Bossier Parish Community College
Master Syllabus

Course Prefix and Number: CTEC 250   **Credit Hours:** 3-3-0

Course Title: Programming with C#

Course Prerequisites: CTEC 151

Textbook(s): Jennifer Greene, Andrew Stellman. Head First C#, 4th edition. O'Reilly Media, 2020. ISBN: 9781491976708. Vaskaran Sarcar. Design Patterns in C#: A Hands-on Guide with Real-World Examples. APress, 2018. ISBN: 978-1-4842-3639-0

Course Description: This course introduces students to Design Patterns through the use of the C# programming language. Students will use Object Oriented Programming and Visual Studio to build flexible applications with graphical user interfaces. Students will also learn common programming solutions that take advantage of polymorphism and inheritance in their design.

Learning Outcomes:
At the end of this course, the student will:
  A. use basic C# syntax;
  B. build applications with Graphical User Interfaces;
  C. write programs in the Object Oriented paradigm; and
  D. describe and implement Design Patterns.

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. write C# code with conditional statements (A);
  2. write C# code with loops (A);
  3. use built-in data structures such as Arrays and Lists (A);
  4. write code with value-returning methods (A);
  5. define and use Classes and Objects (A);
  6. use Visual Studio IDE Tools to build GUI interfaces (B);
  7. add text box, label, command controls to a form (B);
  8. set properties of controls on the interface (B);
  9. plan solutions using Unified Modeling Language (C);
  10. write Abstract Classes and Interfaces (C);
  11. describe Polymorphism and Its Benefits (C);
  12. implement the Factory Pattern in C# (D);
  13. implement the Observer Pattern in C# (D);
  14. implement the Strategy Pattern in C# (D);
  15. implement the Decorator Pattern in C# (D);
  16. implement the MVC or MVVM Pattern in C# (D); and
  17. describe the Benefits of using Design Patterns in Code (D).

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://catalog.bpcc.edu/content.php?catoid=5&navoid=369

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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