

Bossier Parish Community College
Master Syllabus

Course Prefix and Number: CTEC 102

Credit Hours: 3-3-0

Course Title: Problem Solving and Programming Techniques

Course Prerequisites: None

Textbook(s): Gaddis, Tony. Starting Out with Python. Pearson. 5th Edition
ISBN: 9780136719199

Course Description: This course is an introduction to program development using various problem-solving techniques. Emphasis is placed on using algorithms and pseudocode to design programs. Various control structures used in computer programming are also discussed. This is a required course for the NSA/DHS KU alignment for the CAE-CDE Designation.

Learning Outcomes:

At the end of this course, the student will:

- A. write programs which have input, processing, and output;
- B. write programs which have Boolean logic and decision structures;
- C. write programs which have repetition structures;
- D. write programs using simple functions;
- E. write programs using basic data structures;
- F. write programs using exception handling; and
- G. analyze programs to identify problems or potential improvements via testing and debugging.

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. design and write programs which have input/output (A);
2. design and write program solutions for mathematical operations and logic (A);
3. design and write programs using if statements, if-else statements, and nested if-else statements (B);
4. design and write programs using Boolean expressions, relational, and logical operators (B);
5. design and write programs using while loops, condition-controlled loops (C);
6. design and write programs using for loops, nested loops (C); and
7. design and write programs which use functions and arguments (D).

Course Requirements:

- Achieve a course average of 70% or above.
- Each student is expected to attend class regularly; excessive unexcused absences constitute grounds for suspension (refer to the student handbook for attendance policies).

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- Students must have access to the Internet. The Internet and software are available to the student on campus during scheduled computer lab times and in the Technology Resource Center located on the second floor of the BPCC library.

NICE Framework Categories:

Operate and Maintain (OM)

Specializations:

- Data Security Analysis
- Digital Forensics

CAE Knowledge Unit Mapping:

- Basic Scripting and Programming (BSP)

Course Grading Scale:

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

Attendance Policy:

Each student is expected to attend class regularly; excessive unexcused absences constitute grounds for suspension. Refer to the student handbook for [Attendance Policy](#).

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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Equity/Compliance Coordinator
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