SUSSEX COUNTY COMMUNITY COLLEGE

MASTER COLLEGE SYLLABUS

COMS115	INTRODUCTION TO COMPUTER SCIENCE II	
COURSE	COURSE TITLE	CLASSIFICATION
3	2	2
CREDITS	CLASS HOURS	LAB HOURS

RECOMMENDED TEXT:

Title:	Starting Out with JAVA From Control Structures through Objects
Author:	Tony Gaddis
Publisher:	Addison-Wesley
Publication Date:	6th Edition
ISBN:	013-285583-6

CATALOG DESCRIPTION

This course, in a lecture/lab setting, is the continuation of COMS114. Topics include intermediate to advanced programming techniques with logical data structures and the design and analysis of such structures. The course also covers techniques for program development, algorithm analysis, efficiency, along with abstraction, an introduction to data structures, searching, sorting, recursion and string manipulation. Lab Fee Required.

PREREQUISITE: COMS 114 or Equivalent.

TOPICS TO BE INCLUDED:

- Software Engineering
- Data Abstractions
- Object Oriented Programming
  - Classes
  - Constructors
  - Class Functions and Conversions
  - Inheritance and Dynamic Memory Allocation
  - Exception Handling
- GUI Programming
  - Graphic
  - Event-Driven Programming
  - Creating User Interfaces
  - Applets and Multimedia
  - Containers and Layout Managers
  - Menus, Toolbars and Internal Frames
- Exception Handling, I/O and Recursion
  - Exception and Assertions
  - Binary I/O
  - Recursion

COURSE COMPETENCIES/LEARNING OUTCOMES:

In a manner deemed appropriate by the instructor and approved by the department, students will be able to:

1. Evaluate concepts of object-oriented programming such as encapsulation, inheritance, polymorphism and abstract classes and interfaces (Science/Mathematics Computer Science Option Program Goal #1)
2. Develop classes using appropriate *instance data* and *methods*. (Science/Mathematics Computer Science Option Program Goal #1)
3. Create graphical user interfaces with the Java Platform. (Science/Mathematics Computer Science Option Program Goal #1)
4. Identify the advantages / disadvantages of recursive algorithms. (Science/Mathematics Computer Science Option Program Goal #1)
5. Apply advanced I/O with files and exception handling. (Science/Mathematics Computer Science Option Program Goal #1)
6. Analyze data from database tables for the purpose of organizing, summarizing and reporting factual information. (Science/Mathematics Computer Science Option Program Goal #1)

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