

**San José State University**  
**Computer Science Department**  
**CS49J, Section 3, Programming in Java, Fall 2015**

**Course and Contact Information**

<b>Instructor:</b>	Aikaterini Potika
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<b>Office Hours:</b>	M 12:00-12:30pm, 3-4pm, W 12:30-1pm or by appointment
<b>Class Days/Time:</b>	MW 1:30-2:45pm
<b>Classroom:</b>	MacQuarrie Hall 225
<b>Prerequisites:</b>	Programming with OOP other than Java; or instructor consent.

**Course Description**

Introduction to the Java programming language and libraries. Topics include fundamental data types and control structures, object-oriented programming, string processing, input/output, and error handling. Use of Java libraries for mathematics, graphics, collections, and for user interfaces. Prerequisite: Previous programming experience in a language other than Java.

**Course Objectives**

- Ensure that students are familiar with fundamental concepts in software design, object-oriented programming and basic graphical user interface programming.
- Give students experience with the basic syntax and semantics of the Java language and programming environment.
- Give students an understanding of the concept of Abstract Data Types, and the distinction between interface and implementation.
- Give students an understanding of the standard collections interface types and classes such as lists, stacks, queues, hash tables, binary search trees and iterators, and how to use them in efficient Java applications.
- Enable students to write simple graphics programs involving the drawing of basic shapes.
- Acquaint students with exception handling mechanisms.

**Student Learning Outcomes**

Upon successful completion of this course, students should be able to:

1. Write Java applications which are appropriately documented using Javadoc
2. Use Java to read and write text files
3. Implement from specifications Java classes that embody data structures
4. Use and work with pre-existing implementations in the Java collections framework
5. Use an iterator to traverse any collection
6. Write a graphics program that draws simple shapes
7. Use Java exceptions for error handling

### Faculty Web Page

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on the Canvas learning management system course website (<https://idp01.sjsu.edu/idp/Authn/UserPassword>). You are responsible for regularly checking with the messaging system.

### Required Texts/Readings

#### Textbook

Horstmann C., Core Java Volume I--Fundamentals, 9th Edition, Prentice Hall 2012.

ISBN-13: 978-0-13-708189-9

ISBN-10: 0-13-708189-8

#### Other

Horstmann C., Core Java for the Impatient, Addison-Wesley 2015. (available online on Safari)

#### Other equipment / material requirements

Java Compiler (version 7 or later).

### Assignments and Grading Policy

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in [University Policy S12-3](http://www.sjsu.edu/senate/docs/S12-3.pdf) at <http://www.sjsu.edu/senate/docs/S12-3.pdf>.

#### Final Grade:

30% Programming assignments

10% Quizzes

30% Midterms (15% each)

30% Final

Exams are closed book, final exam is comprehensive.

No make-ups exams except in case of verifiable emergency circumstances

A+	A	A-	>90
B+	B	B-	>74
C+	C	C-	>59
D+	D	D-	>44

F			<40
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**Homework assignments:** individual, regularly assigned, not graded, will include written problem assignments, and perhaps some online exercises. Solutions will be not posted. The homework is a tool for you to learn the material and prepare you for the exams.

**Reading assignments:** Reading assignments will regularly be for the next class (see schedule).

**Quizzes:** Unannounced quizzes may be given during class, each taking about 5-10 minutes total. These will generally be problems from the reading assignment and/or the homework.

**Programming assignments:** Programming assignments are done individually, unless otherwise specified. They can be discussed, but should be implemented individually. More information will be given at the time of the first programming assignment. Never use any code you find on the web, unless it is given by me. Penalty for late submission 5% for every 3 days up to 9 days, after that no submission will be accepted. Never email me your assignments.

**Midterm exams:** There will be two Midterm exams during the semester.

**Final exam:**

The final exam will be worth 30% of your grade.

The exams will contain multiple choice questions, short answer questions and questions that require pseudocode and/or computations.

Students must obtain >50% in each component of the course (programming & quizzes & written exams) in order to be eligible for a grade of C- or better.

Note that “All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.” See [University Policy F13-1](http://www.sjsu.edu/senate/docs/F13-1.pdf) at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

**Classroom Protocol**

Attendance is highly recommended. Please avoid disturbing the class: turn-off cell phones (or put them on vibrate mode), no text messaging in the class or the exams, **no taking pictures and video**, avoid coming late. The course material cannot be shared publicly without my approval. You may not publicly share or upload material for this course such as exam questions, lecture notes, or solutions without my consent (see [University Policy S12-7](http://www.sjsu.edu/senate/docs/S12-7.pdf), <http://www.sjsu.edu/senate/docs/S12-7.pdf>).

NOTE that [University policy F69-24](http://www.sjsu.edu/senate/docs/F69-24.pdf) at <http://www.sjsu.edu/senate/docs/F69-24.pdf> states that “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

## Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester's [Catalog Policies](http://info.sjsu.edu/static/catalog/policies.html) section at <http://info.sjsu.edu/static/catalog/policies.html>. Add/drop deadlines can be found on the current academic year calendars document on the [Academic Calendars webpage](http://www.sjsu.edu/provost/services/academic_calendars/) at [http://www.sjsu.edu/provost/services/academic\\_calendars/](http://www.sjsu.edu/provost/services/academic_calendars/). The [Late Drop Policy](http://www.sjsu.edu/aars/policies/latedrops/policy/) is available at <http://www.sjsu.edu/aars/policies/latedrops/policy/>. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the [Advising Hub](http://www.sjsu.edu/advising/) at <http://www.sjsu.edu/advising/>.

## Academic integrity

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) at <http://www.sjsu.edu/senate/docs/S07-2.pdf> requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at <http://www.sjsu.edu/studentconduct/>.

## Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. [Presidential Directive 97-03](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) at [http://www.sjsu.edu/president/docs/directives/PD\\_1997-03.pdf](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) requires that students with disabilities requesting accommodations must register with the [Accessible Education Center](http://www.sjsu.edu/aec) (AEC) at <http://www.sjsu.edu/aec> to establish a record of their disability.

## CS49J: Programming in Java, Fall 2015

The schedule is subject to change with fair notice.

### Course Schedule

Lectures	Date	Topic	Chapter
1	8/24	Fundamentals, data types, variables	3.1-3.4
2	8/26	Operators, strings	3.5-3.6
3	8/31	I/O, control flow	3.7-3.8
4	9/2	arrays	3.9-3.10
	9/7	<i>Lab day Closed</i>	
5	9/9	Predefined classes	4.1-4.2

<b>6</b>	9/14	Define classes, methods	4.3-4.4
<b>7</b>	9/16	Parameters, objects	4.5-4.6
<b>8</b>	9/21	Packages, Documentation	4.7-4.9
<b>9</b>	9/23	Inheritance	5.1
<b>10</b>	9/28	Inheritance cont	5.2
<b>11</b>	9/30	Generic	5.3
<b>12</b>	10/5	Wrappers, inheritance cont.	5.4-5.6
	10/7	Midterm 1	
<b>13</b>	10/12	reflection	5.7
<b>14</b>	10/14	interfaces	6.1
<b>15</b>	10/19	cloning	6.2-6.3
<b>16</b>	10/21	Inner classes	6.4
<b>17</b>	10/26	Graphics	7.1-7.3
<b>18</b>	10/28	Graphics cont.	7.4-7.7
<b>19</b>	11/2	Event handling	8.1
	11/4	Midterm 2	
<b>20</b>	11/9	User Interface Components	9.1-9.4
	<i>11/11</i>	<i>Veterans Day Closed</i>	
<b>21</b>	11/16	Exception handling	11.1
<b>22</b>	11/18	Exception handling cont.	11.2-11.3
<b>23</b>	11/23	Collections interfaces	13.1
<b>24</b>	11/25	Concrete Collections	13.2
<b>25</b>	11/30	Collections framework	13.3

<b>26</b>	12/2	Algorithms	13.4
<b>27</b>	12/7	Searching and sorting	13.5
	12/16	<b>Final exam</b> 12/16, 12:15-14:30AM	