ESSEX COUNTY COLLEGE
DEPARTMENT
COURSE OUTLINE

COURSE DESIGNATION: CSC 137
COURSE TITLE: Introduction to Programming in Java

NUMBER OF CREDITS: 3

CONTACT HOURS: 4 LECTURE: 2 LAB: 2 OTHER (Specify):

PREREQUISITES: MTH 092 or Placement
CONCURRENT COURSES: None
COREQUISITES: None

CATALOG DESCRIPTION: This course provides students with the working knowledge required to program Java applications. Students will learn how the Java language supports object-oriented programming and how object-oriented designs can be implemented in Java. Through lectures, discussions and programming projects, students will develop both conceptual and practical knowledge enabling them to build Java applications from analysis and design to implementation.

GENERAL EDUCATION GOALS: N/A

COURSE OBJECTIVES:

Course-Intended learning Outcomes: Upon completion of this course, students will be able to:	**Means of Assessment:**		
	projects	laboratory	exam
A. State the advantages of an object-oriented (OO) approach to software development;			Y
B. Describe essential object-oriented concepts and terminology;			Y
C. Perform gathering, analysis, and design for OO requirements;	Y	Y	
D. Describe the role of Unified Modeling Language (UML) in object-oriented analysis and design;	Y		Y
E. Create Java classes that implement an object-oriented design;	Y	Y	Y
F. Apply Java language constructs that enable and enforce OO-related concepts such as data encapsulation, strict typing and type conversion, inheritance, and polymorphism;	Y	Y	Y
G. Explain how design patterns can improve the implementation of OO designs; and	Y		
H. Describe the incremental and iterative process for developing applications using object technology and how it differs from traditional approaches (for example, waterfall) to application development.	Y		Y

COURSE CONTENT OUTLINE:

Based on the text *Java Fundamentals Using Eclipse: JV100* by IBM (2007). NOTE: The actual textbook may vary and the amount of time spent on each topic may also vary depending on the class and instructor preference.

1) Introduction to Java and Eclipse
2) Object-Oriented Programming
3) Java Basics, Part 1
4) Java Basics, Part 2
5) Building Classes
6) Debugging
7) Inheritance and Refactoring
8) Interfaces
9) Collections
10) Serialization and Streams
11) Exceptions and Exception Handling
12) Utility Classes
13) Threads and Synchronization

METHODS OF INSTRUCTION:

(e.g., lecture, discussion, group projects, labs, role playing, demonstration/return demonstration, independent study, research project)

Instructor presents technical material in formal lectures and class discussion. Concepts will be reinforced through laboratory exercises and programming projects.

COURSE REQUIREMENTS:

(e.g., minimum number of assignments, exams, papers, etc.)

Attendance:
Students are expected to attend ALL lectures and ALL lab sessions and punctuality is required. Late arrivals interfere with the learning process and will reflect negatively on final averages in the "Assignments, class participation, Lab Reports and Lab Quizes" grading category.

Laboratory:
Students are expected to attend every lab and to maximize use of lab time. Late students, arriving after the explanation of that day's procedures have been given, will not be permitted to stay for lab. Lab assignments and projects provide students with "hands on" experiences, which are vital for learning the material presented in the course. Each Laboratory will require a laboratory report that is due at the beginning of the lab the following week. Format for these will be discussed in the laboratory.

Quizes:
There will be several laboratory quizzes during the semester, which will be announced one week in advance. A student who arrives after the lab quiz has begun will not be permitted to take the quiz.

Programming Projects:
Non-trivial projects will be assigned during the latter part of the course after students have absorbed a significant amount of course material. These projects will be worth 35% of the final grade. Students will be given laboratory time to work on the projects, but it is expected that additional work will be done outside of the assigned time. The lab will be open at posted scheduled times during the semester after each project is assigned.

Comprehensive Examinations
There will be comprehensive midterm (15%) and final (25%) examinations given during midpoint and the last week of the course. They will test all material covered up to then in the course and will be worth 15% + 25% = 40% of the overall course grade. These exams must be taken when scheduled. Makeup exams will only be given when a valid excuse is accepted by the instructor.

Differently-abled Support Services

Essex County College welcomes students with disabilities into all of the college's educational programs. It is the policy and practice of Essex County College to promote inclusive learning environments. If you have a documented disability, you may be eligible for reasonable accommodations in compliance with college policy, the Americans with Disabilities Act, Section 504 of the Rehabilitation Act, and/or the New Jersey Law Against Discrimination. Please note, students are not permitted to negotiate accommodations directly with Professors, Academic Chairpersons, and Deans. To request accommodations or assistance, please self-identify with the Coordinator of Differently-abled Support Services. The office is located in the Student Development and Counseling Office at the Main Campus in Room 4122-I, and on Tuesdays at the West Essex Campus, Advisement Center. Contact us by telephone at 973-877-3071 or by email at disability@essex.edu.

METHOD OF EVALUATION:
(Specific method required should be explicitly listed)

Grading Category	% of Final Average
Midterm Examination	15%

Final Examination	25%
Assignments, Class Participation, Lab Reports and Lab Quizes	25%
Programming Projects	35%

MEMORANDUM

TO: Dr. Charles Reid
Chair/College Curriculum Committee

FROM: Gwendolyn C. Slaton
Director/Library

DATE: March 5, 2019

RE: PROPOSED CHANGE IN THE CSC 137 COURSE
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We have reviewed our collection and determined that it (check one)

[X] can

[ ] cannot

adequately support the requirements of the course/program .

The faculty of the department/division has reviewed the bibliography of our holdings and (check one):

[X] agree that the current collection is adequate

[ ] request that additional titles be purchased

At this time the library (check one)

[X] has

[ ] does not have

sufficient funds to purchase auxiliary materials. Sufficient funds are expected to be available during the ensuing academic year.