

Rain water catchment system: prototype routing board after a year of weathering

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Three-course java progrsesion at CCAC West Hills

The community college of allegheny county offers a three-course progression of java programming courses:




- 1. [CIT-111: Introduction to programming with Java](#)
- 2. [CIT-130: Object-oriented programming 1](#)
- 3. [CIT-244: Object-oriented programming 2](#)





Instructor Eric Darsow's implementation of this course sequence is offered at CCAC's West Hills Center in the Spring of 2019.












CIT-111: Introduction to Programming











The following table maps course session dates, lesson topics, LIANG9 references, and content links for all three Java courses in the series.

Course	SP19 Est.	Wk.	Sess.	Session description	Resources	Language objectives	Out-of-class work
CIT-111	MON 28-JAN-19	1	1	Compiling existing source code into Java programs and tinkering with their guts; Exposure to code editing tools in NetBeans; internalizing the Java system's components and their flow	First exposure to looping mechanisms in Java  LIANG9: Chapter 1		

Course	SP19 Est.	Wk.	Sess.	Session description	Resources	Language objectives	Out-of-class work
CIT-111	WED 30-JAN-19		2	 <p>Too cold for school!!</p>			
CIT-111	MON 4-FEB-19	2	1	<p>Digestion of the Java source code lifecycle: .java files --> compiler --> bytecode --> JVM (interpreter). Creatign blocks with { and }</p>	<p>Java's basic grammar: Blocks, Types, variables, operators, and method calls</p> <p> Module 1: Essential Elements</p> <p> LIANG9: Chapter 2</p> <p>Exercise 1: Tweaking a pre-written Java console-only program</p> <p>Exercise 2: Tweaking a pre-written Java program that includes a Graphical User Interface (GUI)</p> <p>Exercise 3: Dissecting Java code by extracting blocks</p> <p>Exercise 4: Building your own Java blocks from actual blocks</p>	<p>TR.111.1.L.1: Segement Java code into blocks, statements, and comments</p> <p>TR.111.1.L.2: Classify Java code into categories: A) block structure formation B) keywords C) identifiers D) operators E) Method calls</p> <p>CCAC.111.LT.1: Computer systems and environments including computer org., langs, and object programming</p> <p>TR.111.1.E.1: Interpret the use of block-delimiting characters to create structural relationships inside a computer program</p> <p>TR.111.1.E.2: Encode a nested-block structure in a linear sequence of computer instructions</p> <p>TR.111.1.E.3: Create a rough draft of a code organization schema inside Netbeans for storing Java files related to this course</p> <p>TR.111.1.P.0: Classify job postings related to Java programming: level, application type, etc.</p> <p>TR.111.1.P.1: Diagram the relationship between the Java Virtual Machine (JVM), the NetBeans Integrated Development Environment(IDE), and a program's source and class file set</p> <p>CCAC.111.LT.2: Executing java programs using and IDE</p>	

Course	SP19 Est.	Wk.	Sess.	Session description	Resources	Language objectives	Out-of-class work
CIT-111	WED 6-FEB-19		2	Creating projects, packages, and source files in NetBeans Copying pre-written code and tweaking text output and variable types			
CIT-111	MON 11-FEB-19	3	1	<ul style="list-style-type: none"> - Right type or wrong type? Exercise - git - Introduction to branching with <code>if()</code> - Introduction to flow charting - Creating Might We Be Friends? Flow chart 	<p>Branching fundamentals: block selection with <code>if()</code></p> <p> Module 3E: Might we be friends?</p> <p> LIANG9: Chapter 3 - selections</p> <p>Exercise 1: Sharing code with git</p> <p>Exercise 2: Reviewing chapter 2 with the operator challenge</p> <p>Exercise 3: Flow charting essentials</p> <ul style="list-style-type: none"> - Creating your might-we-be-friends on paper <p>Exercise 4: Implementing Might We Be Friends? in Java</p>	<p>TR.111.3.L.1: Branch execution flow of a simple program using <code>if()</code> controlled blocks</p> <p>TR.111.3.L.2: Implement several layers of decision logic using if-else controlled blocks</p> <p>TR.111.3.E.1: Create a graphical flow-chart of decision logic by designating unique shapes for: a) Flow beginnings and endings, b) general program events, and c) branching points (a.k.a. decision points or choices)</p> <p>TR.111.3.E.2: Given a peer's program and specified program behavior, check Java code for correctly implemented logic and write detailed documentnation of any errors encountered</p>	
CIT-111	WED 13-FEB-19		2	<ul style="list-style-type: none"> - Implementing Might We Be Friends? flow chart - Logic testing: verifying flow chart logic of peer programs 			
CIT-111	MON 18-FEB-19		1	Paper compiling practice & finish our Might We Be Friends? exercise			
		4			<p><code>if()</code> statements continued</p> <p> Paper compiling practice Worksheet</p> <p> Paper compiling practice - KEY</p> <p>LIANG9: Chapter 2 - Elementary LIANG9</p>	<p>Compute the value of primitive type variables in simple programs by hand and check those answers using a compiler</p>	<p>Attempt at least one exercise and one mini project from each of the two LIANG9 chapters assigned this week: Chapters 2 and 3</p>

Course	SP19 Est.	Wk.	Sess.	Session description	Resources	Use a Scanner object to gather input from a user and use those values to control if-statement selections	Out-of-class work
CIT-111	WED 20-FEB-19	5	2	Finish up Might We Be Friends? and then start in on Module 4	 Chapter 3 - selections  Module 4: User Input	5.L.1: 5.L.2:	
CIT-111	MON 25-FEB-19		1		Looping fundamentals: the while() and for() blocks Not only for birds: Nesting branch and loop mechanisms; switched blocks		
CIT-111	WED 27-FEB-19		2		  LIANG9 Textbook: Section 4.6		
CIT-111	MON 4-MAR-19	6	1		Fundamentals project: implementing the essentials	6.L.1: 6.L.2:	
CIT-111	WED 6-MAR-19		2		  LIANG9 Textbook:		
CIT-111	MON 11-MAR-19	7	1	Project 1 sharing for first 30 mins	Methods Essentials: Empty calls and parameterized calls	7.L.1: 7.L.2:	
CIT-111	WED 13-MAR-19		2		  LIANG9 Textbook:		
CIT-111	MON 18-MAR-19	8	1		Internalizing scope; creating and using static member variables	8.L.1: 8.L.2:	
CIT-111	WED 20-MAR-19		2		  LIANG9 Textbook:		
CIT-111	MON 25-MAR-19	9	1		Fancy Method: Calling and writing methods with return types 		

Course	SP19 Est.	Wk.	Sess.	Session description	Resources	Language objectives	Out-of-class work
CIT-111	WED 27-MAR-19		2		 LIANG9 Textbook:		
CIT-111	MON 1-APR-19	10	1		Rediscovering the Object: Creating our first blueprint class Vehicle.java	10.L.1: 10.L.2:	
CIT-111	WED 3-APR-19		2		  LIANG9 Textbook:		
CIT-111	MON 8-APR-19	11	1	Building your own custom type in Java: the Object Project	Object Project building time 	11.L.1: 11.L.2:	
CIT-111	WED 10-APR-19		2	Share object projects	 LIANG9 Textbook:		
CIT-111	MON 15-APR-19		-				
CIT-111	WED 17-APR-19		-				
CIT-111	MON 22-APR-19	12	1		Arrays and for() looping 	12.L.1: 12.L.2:	
CIT-111	WED 24-APR-19		2		 LIANG9 Textbook:		
CIT-111	MON 29-APR-19	13	1		Culminating project design & implementation 	13.L.1: 13.L.2:	
CIT-111	WED 1-MAY-19		2		 LIANG9 Textbook:		
CIT-111	WED 8-MAY-19	14	1	* Bring fully-baked projects to share. * Same time and place as normal Wednesday class	Sharing our culminating projects  Final session checklist	14.L.1:	