CPCS-301 Syllabus

Catalog Description

CPCS-301 Programming Languages
Credit: 3 (Theory: 3, Lab: 1, Practical: 0)
Prerequisite: CPCS-204 , CPCS-222
Classification: Department Required

The objective of this course is to provide a comprehensive coverage of the fundamental concepts of programming languages by discussing the design issues of the various languages constructs, examining the design choices for these constructs in some of the most common languages, and critically comparing design alternatives. It discusses the formal methods of describing the syntax and semantics of programming languages.

Class Schedule

Lab/Tutorial 90 minutes 1 times/week

Meet 50 minutes 3 times/week or 80 minutes 2 times/week

Textbook

Robert W. Sebesta, , "Concepts of Programming Languages", Addison-Wesley Longman; 10 edition (2012-01)

ISBN-13 9780131395312 **ISBN-10** 0131395319

Grade Distribution

Week	Assessment	Grade %
5	Lab Exam 1	2.5
6	Quiz 1	5
6	Lab Exam 2	2.5
7	Lab Exam 3	5
7	Exam 1	15
12	Quiz 2	5
13	Exam 2	15
15	Quiz 3	5
15	Lab Exam 4	10
16	Comprehensive Final Exam	35

Last Articulated

April 11, 2018

Relationship to Student Outcomes

a	b	c	d	e	f	g	h	i	j	k
x	x	x							x	x

Course Learning Outcomes (CLO)

By completion of the course the students should be able to

1. Determine programming domains. (a)
2. Determine language evaluation criteria. (a)
3. Determine the major programming language paradigms. (a)
4. List the suitability of a programming language for a specific task. (b)
5. Explain the issues involved in the design and implementation of programming (b)
6. Show the general problem of describing syntax. (j)
7. Show the how to use the attribute grammars. (j)
8. Describe the meanings of programs. (a)
9. **Analyze the issues related to the concept of binding. (j)**
10. Identify issues related to the type checking, strong typing and type (a)
11. **Analyze the issues related to the scope and lifetime. (k)**
12. Identify issues related to the concept of data types. (k)
13. **Apply fundamental programming language elements of expressions. (c)**
14. Apply fundamental programming language elements of expressions (c)
15. **Analyze and contrast selection statements and iterative statements. (a)**
16. **Apply the concepts of the subprograms in dffierent programming languages. (k)**

Coordinator(s)

Dr. Mohamed Dahab, Associate Professor

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Topics Coverage Durations

Topics	Weeks
Introductory review	1
Describing syntax and semantics	2
Expressions and assignments statements	2
Statements-Level control structure	2
Type checking, scope and lifetime	2
Variables, binding and data types	3
sub-programm	3