

Knight Foundation School of Computing and Information Sciences

Course Title: Intermediate Java Programming

Date: 2/12/2018

Course Number: COP 3804

Number of Credits: 3

Subject Area: Programming	Subject Area Coordinator: Maria Charters email: mcharter@fiu.edu
Catalog Description: A second course in Java programming. Continues Programming in Java by discussing object-oriented programming in a more detail, with larger programming projects and emphasis on inheritance. Not acceptable for credit for CS majors. This course will have additional fees.	
Textbook: Starting Out with Java 5: Control Structures to Objects; Gaddis	
References: None	
Prerequisites Courses: COP 2250 or COP 2210	
Co-requisites Courses: None	

Type: Required

Prerequisites Topics:

- Java data types
- Java fundamentals including String, ArrayList, classes
- Problem solving using java

Course Outcomes:

1. Master the design and implementation of classes using inheritance and polymorphism.
2. Master the use and implementation of Class interfaces
3. Master the uses of one- and two-dimensional arrays
4. Be familiar with software testing methods and interactive debugging
5. Be familiar with standard Java collection classes
6. Master analyzing problems and writing java program solutions to those problems using the above features

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Outline

Topic	Number of Lecture Hours	Outcome
<ul style="list-style-type: none"> • Java preliminaries <ul style="list-style-type: none"> ○ Java types, classes and objects ○ Class variables, Final variables, etc. ○ Static methods and objects ○ Input/Output (using Files, too) ○ String class – Wrapper classes ○ ArrayList class 	6	
<ul style="list-style-type: none"> • Classes and Interfaces <ul style="list-style-type: none"> ○ Data abstraction ○ Class constructors ○ Interfaces ○ Overriding equals and toString methods ○ Comparable and Comparator interfaces ○ Public, Private, and Protected access specifiers ○ Overloading method names 	11	2,5
<ul style="list-style-type: none"> • Inheritance & Polymorphism <ul style="list-style-type: none"> ○ Introduction to Inheritance – Reuse of code ○ Overriding method names ○ Polymorphism and its applications 	7	1,5
<ul style="list-style-type: none"> • Recursion <ul style="list-style-type: none"> ○ Definition ○ Why does it work ○ Infinite recursion ○ Examples 	4	3,5
<ul style="list-style-type: none"> • Introduction to Data Structures <ul style="list-style-type: none"> ○ Linked List and its implementation ○ Stack & Queue data structures ○ Introduction to Java Collection Interface 	8	4,5

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Course Outcomes Emphasized in Laboratory Projects / Assignments

	Outcome	Number of Weeks
1	Classes and Objects Outcome: 5	2
2	Inheritance & Polymorphism Outcomes: 1,5	3
3	Interface implementation Outcomes: 2,5	3
4	Recursive methods Outcomes: 3,5	3
5	Data Structures Outcomes: 4,5	3

Oral and Written Communication: No significant coverage

Number of written reports:

Approximate number of pages for each report:

Number of required oral presentations:

Approximate time for each presentation:

Social and Ethical Implications of Computing Topics

No significant coverage

Topic	Class time	Student performance measures

Assessment Plan for the Course & how Data in the Course are used to assess Program Outcomes

Student and Instructor Course Outcome Surveys are administered at the conclusion of each offering, and are evaluated as described in the School's Assessment Plan:
<https://abet.cs.fiu.edu/csassessment/>