



Course Specification

Course Name: [Fundamentals of Computer Science]

Course Code: [CS111]

I. Basic Course Information

Major or minor element of program: [General]

Department offering the course: Computer Science Department

Academic level: [100 Level]

Semester in which course is offered: [First (fall) semester]

Course pre-requisite(s): [N/A]

Credit Hours: 3

Contact Hours Through:

Lecture	Tutorial*	Practical*	Total
2.5	0.0	1.5	4.0

* 1.5 hours for **either** Tutorial or Practical

Approval date of course specification: September 2014

II. Overall Aims of Course

[This is an entry level course which introduces the main principles of computer science to all faculty students]

III. Program ILOs covered by course

Program Intended Learning Outcomes (By Code)			
Knowledge & Understanding	Intellectual Skills	Professional Skills	General Skills
[K1, K5]	[I1, I2]	[P2, P6]	[G1, G9]



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IV. Intended Learning Outcomes of Course (ILOs)

a. Knowledge and Understanding

On completing the course, students should be able to:

- K.1 Define the basic computing terminology and computer system components.
- K.2 Define how different data types are represented inside digital computers.
- K.3 Recognize the basic principles of computer organization.
- K.4 Differentiate between system software and application software.]

b. Intellectual/Cognitive Skills

On completing the course, students should be able to:

- I.1 Solve problems using structured programming.
- I.2 Identify the basic components of the computer networks.]

c. Practical/Professional Skills

On completing the course, students should be able to:

- P.1 Develop simple high level language programs.
- P.2 Use Microsoft Office suite.]

d. General and Transferable Skills

On completing the course, students should be able to:

- G.1 Develop self-learning skills.
- G.2 Demonstrate independent critical thinking.]

V. Course Matrix Contents

	Main Topics / Chapters	Duration (Weeks)	Course ILOs Covered by Topic (By ILO Code)			
			K & U	I.S.	P.S.	G.S.
1-	Introduction to computer science, computer types and components]	[1]	[K1,K3]	[]	[]	[]
2-	Data representation and Data types]	[3]	[K2,K3]	[]	[]	[]
3-	Data manipulation and introduction to computer organization]	[2]	[K2,K3]	[]	[]	[G1]
4-	Introduction to Software]	[2]	[K4]	[]	[P2]	[]
5-	Introduction to Programming]	[4]	[]	[I1]	[P1]	[G1, G2]
6-	Introduction to computer networks]	[1]	[]	[I2]	[]	[]
	Net Teaching Weeks	13				



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VI. Course Weekly Detailed Topics / hours / ILOs

Week No.	Sub-Topics	Total Hours	Contact Hours	
			Theoretical Hours	Practical Hours*
1	Introduction to computer science	3	3	
2	Data representation & Numbering Systems	4	2.5	1.5
3	Numbering Conversions and Binary Operations	4	2.5	1.5
4	Signed Fixed Point Numbers and (r-1)'s Complements	4	2.5	1.5
5	Introduction to computer organization	4	2.5	1.5
6	Introduction to computer organization	4	2.5	1.5
7	Midterm Exam			
8	Introduction to Software	4	2.5	1.5
9	Introduction to Software	4	2.5	1.5
10	Introduction to computer networks	4	2.5	1.5
11	Introduction to Programming Language and algorithms	4	2.5	1.5
12	Introduction to Programming Language and algorithms	4	2.5	1.5
13	Introduction to Programming Language and algorithms	4	2.5	1.5
14	Introduction to Programming Language and algorithms	4	2.5	1.5
15	Final Exam			
Total Teaching Hours		57	33	18

* No Practical/Tutorial during the first week of the semester

VII. Teaching and Learning Methods

Teaching/Learning Method	Selected Method	Course ILOs Covered by Method (By ILO Code)			
		K & U	Intellectual Skills	Professional Skills	General Skills
Lectures & Seminars	X	All	All		
Tutorials	X	K2	I1		
Computer lab Sessions	X		I1, I2	All	
Practical lab Work	X		I1	All	G1
Reading Materials					
Web-site Searches					
Research & Reporting					
Problem Solving / Problem-based Learning	X		I1		G2
Projects					
Independent Work	X	K2	I1	P1	G1, G2
Group Work					
Case Studies					
Presentations					
Simulation Analysis					
Others (Specify):					



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VIII. Assessment Methods, Schedule and Grade Distribution

Assessment Method	Selected Method	Course ILOs Covered by Method (By ILO Code)				Assessment Weight / Percentage	Week No.
		K & U	I.S.	P.S.	G.S.		
Midterm Exam	X			G1, P2		15%	7
Final Exam	X	All	I1	P1	G2	60%	15
Quizzes	X	K4				5%	9
Course Work	X	All	I1, I2	P1	G1, G2	20%	2→14
Report Writing							
Case Study Analysis							
Oral Presentations							
Practical	X		I2	All	G2		
Group Project							
Individual Project							
Others (Specify):							

IX. List of References

Essential Text Books	<ul style="list-style-type: none"> New Perspectives on Computer Concepts 11th Edition, Comprehensive, June Jamrich Parsons and Dan Oja, Course Technology, 2011
Course notes	<ul style="list-style-type: none"> http://www.acadox.com/class/6359#resources
Recommended books	<ul style="list-style-type: none"> None
Periodicals, Web sites, etc. ...	<ul style="list-style-type: none"> http://pythontutor.com/visualize.html

X. Facilities required for teaching and learning

List the facilities required <ul style="list-style-type: none"> Data show Internet connection

Course coordinator: [Prof. Reem Bahgat, Dr. Emad Nabil and Dr. Nouh Sabri]

Head of Department: Prof. Abeer El Korany

Date: September 2014