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)

COMS115
Update books
Rev. 2/18 (rr)

The object of the game is to move the pegs from the left peg to the right peg by these rules: Only one disk may be moved at a time. A disk cannot be placed on top of a smaller disc. All discs must be stored on a peg except while being moved.Â Copyright Â© 2008 Pearson Education, Inc. Publishing as Pearson Addison-Wesley Starting Out with C++ Early Objects Sixth Edition Chapter 14: Recursion by. 1 CSCD 300 Data Structures Recursion. 2 Proof by Induction Introduction only - topic will be covered in detail in CS 320 Prove: N ï€ ï€ ï€ ï€ ï“ i = N (N + 1. Recursion CS-240/CS341. Gaddis covers procedural programmingâ€“control structures and methodsâ€“before introducing object-oriented programming to ensure that students understand fundamental programming and problem-solving concepts. As with all Gaddis texts, every chapter contains clear and easy-to-read code listings, concise and practical real-world examples, and an abundance of exercises. With the 7th Edition, JavaFX has replaced Swing as the standard GUI library for Java in chapters that focus on GUI development. The Swing and Applet material from the previous edition is available online.Â Due to demand, this product has run out of stock, and so the promotion is no longer available. One full priced item has been added to your shopping cart as a back-order. Company. Starting Out with Java: Early O for $177.31. More Buying Choices. 1 New from $399.95 60 Used from $19.35 3 Rentals from $14.20.Â See and discover other items: java programming, data science, object oriented design, object oriented programming, starting out, java computer science books. Back to top. Get to Know Us. The control unit decodes the instruction and generates an electrical signal. Execute: the signal is routed to the appropriate component of the computer. The signal causes the component to perform an operation.Â Object-Oriented Programing (OOP): Whereas procedural programming is centered on creating procedures, object-oriented programming is centered on creating objects. JAVA is OOP. Objects, Attributes and Methods. An "object" is a software entity that contains data and procedures. The data contained in an object is known as the object's attributes. The procedures, or behaviors, that an object performs are known as the object's methods.