Rowan College at Burlington County

Science, Technology, Engineering, and Mathematics Division

Course Title: Computer Programming & Problem Solving

Course Code: CSE 135 – 100

Prerequisites: MTH – 130

Credits: 3

Contact hours: 2/2/0

Class Time: Tues/Thurs 10:00 – 11:50

Location: TEC 300

Instructor: Chris Simber **email:** csimber@rcbc.edu **Phone:** x 2090

Office: TEC – 211G **Office hours**: M/W 11:00 – 12:00, T/TH 3:00 – 4:00
Others by appointment

SECTION 1:

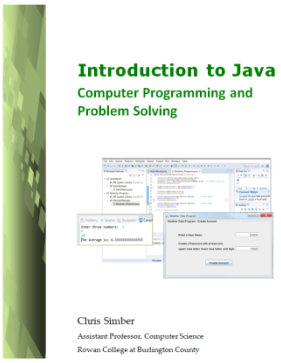
Course Description: This is an introductory course in programming in a high-level language and its use in solving engineering, business and scientific programs. It includes data types, control structures, functions, arrays, files, and the mechanics of running testing, and debugging. It emphasizes the fundamentals of problem solving, software engineering techniques and algorithm design. The assignments provide hands-on programming experience for beginning programmers and computer science students.

Required Materials: the course assignments require access to a computer with a hard drive, capable of running the Eclipse IDE, the JVM, JDK, and saving files. Note that it can be installed on and run from a flash drive.

Web-enhanced: This is a web-enhanced course utilizing **Blackboard**.

Required Text: **OER Instructor Provided**

Introduction to Java: Computer Programming and Problem Solving



General Education Outcomes:

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

Course Learning Outcomes: Upon completion of this course, students will be able to:

- Utilize Data Abstraction and perform language-independent analysis and problem solving
- Analyze low to medium complexity operations and design logical algorithms including coding, compiling, testing and debugging the software solution
- Effectively break down problems into sub-problems utilizing logical thinking and flow of control, to develop efficient algorithms and the programmed solutions
- Design and implement classes and methods for procedural abstraction.
- Write programs in an integrated development environment using control constructs, loops, arrays, strings, files, and Abstract Data Types to solve problems
- Employ computer science terms, concepts, and ethics as they apply to developing computer based algorithms

**Course Learning Outcomes map to Program Learning Outcomes for AS.CSE and AS.INF*

Program Learning Outcome - AS.CSE	***Introduce, Reinforce, Apply***
#1. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.	R-A
#2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of a program's discipline.	R-A
#4. Recognize professional responsibilities and make informed judgements in computing practice based on legal and ethical principles.	R-A
#6. Apply computer science theory and software development fundamentals to produce computing-based solutions.	R-A

Program Learning Outcome - AS.INF	***Introduce, Reinforce, Apply***
#1. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.	R-A
#2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of a program's discipline.	R-A
#3. Communicate effectively in a variety of professional contexts.	R-A
#4. Recognize professional responsibilities and make informed judgements in computing practice based on legal and ethical principles.	R-A

Core Course Content:

- Intro to Course, Computer Overview
- Java Application programming
- Introduce concepts of classes and methods, setters & getters.
- Java Classes & Methods.
- Control Structures, formulating algorithms.
- Advanced Control Structures: for, do-while, switch, break, continue
- Methods
- Arrays
- Classes, Objects, overloaded constructors, final instances
- Inheritance

SECTION 2:

Course and Classroom Policies:

Expectations: Students are expected to attend/view class sessions, read the text, and complete and submit assignments on or before the due date. Students are expected to conduct themselves in a professional manner in class sessions and Forums.

Class Attendance when the course is not meeting face-to-face is determined as logging into Blackboard and RCBC email on a daily basis.

Required email: Students are assigned an email account by the college (*first_lastname@mymail.rcbc.edu*). Students are expected to use this account to correspond with the instructor, submit assignments, and to include CSE 135 in the subject line.

Criteria for Grade Determination:

Grading: Grades will be based on assignments, a midterm exam, and a final exam as noted below. Assignments will include questions as well as programming assignments. Programs will be graded for meeting requirements, correct output, and adherence to programming standards for style and readability. Programming Standards are posted on Blackboard.

Omissions/violations of Programming Standards and Style guidelines will incur a penalty of **three (3) points each**. Programs using break, return to bypass logic, or while(1), while(true) will not be accepted. Programming Standards are posted. Assignments submitted after the due date will incur a **grade penalty of three (3) points per day** after the first day. **Assignments submitted more than one (1) week late will not be accepted.**

Makeup tests require a valid excuse and can result in loss of grade points. Class participation/attendance will be considered in the final grade.

Assessment Methods:

Letter Grades

Chapter Assignments*	66%	A	= 90 - 100
Exam #1	12%	B+	= 85 - 89
Exam #2	12%	B	= 80 - 84
Exam #3	10%	C+	= 75 - 79
Total	100%	C	= 70 - 74
		D	= 60 - 69
		F	= Below 60

*The chapter assignments will be weighted as follows:

Review Exercises (written answer)	30%
Programing Assignments	70%

CSE 135 Course Outline/Schedule (tentative):

Week	Application/Chapter	Assignments
1	Introduction to the Course, Computer Overview	
2	Computers and Programming Basics (Chapter 1)	Assignment #1
	Getting Started	
3	Language Components, Variables, and Data Types (Chapter 2)	
	Arithmetic Operators and Math methods (Chapter 2)	
4	Input/Output, Strings and String Methods (Chapter 2)	Assignment #2
5	Decisions Structures and Boolean Logic (Chapter 3)	Assignment #3
6	Repetition Structures and Loops (Chapter 4)	
	Loop Algorithms, and Random Numbers (Chapter 4)	Assignment #4
		Exam #1
7	Methods, Modular Programming, Return Values (Chapter 5)	
	Scope, Recursion, Dialogs and Graphics (Chapter 5)	Assignment #5
8	Arrays and Array Algorithms, and ArrayLists (Chapter 6)	Assignment #6
9	Files I/O and Exceptions (Chapter 7)	Assignment #7
		Exam #2
10	Classes and Objects (Chapter 8)	Assignment #8
11	Inheritance, Polymorphism, and Interfaces (Chapter 9)	Assignment #9
12	Graphical User Interfaces (Chapter 10)	Assignment #10
13/14	GUIs and GUI Programs (Chapter 11)	Assignment #11
		Exam #3

* Course Outline is subject to change

SECTION 3:

College Policies: In order for students to know their rights and responsibilities, all students are expected to review and adhere to all regulations and policies as listed in the College Catalog and Handbook. 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, and can be accessed at rcbc.edu/publications. Important policies and regulations include, but are not limited, to the following:

- College Attendance Policy
- Grading Standards
    - Withdraw (W) and Incomplete Grades (I)
    - Withdrawal date for this semester – Academic Calendar
- Student Code of Conduct
    - Academic Dishonesty/Plagiarism and Civility
- Use of Communication and Information Technology
- College Attendance Policy
    - Students are required to attend all class, clinical, laboratory, and studio sessions for the full duration of each such instructional session. Faculty are required to record student attendance, and grade penalties for absence will be imposed when a student exceeds a ten percent non excused absence rate, not to exceed 10% of the final grade.
    - For all on-campus courses, including hybrid and hybrid-mixed-mode on-campus meeting days, excused absences include: suspected COVID-19 related illness (i.e., exhibiting symptoms), tested positive for COVID-19, or demonstrated need to quarantine. For all VLC courses and hybrid and hybrid-mixed-mode virtual meeting days, excused absences include: suspected COVID-19 related illness (i.e., exhibiting symptoms that prevent the student from participating online).
    - Students are responsible for informing their instructor as soon as the situation is known and following all other guidelines as outlined by the college. Failure to do so may lead to the absence not being excused. Students are also responsible for communicating with instructors to make reasonable arrangements for the completion of course requirements not completed due to absence.
- Academic Dishonesty/Plagiarism
    - Specifically, the term “plagiarism” includes, but is not limited to, the use by paraphrase direct quotation, of the published or unpublished work or sections of a work of another person without full and clear acknowledgement, whether intentional or not. This includes any material copied directly or paraphrased from the internet. Plagiarism also constitutes the unacknowledged use of materials prepared by another person or agency engaged in the selling of a term papers or other academic materials, including material taken from or ordered through the Internet. For more information on academic dishonesty/plagiarism see Board Policy #903-C.

Rowan College at Burlington County

Student Conduct Code - Students shall abide by the expectations outlined in the Student Handbook. RCBC students are accountable according to the standards established in this policy. http://www.rcbc.edu/conduct

Office of Student Support and Disability Services: In accordance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) and the ADA Amendments Act, the Student Support Services Office's mission is to ensure all students with disabilities are provided access to educational and extracurricular activities while on college premises through support in the form of reasonable accommodations such as adaptive technology, counseling, note-taking assistance, and American Sign Language interpreters. Students who have disabilities must self-identify, provide documentation of disability(ies), attend an intake appointment, and sign a Disability Release Form (rcbc.edu/studentsupport) prior to the start of the semester to ensure reasonable accommodations. For more information, please contact the Office of Student Support at ext. 1208. For additional information on this policy please refer to the current catalog.

Educational Technology Statement: Rowan College at Burlington County (RCBC) advocates the use of technology to enhance instruction. Students should assume that classroom and online technology will be used throughout their coursework at RCBC, as it will most certainly be used in their future education and careers. The College provides on-campus facilities for the convenience of the RCBC community. Various college departments, including the Office of Information Technology and the Office of Distance Education, provide technology training and assistance to faculty and students.

Student Success Services: RCBC offers a variety of free services for its students including those listed below. Descriptions of these services, as well as many others, can be found in the College Catalog and Handbook and on the RCBC website at https://www.rcbc.edu/students.

- Academic Advising (https://www.rcbc.edu/advising)
- Struggling Personally or Academically (https://rcbc.edu/need-help-now)
- Career Services (https://www.rcbc.edu/careers)
- EOF (https://www.rcbc.edu/eof)
- Financial Aid (https://www.rcbc.edu/financial-aid)
- International Students Office (https://www.rcbc.edu/internationall)
- ESL Advising & Support (https://rcbc.edu/esl)
- Library (https://www.rcbc.edu/library)
- Office of Veteran Services (https://www.rcbc.edu/vets)
- RCBC Foundation -Scholarship information (https://www.rcbc.edu/foundation)
- RCBC bookstore (https://www.rcbc.edu/bookstore)
- Rowan University Partnership (https://www.rcbc.edu/rowan)
- Student Support Counseling (https://www.rcbc.edu/counseling)
- Tutoring (https://www.rcbc.edu/tutoring)
- Test Center (https://www.rcbc.edu/test-center)
- Transfer Services (https://www.rcbc.edu/transfer)

This syllabus is subject to change at the instructor's discretion.