### Course Title:
Advanced Java Programming

### Department:
Business and Technology

### Curriculum:
Computer Information System

#### Course Code:
(CSC*221)

#### Course Type:
D/X

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

#### Elective Type:
G/LAS

#### Contact Hours:
- Lecture: 1.5
- Lab: 1.5
- Studio: 0
- Other: 0
- TOTAL: 3

#### Credit Hours:
3

#### Developmental:
No

#### Class Maximum:
24

#### Semesters Offered:
S

#### 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:
- Abstract Classes and Interfaces
- Creating GUI Application with JAVA FX
- Recursion and Generics
- Lists, Stacks, Queues and Priority Queues
- Searching and Sorting
- Exceptions and Advanced File I/O
- Hashing
- Graphs and Applications
- Multithreading and Parallel Programming
- JAVA Database Programming
- Networking

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

**COURSE:**
1. write multi-threaded programs
<table>
<thead>
<tr>
<th>Evaluation:</th>
<th>Assessment will be based on the following criteria:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>examinations</td>
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<tr>
<td></td>
<td>programming projects - one or more of these projects will be uploaded to ePortfolio</td>
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<tr>
<td>Instructional</td>
<td>Required:</td>
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<td>Resources:</td>
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<td>List library (e.g.</td>
<td>1. Room will require Media Control System (Computer and multimedia projector)</td>
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<td>books,</td>
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<td>journals, on-line</td>
<td>2. Software: Microsoft Visual Studio, or equivalent</td>
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<td>resources),</td>
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<td>technological (e.g.</td>
<td>3. Computer Lab</td>
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<td>Smartboard,</td>
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<td>software), and other</td>
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<td>resources (e.g.</td>
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<td>equipment,</td>
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<td>supplies, facilities</td>
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<td>required and</td>
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<td>desired to teach this course.</td>
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Textbook(s) Textbook: Refer to current academic year printout