University: **Alexandria**
Faculty: **Science**
Program: **Computer Science**

Form no. (12)
Course Specification

1- Course Data

Course Code:	Course Title:	Academic Year/Level:
CS 212	**Structure of programming Languages**	Second level (First semester)
Specialization: Computer Science	**No. of Instructional Units:** **Lecture** 2 **Lab** 3	

2- Course Aim	• This course is designed to encourage in students a sense of interest for Compiler Design and its application in different contexts • Provide a solid foundation in the major areas of Compiler Design • Provide education and training of high quality in Compiler Design
3- Intended Learning Outcome	
a- Knowledge and Understanding	a1. Describe the main concepts, definitions of language Design a2. Review theories and concepts used in Compiler Design a3. Identify an understanding of the contribution and impacts of language Design in scientific, social, economic, environmental, political and cultural terms. a4. The basic syntax and semantic analysis a5. The basic data types for all languages a6. The loop, selection and expression statment

b- Intellectual Skills	b1. Manipulate and apply appropriate theories, principles and concepts relevant to language Design b2. Critically assess and evaluate the literature within the field of language Design b3 Deduce and interpret information from a variety of sources relevant to language Design
c- Professional Skills	**c1.** Plan, design and execute practical activities using techniques and procedures Appropriate to Compiler Design **c2.** Execute a piece of independent research using **languages,** computer media and techniques;.
d- General Skills	**d1.** Develop appropriate effective written and oral communication skills relevant to the specific course of language Design **d2.** Demonstrate the ability to work effectively as part of a group **d3.** Solve problems relevant to language Design using ideas and techniques some of which are at the forefront of the discipline. **d4.** Solve problems relevant to **applications in real life** in computer science using old and new languages some of which are at the forefront of the discipline;
4- Course Content	- Design and implementation of programming language translators. - Parsing and scanner - Run-time storage management - Error recovery. - Code generation - Register allocation. - Data flow and optimization. - Data types and names - Statements - Selection, iterative and conditional statements - Object and class

5- Teaching and Learning Methods	Lecturers – Home works - Oral discussion **-** Quizzes
6- Teaching and Learning Methods for Students with Special Needs	NONE
7- Student Assessment:	
a- Procedures used:	Lecturers – tutorials- homework – oral discussion **-** Quizzes
b- Schedule:	Mid-Term exam… …. Week 10 Final exam ……………. Week 17
c- Weighing of Assessment:	Term work (exam + home works) 20% Lab exam 10% Oral exam 10% Final exam 60%
8- List of References:	Concepts of programming languages, J. Sebasta, 2007
a- Course Notes	Course notes provided by the Faculty member of Computer Science Division, Math department, to be handled at the beginning of the semester.

b- Required Books (Textbooks)	Concepts of programming languages, J. Sebasta, 2007
c- Recommended Books	Concepts of programming languages, J. Sebasta, 2007
d- Periodicals, Web Sites, …, etc.	

Course Instructor: Dr. Yasser Fouad
Head of Department: Prof. Dr. Mahmoud El-Alem.
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