

Department of Computer Science University of Central Oklahoma COURSE DESCRIPTION					
Course Prefix	Course Number	Credit Hours	Course Title (maximum 30 characters)	Course Coordinator	Revision Date
CMSC	4023	3	Programming Languages	Curriculum Committee	12-3-06

Catalog description:	The course provides a study of the underlying concepts of programming languages such as automata, grammars, translation, bindings, scope, data types, control, subprogramming, concurrency, and exception handling. Languages representing contrasting paradigms are studied.	
Course prerequisites:	CMSC 3613	
Text:	1. Louden, C., <i>Programming Languages Principles and Practice</i> , 2 nd ed., Thomson, 2003, ISBN: 0-534-95341-7. 2. Quinn, M. <i>Ethics for the Information Age</i> (2 nd edition); Addison-Wesley, 2006, ISBN: 0-321-37526-2.	
References:		
Course goals:	Upon satisfactory completion of this course, students will be able to use BNF and EBNF to describe syntax rules, describe the implementation of typical native data types, describe the implementation of constructed data types, describe the use of control statements, understand the structure of procedural, objected-oriented, and functional languages, and write programs demonstrating these skills.	
Course outline	Topic	Lecture Hours
	Some definitions. History	2
	Language Design Principles	3
	Regular expressions, Automata theory, Scanners	3
	Syntax, diagrams, BNF	4
	Semantics	4
	Data Types	3
	Control statements	6
	Abstract Data Types	3
	Object Oriented Languages	1
	Non-imperative programming paradigms	6
	Computer Reliability (Reference: Chapter 7 of Text 2)	1
	Total	36
Course requirements	Activity	Minimum Percentage
	Programming projects	20
	Reports	5
	Tests	50

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Estimate of CSAB category content		
	Core (credit hours)	Advanced (credit hours)
Algorithms		
Data Structures		
Software Design		
Concepts of Programming Languages		3
Computer Organization and Architecture		
Total		3
Qualitative discussions		
Oral and Written Communications	Students are required to submit at least one written library research project that is graded for grammar, spelling, and style.	
Social and Ethical Issues	Computer Reliability (Reference: Chapter 7 of Text 2).	
Theoretical Content	Automata theory, grammars	
Problem Analysis	Problems from the book and/or instructor are assigned for students to work.	
Solution Design	Students present solutions to problems from the book and/or instructor as assigned.	