🔒 CIST 2371 - Java Programming I (version 201003L)

☑ Standard ☐ Institutionally Developed College: N/A

EDGE Compatible: No

Pre-requisites: One Required

CIST 1305 - Program Design and Development (201003L)

Co-requisites: None

Course Description

This course is designed to teach the basic concepts and methods of objected-oriented design and Java programming. Use practical problems to illustrate Java application building techniques and concepts. Develop an understanding of Java vocabulary. Create an understanding of where Java fits in the application development landscape. Create an understanding of the Java Development Kit and how to develop, debug, and run Java applications using the JDK. Continue to develop student's programming logic skills. Topics include: JAVA Language History, JAVA Variable Definitions, JAVA Control Structures, JAVA Methods, JAVA Classes, JAVA Objects, and JAVA Graphics.

Course Length

	Minutes	Contact Hour	❓ Semester Credit	WLU
Lecture:	1500	30		
Lab 2:	1500	30		
Lab 3:	2250	45		
Total:	5250	105	4	

Semester Credit Hours:			4	161.25
Breakout Detail of Lab 3:				
❓ Practicum/Internship:	0	0		
❓ Clinical:	0	0		

Competencies

Lab 3 time is broken out in detail in the Practicum/Internship and Clinical columns.

Order	Description	Lecture	Lab2	Lab3	Total Minutes	Semester Credit Hrs	Practicum/ Internship	Clinical
1	Basic Java Concepts	100	100	150	350		0	0
2	Variables Data Types Expressions	150	150	225	525		0	0
3	Decisions and Loops	250	250	375	875		0	0
4	Java OO Concepts and Use	300	300	450	1050		0	0
5	Java API	350	350	525	1225		0	0
6	Java GUIs	350	350	525	1225		0	0
	Totals for Course CIST 2371 - Java Programming I (version 201003L):	**1500**	**1500**	**2250**	**5250**	**4**	**0**	**0**

Learning Outcomes

Basic Java Concepts

Order	Description	Learning Domain	Level of Learning
1	Describe the Java platform and its benefits.	Cognitive	Comprehension
2	Implement the Java development environment by downloading, installing and configuring the JDK on at least one OS.	Psychomotor	Mechanism
3	Construct a Java program by editing, compiling and testing a Java program using the a text editor, java compiler and the JVM.	Psychomotor	Complex Response
4	Appreciate the need for a well commented program.	Affective	Characterization

Variables Data Types Expressions

Order	Description	Learning Domain	Level of Learning
1	Enumerate the primitive data types.	Cognitive	Knowledge
2	Explain the difference between primitive and reference variables.	Cognitive	Knowledge
3	Construct syntactically correct Java expressions using arithmetic, logic and Boolean operators	Psychomotor	Complex Response

Decisions and Loops

Order	Description	Learning Domain	Level of Learning
1	Explain what loops are for.	Cognitive	Knowledge

Order	Description	Learning Domain	Level of Learning
2	Construct at least 3 kinds of working loops.	Psychomotor	Complex Response
3	Explain what decision structures are for.	Cognitive	Knowledge
4	Construct at least 2 kinds of working decision structures.	Psychomotor	Complex Response

Java OO Concepts and Use

Order	Description	Learning Domain	Level of Learning
1	Describe the concepts of Class, Object, Interface, Inheritance, Encapsulation and Polymorphism.	Cognitive	Comprehension
2	Construct a correct UML Class Diagram with at least two classes.	Psychomotor	Complex Response
3	Implement a Java program from a UML Class diagram with at least 2 classes.	Psychomotor	Mechanism
4	Define Java keywords, for example (but not limited to) static, final, private, public.	Cognitive	Knowledge

Java API

Order	Description	Learning Domain	Level of Learning
1	Explain what the Java API is and how to look up a Class.	Cognitive	Knowledge
2	Construct a Java program using at least 5 different classes from the Java API in a program.	Psychomotor	Complex Response

Java GUIs

Order	Description	Learning Domain	Level of Learning
1	Explain the difference between the AWT and SWING toolkits.	Cognitive	Knowledge
2	Construct a working Java program that uses GUI elements from the SWING toolkit.	Psychomotor	Complex Response