder, storing on a public machine, letting someone else look at your screen, reading code out loud while someone takes notes, posting in an online forum, etc.
- Give another student your password.

(*) Exception: code may be shared after it can no longer be turned in for credit. For programming assignments, this means after the "late deadline" (normally 24 hours after the deadline, not counting weekends and holidays).

Things you **may do** when working with another student:

- Talk about, and write down ideas about, how to do an assignment, as long as you **do not** write actual code or "pseudocode" or specific steps of program logic.
 - *In short, you can talk freely about what the program is supposed to do, but not about how to make it work.*
- Share test code or test data files that will not be turned in.
- Share and discuss code that was presented as an example in class or the text.
- Share and discuss code for programming assignments after the "late deadline" for the assignment has passed (normally 24 hours after the deadline, not counting weekends and holidays).

A W-W-W-Warning

Just as a word to the wise, note that random examples you find on the web are likely to mislead you more than help you, since those who post them have no idea of the ideas and techniques being covered in our particular class. You will be much better off reviewing examples from class and posting your questions on the Piazza discussions, where the instructor, TAs, and other students going through the same experience can help you.

Disability Accommodation

Iowa State University complies with the Americans with Disabilities Act and Sect 504 of the Rehabilitation Act. If you have a disability and anticipate needing accommodations in this course, please contact (instructor name) to set up a meeting within the first two weeks of the semester or as soon as you become aware of your need. Before meeting with (instructor name), you will need to obtain a SAAR form with recommendations for accommodations from the [Disability Resources Office](#), located in Room 1076 on the main floor of the Student Services Building. Their telephone number is 515-294-7220 or email disabilityresources@iastate.edu. Retroactive requests for accommodations will not be honored.

Dead Week

This class follows the Iowa State University Dead Week policy as noted in section 10.6.4 of the [Faculty Handbook](#). **There will be an assignment due during dead week.**

Harassment and Discrimination

Iowa State University strives to maintain our campus as a place of work and study for faculty, staff, and students that is free of all forms of prohibited discrimination and harassment based upon race, ethnicity, sex (including sexual assault), pregnancy, color, religion, national origin, physical or mental disability, age, marital status, sexual orientation, gender identity, genetic information, or status as a U.S. veteran. Any student who has concerns about such behavior should contact his/her instructor, Student Assistance at 515-294-1020 or email dso-sas@iastate.edu, or the Office of Equal Opportunity and Compliance at 515-294-7612.

Religious Accommodation

If an academic or work requirement conflicts with your religious practices and/or observances, you may request reasonable accommodations. Your request must be in writing, and your instructor or supervisor will review the request. You or your instructor may also seek assistance from the Dean of Students Office or the Office of Equal Opportunity and Compliance.

Emergency Awareness

- Call 911 in an emergency. Report suspicious activity or objects to ISU Police at 515-294-4428.

- During a campus emergency, go to www.iastate.edu for additional information.
- Classroom management emergencies
 - Call ISU Police for immediate health/safety classroom concerns at 515-294-4428.
 - For other concerns regarding classroom management, contact the instructor and/or chair of the academic department for guidance.
- Know the following information posted in your building [Emergency Map](#)
 - Locate the evacuation routes
 - Locate the severe weather shelter areas
- Keep your contact information up-to-date in the ISU Alert
- Additional emergency information is available at www.ehs.iastate.edu/prep/students.
- ISU PD Facebook (www.facebook.com/ISUPD) and Twitter (www.twitter.com/ISUPD)
- To be better prepared during an act of violence on campus and understand the principles of A-D (Avoid Deny Defend), please attend [Violent Incident Response Training](#) (VIRT).

Contact Information

If you are experiencing, or have experienced, a problem with any of the above issues, email academicissues@iastate.edu.