**CS& 141: Computer Science I   
(Java)**

Table of Contents

[Course Details 1](#_Toc524333999)

[**Prerequisites** 1](#_Toc524334000)

[**Course Outcomes** 2](#_Toc524334001)

[Text 2](#_Toc524334002)

[Software 3](#_Toc524334003)

[Grading Policy 3](#_Toc524334004)

[Academic Integrity 4](#_Toc524334005)

[**Long Homeworks are individual** 4](#_Toc524334006)

[**How to be Successful** 5](#_Toc524334007)

[**Getting Unstuck** 5](#_Toc524334008)

[**Letter of Recommendation Requests** 6](#_Toc524334009)

[Additional Information 7](#_Toc524334010)

[**Students with Disabilities** 7](#_Toc524334011)

[**Tutoring Services** 7](#_Toc524334012)

[**Counseling Center** 7](#_Toc524334013)

# **Course Details**

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| --- | --- |
| **Instructor** | Crystal Hess - [chess@shoreline.edu](mailto:chess@shoreline.edu)  I prefer messages to be sent through Canvas.  Messages are checked daily and typical response time is within 24 hours, this excludes weekends and holidays. |
| **Office Hours** | Mon 2:30-4pm, Tue 8:30-9:30am,  Wed 11:30-1pm, Thu 3-4pm, or by appt.  Science Building, Office 2813 |
| **Class Hours** | T/TH 12:30pm – 2:50pm  Computer Lab 1308 |

**CS& 141 - Computer Science I (5 credits)**

This course will explore common computational problem-solving techniques useful to computer scientists, but also to anyone who has large data sets, repetitive processes or other needs for computation. Topics include: fundamental programming-in-the-small abilities and concepts, including procedural programming (methods, parameters, return, values), basic control structures (sequence, if/else, for loop, while loop), file processing, arrays, and an introduction to defining objects.

Due to the amount of material and quick pace for consumption, prior programming experience is expected.

## **Prerequisites**

ENGL& 101 (may be taken concurrently) and MATH& 141 or MATH 111 with grades of 2.0 or better. CS 121 or ENGR 202 with a grade of 2.0 or better.

## **Course Outcomes**

1. Develop solutions to small-scale problems, such as determining the best candidate for an admissions process, analyzing text for keywords, or playing a game of word guess.
2. Design and implement solutions to partially ambiguous problems, such as analyzing a set of data for patterns and information or building upon an existing code base.
3. Identify and use programming language constructs and coding patterns, such as iteration, methods, classes, arrays, fencepost problems, and token-based processing.
4. Break down problems into logical pieces using repetition, methods, and classes.
5. Test and debug solutions until they meet specifications.
6. Examine and compare reasoning, design, and effectiveness of alternative solutions.

# **Text**

* Building Java Programs: A Back to Basics Approach, 4th Edition   
  by Stuart Reges and Marty Stepp (same book is used for CS143)
  + Available through the Bookstore or on Amazon: [Student Value Edition](http://a.co/hPqGU0I), [Regular Edition](http://a.co/8znVJ4k)
* Approximate Chapter Coverage:

|  |  |
| --- | --- |
| Week 1 | Chapter 1: Introduction to Java Chapter 2: Primitive Data and Definite Loops |
| Week 2 | Chapter 3: Parameters and Objects |
| Week 3 | Chapter 4: Conditional Execution |
| Week 4 | Chapter 5: Program Logic and Indefinite Loops |
| Week 5 | (Midterm) |
| Week 6 | Chapter 6: File Processing |
| Week 7 | Chapter 7: Arrays |
| Week 8 | Chapter 8: Classes |
| Week 9 | Chapter 9: Inheritance and Interfaces |
| Week 10 | Chapter 10: ArrayLists |
| Week 11 | (Final) |

# **Software**

* [*Java Development Kit (JDK)*](http://www.oracle.com/technetwork/java/javase/downloads/index.html) *(freely available online)*
* [*JGrasp IDE*](http://www.jgrasp.org/) *(freely available online)*

# **Grading Policy**

|  |  |
| --- | --- |
| **Activity** | **Percentage** |
| Learning Practice | 30 |
| Individual Homework (~8) | 20 |
| Midterm (1) | 20 |
| Final (1) | 30 |

Decimal grading will be used in accordance with the following table.

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# **Academic Integrity**

Academic honesty and integrity is expected. Shoreline Community College has a strict policy on cheating and plagiarism. You are cheating if you copy, steal, borrow, consult, or use any means to obtain answers from classmates or unauthorized sources for any assignment inside or outside class. Any student found guilty of cheating and/or plagiarism will receive a zero for the assignment. If it happens a second time, you may fail the course.

## **Long Homeworks are individual**

All code you submit must be your own work. You may discuss general ideas of how to approach an assignment, but never specific details about the code to write. Any help you receive from or provide to classmates should be limited and should never involve details of how to code a solution. It should also not be in front of a computer.

* You **may not** work as a partner with another student on an assignment.
* You **may not** show another student your solution to an assignment for any reason.
* You **may not** look at another's solution for any reason.
* You **may not** have another person "walk you through" an assignment, describe in detail how to solve it, or sit with you as you write it. You also may not provide such help to another student. This includes tutor and current or former students.
* You **may not** post your homework solution code online to ask others for help. This includes public message boards, forums, file sharing sites and services, or any other online system.

Please note that **both parties involved in a cheating case are equally guilty**. That is, helping someone else cheat is just as bad as reading someone else’s solution. There are many resources for students who are struggling, and the right thing to do in this situation is to point them to these resources.

## **How to be Successful**

* **Come to class**: Participating in class lectures and practice problems will give you structured time to absorb new concepts, practice them, and ask questions to the Instructor and your peers.
* **Ask for help early**: In programming, everything stacks, meaning what you learn today, you WILL use tomorrow. Therefore, if you start to fall behind, it is imperative that you ask for help as soon as possible.
* **Practice**: It is not enough in programming to just read about or listen to lectures about concepts. It is important to solve problems both in-class and on your own. You should work through practice problems (like on PracticeIt) until you are able to solve them without the aid of another person.
* **Utilize the textbook, slides, and videos provided**: While lecture will cover most of the concepts, the textbook, slides, and videos provided will provide more detail and reference outside of class.

## **Getting Unstuck**

Getting stuck is part of the programming process. However, one of the most useful skills you may learn from this course is "how to get unstuck."

Here are some suggestions:

* **Make systematic changes.** Look carefully at the work you have just done. Try changing one thing and see what effect it has.
* **Talk to a rubber duck.** No really, this is actually [a thing](https://en.wikipedia.org/wiki/Rubber_duck_debugging). Sometimes if you take a moment to tell someone (even someone non-techie) what you're trying to do, you'll end up having an Ah-Ha moment of clarity!
* **Ask a classmate.** Try to share ideas about how to figure out the problem rather than telling your classmate the answer. You'll learn as much by helping others find their mistakes as you will by finding your own.
* **Take a break.** Sometimes you just need to take a break! Looking at code with a fresh set of eyes solves problems quicker than beating your head against the computer :)
* **Ask the Instructor.** I'm here to help you. It's literally my job.

## **Letter of Recommendation Requests**

Letters of recommendation are often needed for applications to transfer universities, jobs, and internships. Instructors take pride in the letters that they write for students and can only craft strong letters for students whom them know well. Part of your job as a college student is to become the kind of student that a professor can speak highly of in a letter of recommendation — hardworking, capable, and intellectually inquisitive.

Before requesting a letter of recommendation, ask yourself:

* Have I discussed my academic or career goals with this instructor?
* Have I demonstrated an excellent work ethic or produced quality work in this course?
* Have I shown or communicated a passion for the subject or concepts that were taught?
* Will this instructor be able to incorporate personal and specific details about my academic growth or trajectory?

It is not necessary that the person writing your recommendation be able to speak to every bullet point above, but they should be able to speak to at least one of them.

Remember that requests may be declined for a variety of reasons, including, but not limited to: insufficient time to write the letter, not knowing the student well enough to provide specific character observations, or too much time has elapsed since working with the student.

**Requests for recommendations should come well in advance of the deadline for submission (i.e., at least 14 days in advance of the deadline, but the more notice the better).**

# **Additional Information**

## **Students with Disabilities**

Shoreline Community College is committed to providing educational programs without regard to disabling conditions as defined by Section 504 of the Rehabilitation Act of 1973. Reasonable accommodations will be made and no otherwise qualified individual with disabling conditions shall, on the basis of disability, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program, activity or service administered by the college.

For more information: <http://www.shoreline.edu/oss/students-with-disabilities/>

## **Tutoring Services**

Tutoring Services provides students with free one-on-one tutoring support for any Shoreline Community College classes. They also host drop-in learning centers, such as the Biology/Chemistry Learning Center, Business Technology & eLearning Center, Physics Learning Center, Conversation Groups, and more (schedules and availability vary). For more information and to apply for tutorial assistance or to apply to become a tutor, please visit our office in 4228 (Library), email [pttutors@shoreline.edu](mailto:pttutors@shoreline.edu), call 206-546-4776, or check out the webpage: [www.shoreline.edu/tutoring](http://www.shoreline.edu/tutoring).

The college also provides students with free online tutoring in a variety of courses through [the Western eTutoring Consortium](http://www.shoreline.edu/twls/etutoring.aspx)

## **Counseling Center**

The Counseling Center provides free, confidential and professional counseling services, resources, and referral to support the academic and personal success, health, and well-being of our students and campus community.

Students often visit the Counseling Center to discuss a wide variety of topics: depression, anxiety, relationship concerns, and stress management; indecision about major or career path; and academic concerns such as failing grades, struggling with a subject, or managing a learning disability. The Center also supports students who may be feeling suicidal or in crisis.

* FOSS - 5245 | 206-546-4594
* [www.shoreline.edu/counseling-center](http://www.shoreline.edu/counseling-center)

Need support when they are not available? For 24/7 emergency counseling, referral, or assistance please contact:

* King County: 24-Hour Crisis Line | 866-427-4747
* Snohomish County: 24-Hour Crisis Line | 800-584-3578
* Live Chat: [crisischat.org](http://crisischat.org/)
* Crisis Text Line: Text 741741
* 911 (for immediate health-related emergency)