COURSE SYLLABUS

Tunxis Community College

Education That Works For a Lifetime

Course Title:	Advanced Java Programming	**Date submitted:**	Sept. 22, 2014 (AAC: 14-128)
Department:	Business and Technology		
Curriculum:	Computer Information System		

Course Descriptors: Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.

Course Code: (eg. ACC 101)	CSC*221
Course Type:	D/X

A: Clinical B: Lab D: Distance Learning
I: Individual/Independent L: Lecture M: Seminar N: Internship
P: Practicum U: Studio X: Combined Lecture/Lab
Y: Combined Lecture/ Clinical/Lab Z: Combined Lecture/Studio

Elective Type:	G/LAS

E: English FA: Fine Arts FL: Foreign Language G: General
HI: History HU: Humanities LAS: Liberal Arts & Sciences M: Math
S: Science SS: Social Science

Credit Hours:	3
Developmental: (yes/no)	No
Contact Hours: Lecture:	1.5
Clinical:	0
Lab:	1.5
Studio	0
Other:	0
TOTAL:	3
Class Maximum:	24
Semesters Offered:	S

Prerequisites:

C- or better in Object Oriented Programming using JAVA (CSC*220), or Object–Oriented Programming in java (CSC*226)

Corequisites:

None

Other Requirements:

None

Catalog Course Description:

Introduces advanced features of Java. Topics include collection classes, searching and sorting, multithreading, parallel processing and database programming. Also delves deeper into data structure and file input and output. Students will learn a powerful language for cross-platform, object oriented programming.

Topical Outline: List course content in outline format.

1. Abstract Classes and Interfaces
2. Creating GUI Application with JAVA FX
3. Recursion and Generics
4. Lists, Stacks, Queues and Priority Queues
5. Searching and Sorting
6. Exceptions and Advanced File I/O
7. Hashing
8. Graphs and Applications
9. Multithreading and Parallel Programming
10. JAVA Database Programming
11. Networking

Outcomes: Describe measurable skills or knowledge that students should

Upon successful completion of this course, the student will be able to do the following:

COURSE:

1. write multi-threaded programs

be able to demonstrate as evidence that they have mastered the course content.	2. write event-driven programs
	Computer Information Systems Associate Degree **PROGRAMMING** 1. solve computer-related problems 2. apply the use of the Program Development Life Cycle 3. practical knowledge of a high-level programming language such as Java, C++ or Visual Basic **PROGRAM: CIS: Programming Option** 3. apply object oriented programming techniques in a variety of programming languages 6. apply programming skills and constructs to develop large-scale programs and applications
	GENERAL EDUCATION: *(Numbering reflects General Education Outcomes as they appear in the college catalog)* 2. **Critical Analysis/ Logical Thinking -** Students will be able to organize, interpret, and evaluate evidence and ideas within and across disciplines; draw reasoned inferences and defensible conclusions; and solve problems and make decisions based on analytical processes. **Demonstrates**: Identifies the issue(s); formulates an argument; explains and analyzes relationships clearly; draws reasonable inferences and conclusions that are logical and defensible; provides support by evaluating credible sources of evidence necessary to justify conclusions. **Does Not Demonstrate:** Identifies few or no issues; formulates an argument without significant focus; provides an unclear explanation of analysis and relationships; drawing few reasonable inferences and conclusions that are illogical and indefensible; provides little to no support using credible sources of evidence necessary to justify conclusions.
Evaluation: List how the above outcomes will be assessed	**Assessment will be based on the following criteria:** examinations programming projects - one or more of these projects will be uploaded to ePortfolio
Instructional Resources: List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.	**Required:** 1. Room will require Media Control System (Computer and multimedia projector) **2.** Software: Microsoft Visual Studio, or equivalent **3.** Computer Lab
Textbook(s)	Textbook: Refer to current academic year printout