

**Course Syllabus Fall 2019**

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| **Course Title:** | **Introduction to Data Structures Using Java** |
| **Course Number:**  **Section Number:** | CIS 044  71039 |
| **Units:**  Prerequisite: | 4.00 |
| **Class/Lab Schedule:** | **T 10:55 AM-2:05 PM** |
| **Class/Lab Schedule:**  Location: | **TH 10:55 AM-2:05 PM**  GC 204 |
| **Instructor:** | Dr. Faramarz Mortezaie  E-mail: [faramarz.mortezaie@missioncollege.edu](mailto:faramarz.mortezaie@missioncollege.edu) |
| **Office Hours:** | **Thursday 4:30 PM to 6:30 PM**  **Friday 5:00 PM – 6:15 PM**  **Room GC-217-A** |
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***Course Description***

This is an advanced course in the Java Programming Language. We will study basic data structures such as stacks, dynamic arrays, lists, and trees, and their implementation. We will also cover basic algorithm analysis techniques (Big-O notation and recurrences), and basic algorithms for searching and sorting. We will also briefly cover basic software engineering concepts to give you a feel for developing large software applications in the real world.

***Textbooks and Materials***

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| **Textbook/s Title:** | **Ed** | **Author** |
| Data Structures and Abstractions with Java | **4** | **Frank M. Carrano** |
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**6. STUDENT LEARNING OUTCOMES**

Upon completion of the course, you should be able to:

Students will demonstrate the ability to use arrays, dynamic arrays and collection of classes in programs.

Students will demonstrate the ability to design, code and execute Java programs using different data structures, such as stacks, trees, queues and linked lists.

Students will demonstrate write programs using searching, sorting and recursion algorithms.

**7. Course Management System**

Canvas is a course management system adopted by the WVMCCD for all classes. When you log into the system at <https://wvm.instructure.com/> you will find syllabus, course schedule, assignment schedule, software installation instructions and other course material.

**Weekly Course schedule**

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| --- | --- | --- | --- | --- |
| Week | Date | Lecture | Reading | Lab (***Note: the due date of each lab is one week after the assigned date)*** |
| 1 | 08/27/19  08/29/19 | Introduction to Java  Designing classes | Class Notes  Pages 5-31 | Lab-1 |
| 2 | 09/03/19  09/05/19 | Array Bag  Array Bag | Chapter 1  Chapter 1 | Lab-2 |
| 3 | 09/10/19  09/12/19 | Generics  Generics | Pages 53-60 |  |
| 4 | 09/17/19  09/19/19 | Array Bag Implementation | Chapter-2 | Lab-3 |
| 5 | 09/24/19  09/26/19 | Exceptions  A Bag Implementation that Links Data | Pages 96-103  Chapter-3 | Lab-4 |
| 6 | 10/01/19  10/03/19 | Bag Implementation  Exam-1 | Chapter-3 | Lab-5 |
| 7 | 10/08/19  10/10/19 | The efficiency of Algorithms | Chapter-4 | Lab-6 |
| 8 | 10/15/19  10/17/19 | Stack  Stack Implementation | Chapter-5  Chapter-6 | Lab-7 |
| 9 | 10/22/19  10/24/19 | Recursion  An introduction to sorting | Chapter-7  Chapter-8 |  |
| 10 | 10/29/19  10/31/19 | Merge Sort  Queue | Chapter-9  Chapter-10 | Lab-8 |
| 11 | 11/05/19  11/07/19 | Queue Implementation  Review | Chapter-10  Pages 714-726 |  |
| 12 | 11/12/19  11/14/19 | Exam-2  Searching and Hashing | Chapter 21 | Lab-9 |
| 13 | 11/19/19  11/21/19 | Binary Trees and BST  Binary Trees and BST |  | Lab-10 |
| 14 | 11/26/19  11/28/19 | Collections  No class | Chapter-23 | Lab-11 |
| 15 | 12/03/19  12/05/19 | Collections  Project Presentations | Class Notes | Lab-12 |
| 16 | 12/10/19 | Final Exam | Tuesday 11:00 AM-1:00 PM |  |

***Make-Up Exam***

Make-up exams are possible only under exceptional circumstances.

***Grading***

LAB & Class Assignments & participation 25%

Exam-1 20%

Exam-2 20%

Project 10%

Comprehensive Final Exam 25%

Late labs will be accepted before the solutions are posted and 30% to 50% of the score will be deducted.

***Course Grading Standards***

A final letter grade is to be awarded to each enrolled student in accordance with the 4.00 grading system shown below:

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| --- | --- | --- |
| **Letter Grade** | ***Percent of Total Points*** | ***Grade Points*** |
| A | 90 – 100% | 4.00 |
| B | 80 – 89% | 3.00 |
| C | 70 – 79% | 2.00 |
| D | 60 – 69% | 1.00 |
| F | Below 60% | 0.00 |



**9. CLASS ATTENDANCE**

Students are expected to attend all sessions of each class.

Instructors may drop students from class if they fail to attend the first class meeting, or when accumulated unexcused hours of absence exceed ten percent of the total number of hours the class meets during the semester. Moreover, an instructor may drop from the class any student who fails to attend at least one class session during the first three weeks of instruction. **FACULTY ABSENCE**

If the instructor is not in attendance after 20 minutes from the scheduled start time of class, the class is cancelled and the students may leave.

**10. Canvas**

Canvas is a course management system adopted by the WVMCCD for all classes. When you log into the system, you will see a listing of classes that you are taking.

**11. CHEATING POLICY**

Dishonesty includes but is not limited to in-class cheating, out-of-class cheating, plagiarism, knowingly assisting another student in cheating or plagiarism, or knowingly furnishing false information to college staff, faculty, administrators or other officials. Following are definitions of in-class cheating, out-of-class cheating, plagiarism, and furnishing false information. These are not all-inclusive and the list itself is not meant to limit definition of cheating to just those mentioned.

a. In-class cheating: during an examination or on any work for which the student will receive a grade or points, unauthorized looking at or procuring information from any unauthorized sources, or any other student's work.

b. Out-of-class cheating: unauthorized acquisition, reading or knowledge of test questions prior to the testing date and time; changing any portion of a returned graded test or report and resubmitting as original work to be regraded; or presenting the work of another as one's own for a grade or points.

c. Plagiarism: unauthorized use of expression of ideas from either published or unpublished work(s) as a student's own work for a grade in a class. This also includes the violation of copyright laws, including copying of software packages.

d. Furnishing false information: forgery, falsification, alteration or misuse of college documents, records, or identification in class or in laboratory situations.

**12. CODE OF STUDENT CONDUCT**

It shall be the policy of the District to enforce a student code of conduct the purpose of which is to promote and maintain orderly conduct of a responsible student body in a manner

compatible with the District and College function as an educational institution (Education Code

76030). <http://www.missioncollege.org/student_services/student_code.html>

**13. DISABILITY STATEMENT**



Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact DISC (Disability Instructional Support Center) located in S2-201 (408-855-5085 or 408-727-9243 TTY) to coordinate reasonable accommodations for students with verifiable documentation.

ADA Statement: The American with Disabilities Act (ADA) is a federal anti-discrimination

statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation required that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact DISC (Disability Instructional Support Center) located in S2-201 (408-855-5085 or 408-727-9243 TTY).<http://www.missioncollege.org/depts/disc/index.html>

**14. SAFETY/EMERGENCY**

According to Mission College guidelines, you have certain responsibilities when emergency procedures are initiated:

“It is the student’s responsibility to know the evacuation procedures, evacuation route, and assembly area for this classroom. In case of an emergency, you are to follow the directions of your instructor. When directed to evacuate the classroom, *be sure to take all of your belongings when you leave* and remain with your class in the assembly area until you receive further directions.”

Additionally, the Mission College Facilities and Safety Committee offers the following advice: "Mission College is serious about safety and we urge you to increase your awareness of some basic emergency preparedness procedures while on campus. Here are some key things you should know:

Locate (in every classroom):

 Classroom emergency phone

 All evacuation exits from your classroom and the fastest way out of the building without using ANY elevators - Also know an alternate route in case your first choice is blocked.

 Designated assembly area for your building (map on classroom wall)

 Emergency Procedures for Campus Safety chart (on classroom wall)

 Nearest fire extinguisher and first aid kit

*WVM-Alert* - Emergency Notification

*Free* WVM-Alert will text, email and call you to alert you to campus emergency situations. Sign in to [www.wvm.edu/emergency](http://salsa.missioncollege.org/malchow/stories/redir.aspx?C=76d387f5595d4c67b1d54d53002cf169&amp;URL=http%3a%2f%2fwww.wvm.edu%2femergency) and give us your contact information ASAP! If you don't sign up, you won't be notified!

**15. FEES**

All fees are due and payable at the time of registration. Mission College will be enforcing the Pay-to–Stay registration payment policy effective Fall Semester 2011. This is the policy that allows Admission and Records to drop students for non-payment of fees. If the payment is not

made at the due date, the student will be dropped from all classes for which they are currently registered.

Holds will be placed on students’ records for fees and any other financial obligations owed to the college. Mission College will not allow a student to re-register in the college nor will the college forward transcripts or any other records to other institutions when those students have holds on their records. Degrees and certificates will also be held until all outstanding fees have been paid or cleared.

**Instructional Material Fee**

It is the policy of the West Valley-Mission Community College District that the Governing Board may require students to provide instructional and other materials required for credit and non- credit courses, provided that such materials are of continual value to a student outside of the classroom setting and provided that such materials are not solely or exclusively available from the District.

**16. TUTORING INFORMATION**

**General Tutorial Center**: Upon referral by an instructor or a counselor, students can enroll in the Supervised Tutoring course, IS 947, where they can receive assistance on the basis of a learning need. The tutoring is available for all subjects (for Math tutoring please visit the Math lab, S2-401). Tutoring is provided at no charge by qualified, trained tutors. Tutors can give students feedback on their course work, help them understand assignments and provide students strategies for improving their learning skills.

**English-as-a-Second Language Lab:** Multi-level computer, video and audio tape, or print materials for ESL students are available in the center. These learning materials help non-native speaking students increase skills in writing, grammar, listening, reading vocabulary and pronunciation of standard American English in preparation for the workplace or college study. Students in the ESL laboratory can also participate in workshops and conversation groups. **Reading Lab:** Reading and study skills are developed in the Reading Center with the creation of individualized, self-paced and multilevel programs for students. Multimedia computer software and high interest instructional materials are available to address students’ needs. With the help of specially trained instructors, students can increase their skills in many areas, including: reading comprehension, speed reading, study skills, vocabulary, phonics, and spelling. **Mathematics Learning Center (MLC)**

The Mission College Mathematics Department and the Mathematics Learning Center are committed to student success. In particular, the MLC offers educational support by offering numerous resources and services to all Mission College students with specific needs in the subject of mathematics. The MLC is a learning community where students come together to help and support each other in their mathematics course(s).

MLC services are free and available to registered Mission College students either currently

enrolled in mathematics course(s) or with a desire to review previously studied material. Tutoring is conducted in several languages by faculty, staff, and trained peers who have



excelled in the subject of mathematics. The Mathematics Learning Center is conveniently located on the 2nd floor of the main building in room S2-401. Students who are interested in receiving services, becoming a tutor, or having additional questions should stop at the center, visit our website at [www.missioncollege.org/depts/math/mathhelp.asp,](http://www.missioncollege.org/depts/math/mathhelp.asp) or call us at (408) 855-

5320.

**17. THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)**

(20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. For additional information, you may call 1-800- USA-LEARN (1-800-872-5327) (voice). Individuals who use TDD may call 1-800-437-0833.

**18. SEXUAL HARASSMENT AND SEX DISCRIMINATIO**N

In accordance with Title VII Section 1604, and Title IX of the 1972 Education Amendments, it is the policy of the West Valley-Mission Community College District to provide an educational, employment and business environment free of unwelcomed sexual advances, requests for sexual favors, and other verbal or physical conduct or communications constituting sexual harassment and/or sex discrimination as defined and otherwise prohibited by Federal and State law. Complaints by students or employees should be directed to Associate Vice Chancellor of Human Resources. The telephone number is (408) 741-2131.

**19. MISSION COLLEGE IS A NO-SMOKING AND DRUG-FREE CAMPUS**

The West Valley-Mission Community College District policy 5.18.1 prohibits “the unlawful use, distribution, sale, or possession of alcohol, narcotics, dangerous or illegal drugs, or other controlled substances, as defined in California statues, on District property or at any function sponsored by the District or colleges.” Also, the campus community voted it’s preference for a non-smoking environment, and the decision is reflected in District policy: The College’s non- smoking policy is enforced in all areas except for campus parking lots.