CIST 1305 - Program Design and Development (version 201003L)

Standard Institutionally Developed College: N/A

EDGE Compatible: No

Pre-requisites: None

Co-requisites: None

Course Description

An introductory course that provides problem solving and programming concepts for those that develop user applications. An emphasis is placed on developing logic, troubleshooting, and using tools to develop solutions. Topics include: problem solving and programming concepts, structured programming, the four logic structures, file processing concepts, and arrays.

Course Length

	Minutes	Contact Hour	Semester Credit
Lecture:	**2250**	**45**	
Lab 2:	**0**	**0**	
Lab 3:	**0**	**0**	
Practicum/Internship:	**0**	**0**	
Clinical:	**0**	**0**	
Total:	**2250**	**45**	**3**
Semester Credit Hours:			**3**

Competencies

Order	Description	Lecture	Lab2	Lab3	Practicum/ Internship	Clinical	Total Minutes	Semester Credit Hrs
1	Define Problem Solving and Programming Concepts	538	0	0	0	0	538	
2	Develop Structured Solutions Using the Four Logic Structures	838	0	0	0	0	838	
3	Develop Structured Solutions Utilizing File Processing Concepts	438	0	0	0	0	438	
4	Develop Structured Solutions Using Arrays	436	0	0	0	0	436	
	Totals for Course CIST 1305 - Program Design and Development (version 201003L):	**2250**	**0**	**0**	**0**	**0**	**2250**	**3**

Learning Outcomes

Define Problem Solving and Programming Concepts

Order	Description	Learning Domain	Level of Learning
1	Describe general problem solving concepts	Cognitive	Comprehension
2	Describe constants, variables, and data types	Cognitive	Comprehension
3	Understand demonstration of mathematical operations and functions	Cognitive	Application
4	Describe procedural programming and object-oriented programming	Cognitive	Comprehension

Develop Structured Solutions Using the Four Logic Structures

Order	Description	Learning Domain	Level of Learning
1	Construct structured solutions utilizing modules	Cognitive	Application
2	Construct a solution utilizing the sequential logic structure	Cognitive	Application
3	Construct a solution utilizing the decision logic structure	Cognitive	Application
4	Construct a solution utilizing the looping logic structure	Cognitive	Application
5	Construct a solution utilizing the case logic structure	Cognitive	Application

Develop Structured Solutions Utilizing File Processing Concepts

Order	Description	Learning Domain	Level of Learning
1	Demonstrate an understanding of sequential and random file terminology and concepts	Cognitive	Application
2	Demonstrate an understanding of record keys (primary, secondary, foreign, and concatenated)	Cognitive	Application
3	Construct a solution utilizing sequential and random file processing	Cognitive	Application

Develop Structured Solutions Using Arrays

Order	Description	Learning Domain	Level of Learning
1	Demonstrate an understanding of an array of terminology and concepts	Cognitive	Application
2	Construct a solution utilizing single-dimensional and multidimensional arrays	Cognitive	Application

References

Order	Reference Type	Description
1	Book with Author(s) Listed	Sprankle & Hubbard. (2009). Problem Solving and Programming Concepts. (8th). Upper Saddle River, New Jersey: Pearson.
2	Book with Author(s) Listed	Gaddis. (2010). Programming Logic & Design. (2nd). Boston: Addison Wesley.