Bossier Parish Community College
Master Syllabus

Course Prefix and Number: CTEC 151 **Credit Hours:** 3-3-0

Course Title: Advanced Java Programming

Course Prerequisites: CTEC 150

Textbook(s): Lewis and Loftus. Java Software Solutions, 9th edition. Pearson. ISBN: 9780134462028

Software: Bundle of Java SE and Net Beans

Course Description: This course is a continuation of CIT 150 in addition to event handling, exception handling, GUIs, simple data structures, an introduction to algorithm analysis and internal searching and sorting techniques, and recursion.

Learning Outcomes:
At the end of this course, the student will:
  A. construct programs and sub-programs using multi-dimensional arrays that utilize file input/output for data;
  B. distinguish various data structures (arrays, lists, stacks, queues, maps, and trees) according to their use, implementation, appropriateness, and efficiency;
  C. discuss the structure of a linked list (both singly and doubly linked) in terms of its uses, implementation details, appropriateness to the problem domain, and efficiency;
  D. apply the object-oriented principles of abstraction, encapsulation, inheritance, interfaces, and polymorphism in program design; and
  E. examine the design, implementation, and efficiency of recursive algorithms in sub-programs.

To achieve the learning outcomes, the student will or will be able to:
(The letter designations at the end of each statement refer to the learning outcome(s).)
  1. apply aggregation (A);
  2. describe inheritance and polymorphism (A);
  3. describe exception handling and use try and catch blocks (A);
  4. implement searching and sorting applications in arrays (B);
  5. identify type details and alternate coding mechanisms (B);
  6. identify the basics of GUI Programming (C); and
  7. implement GUI programming component layout and additional GUI components (C).

Course Requirements:
1. A student must successfully complete the course with an average of 70% or above on the combined learning outcomes.
2. Each student is expected to attend classes regularly; excessive unexcused absences constitute grounds for suspension (refer to the student handbook for attendance policies).

Course Grading Scale:
A = 90 - 100
B = 80 - 89
C = 70 - 79
D = 60 - 69
F =   0 - 59

Attendance Policy: The college attendance policy is available at
http://www.bpcc.edu/catalog/current/academicpolicies.html

Course Fees: This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, software licenses, certification exams, and/or clinical fees.

Nondiscrimination Statement: Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

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