Course Specifications

Programme(s) on which the course is given B.Sc. of Pure Mathematics and Computer Science, Physics and Mathematics

Major or minor element of programs Major
Department offering the program Mathematics
Department offering the course Mathematics
Academic year / Level Third level (3)
Semester
Date of specification revision September 2012
Date of specification approval September 2012

A- Basic Information

Title: Programming Language Concepts **Code: M3313**
Credit Hours: 3 **Lecture: 3**
Tutorial: **Practical:** **Total:3 hr.**
Teaching Staff:

B- Professional Information

1 – Overall Aims of Course

is to describe the fundamental concepts of programming languages by discussing the design issues of the various language constructs and provide the student with the tools necessary for the critical evolution of existing and future programming languages and to prepare him for the study of compiler design.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

The student should be able to

a1- understand names, binding, type checking and scope of variables.

a2- understand statement-level control structure

a3- know fundamentals of subprograms; including local referencing, parameter-passing and overloading.

b- Intellectual Skills

b1- distinguish between names aliases, dynamic and static bindings, explicit Heap-dynamic and implicit one, static scope and dynamic scope and their evaluations.

b2 – deduce a grammar for describing the syntax of common statements of programming languages

b3- design issues for subprograms.

c- Professional and Practical Skills

c1- write programs by several programming languages knowing the main differences.

c2- implementing subprograms.

d- General and Transferable Skills

d1- alternative programming paradigm.

3- Contents

Topic	No. of hours	Lecture	Tutorial/Practical
definition of language structure,lexical,and syntax analysis	6	2	-
data types ,structure, expressions and assignment statements	6	2	-
statement-level control structures.	6	2	-
run time consideration	6	2	-
syntax and semantic of major programming language	12	4	-

subprograms	**6**	**2**	**-**

4– Teaching and learning methods

4.1- Lectures

4.2- Working on hand in assignments

4.3- Attending practical classes

5- Student assessment methods

5.1 Mid term written exam to assess understanding competencies

5.2 Mid term practical Exam to assess programming skills

5.3 Oral Exam to assess attendance and interesting.

5.4 Semester hand in assignments to assess understanding professionalism.

5.5 Final term written Exam to assess comprehension.

Assessment schedule

Assessment 1	**Mid term + practical**	**Week 7**
Assessment 2	**semester activities**	**Week 5 and 8**
Assessment 3	**Final term oral exam**	**Week 13**
Assessment 4	**final term written exam**	**Week 14**

Weighting of assessments

Mid-Term Examination

20%

Semester Work (homework assignments + oral tests)

20 %

Other types of assessment

00%

Final-term written Examination

60%

Total

100%

Any formative only assessments

6- List of references

6.1- Course notes

Collected and prepared notes that cover the main topics in the course content

6.2- Essential books (text books)

Elementary text books under the title :

6.3- Recommended books : 6.4- Periodicals, Web sites, … etc

Non.

7- Facilities required for teaching and learning

Lecture: PC's - packages for ready made scientific programs. - Data Show

Course coordinator: Dr. Passent El-Kafrawy

Head of Department: Prof. Mohamed R. Abdellatif

Date: / /