

## Knight Foundation School of Computing and Information Sciences

**Course Title:** Programming in Java

**Date:** 2/12/2018

**Course Number:** COP 2250

**Number of Credits:** 3

<b>Subject Area:</b> Programming	<b>Subject Area Coordinator:</b> Maria Charters <b>email:</b> mcharter@fiu.edu
<b>Catalog Description:</b> A first course in programming for IT majors. Syntax and semantics of Java. Classes and Objects. Object-oriented program development. Not acceptable for CS majors. This course will have additional fees.	
<b>Textbook:</b> Starting Out with Java 5: Control Structures to Objects; Gaddis	
<b>References:</b> None	
<b>Prerequisites Courses:</b> None	
<b>Co-requisites Courses:</b> None	

Type: Required

Prerequisites Topics: None

Course Outcomes:

1. Be familiar with concepts of Objects and Classes.
2. Master the fundamental java data types.
3. Master the java selection and iteration constructs.
4. Be exposed to arrays
  
5. Master using String, ArrayList, and wrapper classes.
6. Master analyzing problems and writing java program solutions to those problems using the above features.
7. Be exposed to software testing and interactive debugging
8. Master complex Boolean expressions in selection and iteration constructs
9. Master good programming practices
10. Master methods, method parameters, and parameter passing

*(SAC will provide a list of best programming practices for instructors as a reference)*

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**Outline**

<b>Topic</b>	<b>Number of Lecture Hours</b>	<b>Outcome</b>
<ul style="list-style-type: none"> <li>• Java Fundamentals               <ul style="list-style-type: none"> <li>○ History of Java</li> <li>○ Basic introduction to java</li> <li>○ Assignment statement</li> <li>○ Output</li> <li>○ Input using JOptionPane</li> </ul> </li> </ul>	4	2
<ul style="list-style-type: none"> <li>• Objects and Classes               <ul style="list-style-type: none"> <li>○ Class Variables</li> <li>○ Defining Classes</li> <li>○ Class UML diagram</li> <li>○ Access Specifiers, etc.</li> <li>○ Types of methods &amp; Method parameters</li> <li>○ Accessor and Mutator methods</li> </ul> </li> </ul>	10	1,5
<ul style="list-style-type: none"> <li>• Data Types               <ul style="list-style-type: none"> <li>○ Primitive Types</li> <li>○ Type Conversion</li> <li>○ Object type</li> </ul> </li> </ul>	2	2
<ul style="list-style-type: none"> <li>• String Class               <ul style="list-style-type: none"> <li>○ Methods of the String Class</li> <li>○ Immutable class</li> </ul> </li> </ul>	2	4
<ul style="list-style-type: none"> <li>• Conditional Statements               <ul style="list-style-type: none"> <li>○ IF statements – different versions</li> <li>○ Switch statement</li> </ul> </li> </ul>	3	3
<ul style="list-style-type: none"> <li>• Iterative Statements               <ul style="list-style-type: none"> <li>○ While loops</li> <li>○ Do loops</li> <li>○ For loops</li> </ul> </li> </ul>	5	3,5
<ul style="list-style-type: none"> <li>• Arrays, ArrayList, Wrapper classes               <ul style="list-style-type: none"> <li>○ Simple Arrays</li> <li>○ ArrayList</li> <li>○ Methods of ArrayList class</li> <li>○ Sorting and Searching algorithms</li> <li>○ Wrapper classes</li> </ul> </li> </ul>	10	4,5

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**Course Outcomes Emphasized in Laboratory Projects / Assignments**

	<b>Outcome</b>	<b>Number of Weeks</b>
1	Introductory Java Outcome: 2	2
2	Selection and Iterative constructs Outcomes: 3,5	3
3	Objects & Classes Outcomes: 1,5	4
4	Arrays and ArrayList Outcomes: 4,5	2
5	Application of techniques to solve problems Outcomes: 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

<b>Topic</b>	<b>Class time</b>	<b>Student performance measures</b>

**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/>