PASSAIC COUNTY COMMUNITY COLLEGE

Department Chair: Merille Siegel

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Course Code: CIS 166   **Course Title:** Java Programming

Department: CIS/Engineering   **Semester Offered**: Spring day

Course Description:

Introduces the student to the Java programming language. The emphasis is on developing platform independent software utilizing language features such as abstraction, encapsulation, inheritance, and polymorphism. Students learn OOP and Java applets, which provide flexibility and modularity in project construction, and techniques for writing reusable code. Students construct systems and application programs during the open lab hours. Offered Spring (evenings) only.

Prerequisites: CIS 160 or CIS 165

Credits: 3   **Lecture Hours:** 3   **Lab/Studio Hours:**   0   **Clinical/Fieldwork Hours:** 0

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Required Textbook/Materials:

Textbook: Java: Starting Out with Early Objects, Tony Gaddis; Pearson; 2017; ISBN-13: 978-0-13-446

Additional Time and Supplemental Requirements:

- Based on a 15 week semester, students are expected to spend an additional 6 hours per week outside of class working on this course.

  - **Special Facilities/Equipment:**
  - Hardware: desktop or laptop PC.
  - Software: Java Development Kit
- Storage Media: Flash Drive for saving class work

Course Learning Outcomes:

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

a. Create Java programs that utilize object-oriented techniques.
b. Create event-driven Java applets for the Internet.
c. Develop Java solutions to specific business problems.
d. Use research and library skills to expand Java programming knowledge.

General Education Outcomes:

Upon completion of this course, students will be able to**:**

GE4-2. Produce a computer program to implement a self-designed algorithm

Grading Standards:

Activity	Contribution
Class Activities / Attendance	20%
Assignments	40%
Tests / Quizzes	20%
Final Exam	20%

Course Content:
(Schedule and suggested topics, readings, and assignments subject to change based on instructor and instructional resource)

Topic	Chapter
Introduction: Syllabus Review, Programming Elements Quiz, Programming languages, History of Java, Java Elements, IDEs, Programming Process, Object-Oriented Programming **Java Fundamentals:** Output, Variables, Literals, Identifiers, classes, data types, assignment, initialization, Math.class, constants, string class, scope, comments, programming style, input, Dialog Boxes, Common Errors	**Chapter 1:** Sections 1.1, 1.2, 1.4-1.7 **Chapter 2:** Sections 2.1-2.14 and 2.16
First Look at Classes: Passing Arguments, instance fields, methods, constructors, classes variables and scope, packages, Object-Oriented Design, Common Errors	**Chapter 3**
First Look at Classes: Passing Arguments, instance fields, methods, constructors, classes variables and scope, packages, Object-Oriented Design, Common Errors	**Chapter 3**
Decision Structures: if, if-else, if-else-if, logical operators, random number generations	**Chapter 4**
Loops and Files: File Input/Output operations	**Chapter 5**
Loops and Files: while, do-while, for loop, nested loops, file input and output	**Chapter 5**
Classes: Static class members, overload methods and constructors, passing objects as arguments, returning objects, equal methods, copying objects.	**Chapter 6**
Classes: Aggregation, this references, inner classes, enumerated types, garbage collection, object-oriented design	**Chapter 6**
Arrays: Processing content, passing arrays as arguments, array operations, string and object arrays.	**Chapter 7**
Arrays: Search Algorithms, 2D arrays, Lists, 3D arrays	**Chapter 7**
Inheritance: Superclass, protected members, Polymorphism, abstract methods, functional interfaces	**Chapter 9**
Inheritance: Superclass, protected members, Polymorphism, abstract methods, functional interfaces	**Chapter 9**
Exceptions: Handling and throwing exceptions	**Chapter 10:** Sections 10.1, 10.2

JavaFX: GUIs, Creating Scenes, displaying images, Layout container, buttons, TextField controls, BorderPane, ObservableList	**Chapter 11**
Final Exam	

Class Policies:
1. Students are reminded of the College Academic Integrity policy for Passaic County Community College. Students are urged to conduct themselves accordingly.
2. Homework and projects are mandatory, collected through Blackboard on the due dates and times. Late projects and homework will have a penalized grade, except for emergencies with valid reasons.
3. Classroom exams will be announced in advance. No make-up exams given unless under valid emergency. Students are required to call in to inform the Professor prior to the class.
4. No eating and drinking as noted by CIS Dept. policy
5. Mobile devices turn on to vibrate or silent mode.
6. Unless otherwise specified by your instructor, all homework assignments and projects are to be done on your own. Handing in an identical assignment to someone else's work is considered cheating. In the case of identical work, all students involved can receive academic sanctions, up to and including course failure.
7. Plagiarism in any form is unacceptable. All work that is not yours must be cited properly. Plagiarism on any part of an assignment is still plagiarism. Plagiarism will result in academic sanctions, up to and including course failure

College Policies:
For Information regarding:
- PCCC's Academic Integrity Code
- Student Conduct Code
- Student Grade Appeal Process
Please refer to the PCCC Student Handbook and PCCC Catalog

Panther Alert:
The College will announce delayed openings, closings, and other emergency situations through the Panther Alert System. Students are encouraged to sign up for Panther Alert Notifications by logging into their student accounts through the PCCC website at www.pccc.edu and following Panther Alert System instructions.

Notification for Students with Learnings Disabilities:
If you have a disability, and believe you need accommodations in this class, please contact the Office of Accessibility Services at 973-684-6395, or email ods@pccc.edu. You should do so as soon as possible at the start of each semester. If you require testing accommodations, you must remind me (the instructor) one week in advance of each test.