SYLLABUS
PART I
EDISON STATE COMMUNITY COLLEGE
CIS 222S JAVA PROGRAMMING II
3 CREDIT HOURS

COURSE DESCRIPTION
Continuation of Java Programming I with a focus on advanced programming concepts using the Java programming language. A more in-depth look at the JavaFX GUI development platform is explored. Additional topics include recursion, sorting, searching, algorithm analysis, generics, Java collections, linked lists, stacks and queues, binary trees, AVL trees, priority queues, and interacting with databases using the Java programming language. Prerequisite: CIS 221S with a grade of "C" or better. Lab fee.

COURSE GOALS
The student will:

Bloom's Level		Program Outcomes
2	1. Execute the software development process and use a top-down design approach when writing object-oriented programs.	3, 4, 5, 7
5	2. Use the features of object-oriented programming to design and develop Java programs using classes and objects, as well as additional features listed in the course Topic Outline.	3, 7
5	3. Assess various programming algorithms and employ them in Java programs appropriately.	3, 7
5	4. Use a team approach to design and develop an object-oriented program in Java.	3, 6, 7
3	5. Apply appropriate documentation techniques within programs.	7
4	6. Analyze program code and implement debugging and exception handling techniques.	3, 7
2	7. Discuss the importance of ethics in the computer industry and the role they play in the field of software development.	1

CORE VALUES
The Core Values are a set of principles that guide Edison State Community College in creating its educational programs and environment. They will be reflected in every aspect of the College. Students' educational experiences will incorporate the Core Values at all levels, so that a student who completes a degree program at Edison State Community College will not only have been introduced to each value, but will have had them reinforced and refined at every opportunity.

TOPIC OUTLINE
1. JavaFX: Advanced Controls
2. JavaFX: Graphics, Effects, and Media
3. Recursion
4. Sorting, Searching, and Algorithm Analysis
5. Generics
6. Collections and the Stream API
7. Linked Lists
8. Stacks and Queues
9. Binary Trees, AVL Trees, and Priority Queues
10. Databases