

12/2/2024

DATE

REQUIRED COURSE

ELECTIVE COURSE

BUS DIVISION

 NEW COURSE REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	CIS-156	TITLE: (30 Characters Max)	Computer Logic								
SEM CR HRS:	3	Lecture:	3	Lab:	0	ECH:	3				
Course Level:	<input type="checkbox"/> Gen Ed / IAI <input type="checkbox"/> Baccalaureate /Non-IAI		<input checked="" type="checkbox"/> Career/Technical <input type="checkbox"/> Dev Ed/ Not in Degree Audit		Clinical Practicum:	0	Work-based Learning	0	WBL ECH:	0	
COURSE PCS #	11 - 11.0501		IAI Code		N/A		Contact Hours Per Week				
Repeatable (Y/N):	Y	Pass/Fail (Y/N):	N	Variable Credit (Y/N):	N	Min:	Max:	16 Wks	150	8 Wks	300
Prerequisites:	CIS-160 or concurrent enrollment or HS computer class										
Corequisites:	None										
Catalog Description: (40 Word Limit)	An introduction to basic computer programming terms and concepts. JavaScript is used to illustrate variables, conditional statements, functions, loops and arrays.										

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Overview of computers and logic	4			
Programming structure	4			
Objects and events	5			
Sequence structure	4			
Selection structures	6			
Repetition structures	5			
Modules and functions	6			
Arrays	5			
Validating and sorting data	6			
TOTAL	45	0	0	0

EVALUTION

QUIZZES	<input checked="" type="checkbox"/>	EXAMS	<input checked="" type="checkbox"/>	ORAL PRES	<input type="checkbox"/>	PAPERS	<input type="checkbox"/>
LAB WORK	<input checked="" type="checkbox"/>	PROJECTS	<input checked="" type="checkbox"/>	COMP FINAL	<input checked="" type="checkbox"/>	OTHER	<input checked="" type="checkbox"/>

COURSE MATERIALS

TITLE:	No book
AUTHOR:	
PUBLISHER:	
VOLUME/EDITION/URL:	
COPYRIGHT DATE:	

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		<i>The student will be able to:</i>
Overview of computers and logic	4	1. Describe the basic fundamentals of the computer. 2. Explain programming and what it includes. 3. Describe the two main data types. 4. Define variables and named constants. 5. Describe the assignment statement. 6. State the data types.
Programming structure	4	1. Understand evolution of programming languages. 2. Summarize history of languages. 3. Convert pseudocode into code. 4. Write user input statements.
Objects and events	5	1. Describe object-oriented languages. 2. Write class definitions and methods. 3. Define classes with constructors. 4. Instantiate objects and use methods and properties from classes. 5. Create event-driven programs.
Sequence structure	4	1. Define structured programming. 2. Describe the sequence structure. 3. Create flowcharts and pseudocode.

Selection structures	6	<ol style="list-style-type: none"> 1. Evaluate Boolean expressions. 2. Define single and dual selection structures. 3. Use relational operators. 4. Define a nested structure. 5. Code the Case structure. 6. Create truth tables, decision tables and binary trees. 7. Write conditions using logical operators. 8. Evaluate order of precedence in conditional expressions.
Repetition structures	5	<ol style="list-style-type: none"> 1. Describe the while, do while, and for loops. 2. Use a loop control variable. 3. Use a sentinel value. 4. Create nested loops. 5. Use a loop to accumulate totals.
Modules and functions	6	<ol style="list-style-type: none"> 1. Describe the advantages of modularization. 2. Modularize a program. 3. Write modules using arguments. 4. Write modules that return values. 5. Pass arguments to modules using by value and by reference. 6. Define local and global variables.
Arrays	5	<ol style="list-style-type: none"> 1. Declare and initialize an array. 2. Load an array from a file. 3. Describe how to search an array. 4. Use parallel arrays. 5. Write a binary search algorithm.
Validating and sorting data	6	<ol style="list-style-type: none"> 1. Use a validation loop to minimize data input errors. 2. Explain the use of data validation methods. 3. Use exception and error handling. 4. Explain the advantages of sorting. 5. Describe how to code a bubble, selection, and insertion sort. 6. Sort arrays in ascending and descending order.
45		

Outcomes*	At the successful completion of this course, students will be able to:
Course Outcome 1	Understand variables, conditional statements, functions, loops, and arrays.
Course Outcome 2	Apply proper programming structure.
Course Outcome 3	Produce a simple script.
Primary Laker Learning Competency	
Secondary Laker Learning Competency	

*Course and program outcomes will be used in the software for outcomes assessment and should include at least 1 primary and 1 secondary Laker Learning Competency. Limit to 3-5.