

SDEV 301, Fall 2020

Systems Programming

Green River College

Course Information

Course: SDEV 301 Fall 2020 Item #5597

Quarter Credit hours: 5

Prerequisites: Admission into a bachelor's degree program.

Time of Course: Tuesday and Thursday 9:00 – 10:50 am via Zoom

Location of Course: Zoom

Instructor Information

Instructor: Susan Uland

Office: AC 360A

Office Hours: Monday and Friday 9:00 – 10:30 am, Tuesday and Thursday 11 – 12 pm via Zoom

Email: suland@greenriver.edu

Phone: (253) 887 - 5912

Best Contact Method: Canvas Email

Response Time: Expect response within 24 hours on weekdays (Note: may be unreachable on weekends)

Assigned Texts and Course Materials

- Have access to a working computer that runs Java 11 or higher
- IntelliJ Ultimate IDE
- Dive into Systems – A Gentle Introduction to Computer Systems, Computer Organization and Parallel Computing, (**free online**)
- Introduction to Computer Systems and Assembly Programming, by zyBooks (**provided with course fees**)
- Big Java: Early Objects, by Cay S Horstmann. Format: epub
VBID: 9781119499091
(**provided with course fees**)
- **Optional** Core Java I and II, Cay Horstmann available electronically and in paper ISBN: 978-0-13-516630-7 and 978-0-13-516631-4
- **Other Resources** on Canvas at <https://egator.greenriver.edu>

Course Description

Introduces students to computer systems from the perspective of a programmer. Topics include data and program representation, the memory hierarchy, processes and threads, network programming, and runtime analysis.

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Modality Statement

This course is a virtual/hybrid course which meets Tuesdays and Thursdays from 9:00 – 10:50 am via Zoom Conferencing Technology.

Learning Outcomes

https://catalog.greenriver.edu/preview_course_nopop.php?catoid=4&coid=9981

Course Policies

Due Dates: All assignments are due before Midnight on Sunday, unless otherwise specified.

Late Policy:

- Students are expected to turn in all assignments by the due date and time.
- Assignments not submitted on-time may receive zero points.
- Alternate arrangements *may* be approved for flexible due dates in special circumstances when the instructor is contacted **prior** to the due date. *No day-of extensions will be given.*
- Assignments will not be accepted beyond one week past an assignment's due date unless the instructor is contacted prior to the due date for the special circumstances that warrant the assignment's extension.

Classroom environment: You are expected to contribute to a healthy and safe classroom environment.

The following elements are policies, procedures and resources utilized by every Green River college course:
<https://www.greenriver.edu/syllabus-info/>

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Academic Honesty

Academic dishonesty includes, but is not limited to, cheating, plagiarism, and fabrication.

Cheating includes any attempt to give or obtain unauthorized assistance relating to the completion of an academic assignment.

Plagiarism includes taking and using as one's own, without proper attribution, the ideas, writings, or work of another person in completing an academic assignment.

Falsifying data, information, or citations in completing an academic assignment.

If I suspect you of academic dishonesty, I will communicate with you one-on-one and you will have a chance to explain. If you are found guilty of academic dishonesty, you will receive a zero for that assignment and you may be referred to Green River College Judicial Affairs.

How to Be Successful

- **Come to office hours/study sessions:** Participating in office hours and practicing problems will give you structured time to absorb new concepts, practice them, and ask questions to the Instructor and your peers.
- **Practice:** It is not enough in programming to just read about or listen to talks about concepts. It is important to solve problems both in-class and on your own. You should work through practice problems until you are able to solve them without the aid of another person.
- **Utilize the textbook resources, slides, and videos provided:** The textbook resources, slides, and videos provided will provide more detail and reference outside of class.

Getting Help

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 someone or something (rubber duck, this is actually [a thing](#))** Sometimes if you take a moment to tell someone (even an inanimate object) 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.
- **Ask the Instructor.** I'm here to help you. It's literally my job and the part I enjoy the most!

This document is available in alternative formats to individuals with disabilities by contacting Disability Support Services at 253- 833-9111, ext. 2631; TTY 253-288-3359; or by [email](#). Green River College is an equal opportunity educator and employer. Learn more about accessibility on our [website](http://www.greenriver.edu/accessibility) (<http://www.greenriver.edu/accessibility>).

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Assessment and Grading

Due to the special circumstances surrounding the pandemic, you are allowed to withdraw from SDEV 301 through December 4th

Your grade will be calculated according to the percentages below. Your grade will ***always*** be rounded up to the nearest tenths place. For example, 3.27 would become 3.3. and 3.21 would become 3.3.

Category		Percentage
1	Individual Assignments	25%
2	Zybook Assignments *lowest grade dropped	15%
3	Quizzes *lowest grade dropped	5%
4	Learning Practice (Pair Programs, Discussions) *lowest grade dropped	15%
5	Midterm	20%
6	Final	20%

Grading Scale

Percent	Grade		Percent	Grade		Percent	Grade
95-100	4.0		84	2.9		73	1.8
94	3.9		83	2.8		72	1.7
93	3.8		82	2.7		71	1.6
92	3.7		81	2.6		70	1.5
91	3.6		80	2.5		69	1.4
90	3.5		79	2.4		68	1.3
89	3.4		78	2.3		67	1.2
88	3.3		77	2.2		66	1.1
87	3.2		76	2.1		65	1.0
86	3.1		75	2.0		0-64	0.0
85	3.0		74	1.9			

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Tentative Schedule

Note: This schedule is subject to change to leave room for adjustment that best supports student learning.

Week		Topics	Readings/Major Assignments
1	Sept 21	Java Review/ JUnit Intro	Big Java: Chapter 12 Object Oriented Design
2	Sept 28	Binary Data and Representation Java Bitwise Operators	Zybooks Chapter 1 Information as Bits PDF From Core Java Vol 1: 3.5.8 and 9.7.5 Dive Into Systems: Chapter 4 Individual Java Review Assignment #1
3	Oct 5	Binary Data and Representation Java Bitwise Operators Java Lambda Expressions	Dive Into Systems Chapter 4 Binary and Data Representation Big Java: Chapter 19 Stream Processing Individual Magic Squares Assignment #2
4	Oct 12	Java Streams Processing Von Neumann Computer Architecture	Big Java: Chapter 19 Stream Processing Dive into Systems Chapter 5 Individual Card Game Part 2 Assignment #3
5	Oct 19	Assembly Language	Zybooks Chapter 2 MIPS Assembly Sunday October 25 Midterm
6	Oct 26	Assembly Language Memory Hierarchy	Zybooks Chapter 3 Memory Dive into Systems Chapter 7 Storage and the Memory Hierarchy Individual ABC Machine Assignment #4
7	Nov 2	Concurrent Programming with Threads	Big Java: Chapter 22 Multithreading
8	Nov 9	Concurrent Programming with Threads Java Virtual Machine	Big Java: Chapter 22 Multithreading

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9	Nov 16	Concurrent Programming with Threads Networking Programming	Big Java Chapter 22 Multithreading Individual Concurrency Assignment #5
10	Nov 23	Network Programming	Big Java Chapter 23 Internet Networking
11	Nov 30	Network Programming	Big Java Chapter 23 Internet Networking Individual Networking Assignment #6
12	Dec 7	Finals Week	Final Exam Dec 9, 2020