



Course Specifications									
Program(s) on which this course is given:			Systems and Biomedical Engineering						
Department offering the program:			Systems and Biomedical Engineering						
Department offering the course:			Systems and Biomedical Engineering						
Academic Level:			First year						
Date			2013-2014						
Semester (based on final exam timing)			<input type="checkbox"/> Fall <input checked="" type="checkbox"/> Spring						
A- Basic Information									
1. Title:		Computer Systems (I)			Code:		SBE 101		
2. Units/Credit hours per week:		Lectures	3	Tutorial	2	Practical	--	Total	5
B- Professional Information									
1. Course description:									
2. Intended Learning Outcomes of Course (ILOs):		a) Knowledge and Understanding							
		K1: Concepts and theories of mathematics and sciences, appropriate to the discipline.							
		K2: Basics of information and communication technology (ICT)							
		K5: Methodologies of solving engineering problems, data collection and interpretation							
		b) Intellectual Skills							
		I2: Select appropriate solutions for engineering problems based on analytical thinking.							
		I3: Think in a creative and innovative way in problem solving and design.							
		I7: Solve engineering problems, often on the basis of limited and possibly contradicting information.							
		I12: Create systematic and methodic approaches when dealing with new and advancing technology.							
		c) Professional and Practical Skills							
		P1: Apply knowledge of mathematics, science, information technology, design, business context and engineering practice integrally to solve engineering problems.							
		P2: Professionally merge the engineering knowledge, understanding, and feedback to improve design, products and/or services.							
		d) General and Transferable Skills							
		T3: Communicate effectively.							
T5: Lead and motivate individuals.									
T7: Search for information and engage in life-long self learning discipline.									

3. Contents			
Topic	Total hours	Lectures hours	Tutorial/ Practical hours
Data Types- Number Systems – Complements - Fixed & Floating-Point Representations	5	3	2
Logic Gates - Boolean Algebra	5	3	2
Map Simplification Combinational circuits – Decoders Multiplexers	5	3	2
Flip-Flops - Sequential Circuits	5	3	2
Registers Memory Unit – Counters	5	3	2
Register Transfer Language	5	3	2
Arithmetic Micro operations Logic Micro operations Shift Micro operations	5	3	2
Arithmetic Logic Shift Unit	5	3	2
Instruction Codes – Computer Register	5	3	2
Instruction Cycle – Memory-Reference Instruction	5	3	2
Input-Output & Interrupt - Design of Accumulator Logic	5	3	2
4. Teaching and Learning Methods	Lectures (*)	Practical Training/ Laboratory ()	Seminar/Workshop ()
	Class Activity (*)	Case Study (*)	Projects ()
	E-learning ()	Assignments /Homework (*)	Other:
5. Student Assessment Methods			
• Assessment Schedule		Week	
-Assessment 1; Class test		During lectures	
-Assessment 2; Project Assignment		14 th week	
-Assessment 3; Presentations		-----	
-Assessment 3; Midterm Exam		7 th week	
-Assessment 4; Final Exam		16 th week	
• Weighting of Assessments			
-Mid-Term Examination		20%	
-Final-term Examination		60%	
-Project		-----	
-Class Test		20%	
-Presentation		-----	
-Total		100%	

6. List of References

Course notes

- | | |
|---|---|
| 1 | Computer System Architecture by Morris Mano, Prentice-Hall, Third Ed. |
| 2 | Digital Computer Fundamentals by Thomas Bartee, McGRAW Hill, 2005, Sixth Ed.. |

7. Facilities Required for Teaching and Learning

- | |
|--|
| - Classroom White board (*) |
| - Classroom Laptop and data-show (*) |
| - Electronics Laboratory () |
| - Computer Laboratory () |
| - Others () |

Course Coordinator:	Assoc.Prof.Dr. Sahar A. Fawzi
----------------------------	-------------------------------

Head of Department:	Prof. Dr. Ahmed Badawi
----------------------------	-------------------------------