

CUMBERLAND COUNTY COLLEGE

Course: CS 216 *Intermediate Java Programming*

Credits: 4

Prerequisites: CS 112 or permission of the instructor.

Description:

This course is primarily for students majoring in Computer Science and related fields, and continues an introduction to the methodology of programming from an object-oriented perspective. Students will develop programs using built-in, programmer-created, and dynamic data structures. Sorting and search algorithms will be examined to further develop understanding and skills in Java programming. Topics include inheritance, class hierarchy, polymorphism, and abstract and interface classes. The course emphasizes good software engineering principles and fostering intermediate programming skills in the context of a language that supports the object-oriented paradigm.

Learning Outcomes

At the completion of this course, students will be able to:

- Specify and develop Java classes using object-oriented design techniques.
- Develop applications in Java using object-oriented design.
- Use *javadoc* and other software engineering tools and techniques to enhance development and documentation of Java programs.
- Utilize nested selection and iteration controls to solve appropriate problems in Java.
- Use fundamental search and sort algorithms to solve appropriate problems in Java.
- Utilize built-in, programmer-created, and dynamic data structures to develop solutions to appropriate programming problems.

Topical Outline

- ***Intro to Course: Things you should already know...***
 - Collections,*
 - *Inheritance(1)*
- ***Object Design Approaches:***
 - *Design Patterns (brief);*
 - *CRC: Class, Responsibilities, Collaborators*
- ***Course Project Introduced***
- ***Inheritance Topics(2)***
- ***Errors & Exceptions, Error Recovery, File i/o***
- ***Threaded: Course Project Development and Testing***

- *Graphical Interface*
 - Anonymous Inner Class
 - Event Handlers
- *Design Approaches, Revisited: Design Patterns*
- *Course Project Presentation - Final Delivery*

Text:

David J. Barnes and Michael Kolling, [Objects First with Java: A Practical Introduction Using BlueJ, 5th Edition.](#), Prentice Hall/Pearson Education, 2012.
ISBN 978-0-13-249266-9

Student Assessment

(Assessment may be accomplished through projects, portfolios, exams, presentations and/or papers)

Academic Integrity

Plagiarism is cheating. Plagiarism is presenting in written work, in public speaking, and in oral reports the ideas or exact words of someone else without proper documentation.

Exceptions for CS-216: teamed project work, teamed labs.

However, copying code from online “research” is prohibited.

Code developed in collaboration as part of a team should be clearly designated, and all collaboration and contributions by others acknowledged.

Whether the act of plagiarism is deliberate or accidental [ignorance of the proper rules for handling material is no excuse], plagiarism is, indeed, a “criminal” offense.

As such, a plagiarized paper or report automatically receives a grade of **ZERO** and the student may receive a grade of **F** for the semester at the discretion of the instructor.

Tutoring & Project Assist

If you are having difficulty with work in this class tutoring is available through the Center for Academic & Student Success. If you think that you might have a learning disability, contact Project Assist at 856.691.8600 x 1282 for information on assistance that can be provided to eligible students.

Before Withdrawing From This Course

If a student experiences adverse circumstances while enrolled in this course and considers withdrawing, s/he should see an advisor (division or advisement center) BEFORE withdrawing from the class. A withdrawal may cause harmful repercussions to completion rate standards and overall GPA which can limit or eliminate future financial aid in addition to causing academic suspension.