Rowan College at BURLINGTON COUNTY

COMPUTER SCIENCE

CODE: CSE 110   *TITLE:* Introduction to Computer Science I

DIVISION: STEM

COURSE DESCRIPTION: This course introduces the fundamental concepts of programming and problem solving. It focuses on simple data types, control structures, and introduction to array and string data structures and algorithms, as well as debugging techniques and the social implications of computing. It emphasizes good software engineering principles and developing fundamental programming skills in the context of a language that supports the object-oriented paradigm. The lab component provides hands-on programming experience that is vital for beginning programmers and computer science students.

COREQUISITE: MTH 130 or MTH 142

CREDITS: 4 cr.

REQUIRED MATERIALS (CHECK BOOKSTORE FOR LATEST EDITION):
Click on the bookstore for the supplies which you are attending each class.
Rcbc.edu/bookstore

COURSE LEARNING OUTCOMES:
Upon completion of this course, students will be able to:

- Demonstrate an understanding of C++ syntax and grammar through the development of low complexity programs.
- Demonstrate the ability to break down problems into sub-problems, and employ logical thinking in algorithm development of medium complexity, individually or as a team.
- Employ computer science terms, concepts, software engineering principles and ethics in the development of algorithms.
- Develop and execute programs using C++, utilizing types, variables, functions, and classes.

GENERAL EDUCATION OUTCOMES IN THIS COURSE:

Written and Oral Communication: Communication	* Students will logically and persuasively support their points of view or findings.
Technological Competency or Information Literacy: Technology	* Students will demonstrate the skills required to find, evaluate, and apply information to solve a problem.

CORE COURSE CONTENT:

- C++ basics
- Control structures
- Value-returning functions
- Void functions
- Selection structure
- Repetition structure
- I/O stream
- String, classes, array, dynamic arrays, and pointers

COURSE ACTIVITIES:

Course activities vary from course to course and instructor to instructor. Below is a listing of some of the activities students can anticipate in this course:

▶ Writing assignments: students will analyze current issues in the field using current articles from the popular press as well as library research including electronic resources databases.

▶ Speaking assignments: students will present research individually or in groups using current technology to support the presentation (e.g., PowerPoint presentation); students will participate in discussions and debates related to the topics in the lessons. Discussions may also focus on cross-cultural and legal-ethical dilemmas as they relate to the course content.

▶ Simulation activities: Trends and issues will analyzed for their ethical as well as social or legal significance. Students might role-play common situations for classmates to analyze. Current news articles may be used to generate discussion.

▶ Case Studies: Complex situations and scenarios will be analyzed in cooperative group settings or as homework assignments.

▶ Lectures: This format will include question and answer sessions to provide interactivity between students and instructor.

- ▶ <u>Speakers</u>: Representatives from various related fields may be invited to speak.

- ▶ <u>Videos</u>: Related topics will provide impetus for discussion.

EDUCATIONAL TECHNOLOGY:

Rowan College at Burlington County advocates a technology enhanced teaching and learning environment. Advanced technological tools may be used in any course section to facilitate instruction. Many of our sections are web-enhanced, which means that some of your work will be submitted or completed online. Web enhancements may include on-line materials, grade books, testing and quizzes and assignment submission. Many students enjoy the flexibility and convenience that these online enhancements have provided, however if you have concerns about the technology involved, please speak to your instructor immediately.

STUDENT EVALUATIONS:

The student will be evaluated on the degree to which student learning outcomes are achieved. A variety of methods may be used such as tests, quizzes, class participation, projects, homework assignments, presentations, etc.

See individual instructor's course handouts for grading system and criteria (point value for each assessment component in course, e.g. tests, papers, presentations, attendance etc.), number of papers and examinations required in the course, and testing policy including make ups and/or retests.

GRADING STANDARD:

A   Mastery of essential elements and related concepts, plus demonstrated excellence or originality.
B+   Mastery of essential elements and related concepts, showing higher level understanding.
B   Mastery of essential elements and related concepts.
C+   Above average knowledge of essential elements and related concepts.
C   Acceptable knowledge of essential elements and related concepts.
D   Minimal knowledge of related concepts.
F   Unsatisfactory progress. This grade may also be assigned in cases of academic misconduct, such as cheating or plagiarism, and/or excessive absences.

For other grades, see the current ROWAN COLLEGE AT BURLINGTON COUNTY catalog.

COLLEGE POLICIES:

The current college catalog and student handbook are important documents for understanding your rights and responsibilities as a student in the RCBC classroom. Please read your catalog and handbook as they supplement this syllabus, particularly for information regarding:

- ▶ Academic Integrity Code
- ▶ Student Conduct Code
- ▶ Student Grade Appeal Process

OFFICE OF STUDENT SUPPORT AND DISABILITIES SERVICES:

RCBC welcomes students with disabilities into the college's educational programs. Access to accommodations and support services for students with learning and other disabilities is facilitated by staff in the Office of Student Support (OSS). In order to receive accommodations, a student must contact the OSS, self-identify as having a disability, provide appropriate documentation, and participate in an intake appointment. If the documentation supports the request for reasonable accommodations, the OSS will provide the student with an Accommodation Plan to give to instructors. Contact the Office of Student Support at 609-894-9311, ext. 1208 or visit the website at: www.rcbc.edu/studentsupport

ADDITIONAL SUPPORT/LABS:

RCBC provides academic advising, student support personal counseling, transfer advising, and special accommodations for individuals with disabilities free to all students through the Division of Student Services. For more information about any of these services, visit the Laurel Hall on the Mt. Laurel Campus, or call (609) 894-9311 or (856) 222-9311, then dial the desired extension:
- Ext. 1557 Academic Advisement and Counseling
- Ext. 1803 Special Populations
- Ext. 2737 Transfer Center

Or visit the following websites:
Academic Advising   www.rcbc.edu/advising
Student Support Counseling   www.rcbc.edu/counseling
Transfer Center   www.rcbc.edu/transfer

RCBC offers a free tutoring for all currently enrolled students. For more information regarding The Tutoring Center call Extension 1495 at (609) 894-9311 or (856) 222-9311 or visit the Tutoring Center Website at www.rcbc.edu/tutoring

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