





# **Course Specifications**

Course Title:	Fundamentals of Computing	
Course Code:	ICS 110	
Program:	Computer Science and Information	
Department:	Computer Science and Information	
College:	College of Science at Az Zulfi	
Institution:	Majmaah university	



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# A. Course Identification

1. Credit hours:2		
2. Course type		
a. University College Department ✓ Others		
b. Required Elective		
3. Level/year at which this course is offered:		
1 <sup>th</sup> level		
4. Pre-requisites for this course (if any):Nil		
5. Co-requisites for this course (if any): Nil		

#### **6. Mode of Instruction** (mark all that apply)

No	Mode of Instruction	<b>Contact Hours</b>	Percentage
1	Traditional classroom	24	80%
2	Blended	3	10%
3	E-learning	3	10%
4	Correspondence		
5	Other		

#### 7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours	
Contac	Contact Hours		
1	Lecture	20	
2	Laboratory/Studio		
3	Tutorial	10	
4	Others (specify)		
	Total	30	
Other Learning Hours*			
1	Study		
2	Assignments		
3	Library		
4	Projects/Research Essays/Theses		
5	Others (specify)		
	Total		

\* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

## **B.** Course Objectives and Learning Outcomes

#### **1.** Course Description

The course covers basic principles of mathematics and programming, studying the steps needed to solve real world problems by computer and introduce important and advance elements flowchart, analysis and implementation. This course provides the student with the skills required to design, algorithms and flowchart to intermediate complexity.

#### 2. Course Main Objective

- 1. Introducing the basic principles of mathematics and programming that are critical in establishing effective and well-coordinated solutions to problems in computer science.
- 2. Studying the steps needed to solve real world problems by computer, including characterization of the problem, and choosing the algorithm model for the solution
- 3. Flowchart, analysis and implementation

## **3.** Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Identify data representations	.a1
1.2	Knowledge of algorithms	.a2
1.3	Understanding equations of forced expression, binary factors and priority processes, layout design.	.a2
1	Understanding computational principles in problem solving	.a2
2	Skills :	
2.1	Learn the basics of programming languages	.b1
2.2		
2.3		
2		
3	Competence:	
3.1		
3.2		
3.3		
3		

## **C.** Course Content

No	List of Topics	Contact Hours	
1	Data representations: Binary system, Word code, register, data types and identifiers	6	
2	<sup>2</sup> Algebraic expression equations, Binary operators and processes priority, Flowcharts design		
3	Computational principles in problem-solving: problem specification 6 and decomposition; algorithm paradigm of solution, testing and validation.		
4 Algorithms concepts: selection and iteration statements, write 6 pseudo-code and sequential and parallel algorithms			
5 Fundamentals of Programming languages: Visual Basic 6 programming concepts			
Total			

## **D.** Teaching and Assessment

**1.** Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code Course Learning Outcomes	<b>Teaching Strategies</b>	Assessment Methods
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Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Identify data representations	Lectures.	Written Exam
1.2	Knowledge of algorithms	Case studies. Individual presentations.	Homework assignments Class Activities Quizzes
2.0	Skills		
2.1	Understanding equations of forced expression, binary factors and priority processes, layout design.	Lectures. Case studies. Individual	Written Exam Homework assignments
2.2	Understanding computational principles in problem solving	presentations. Brainstorming.	Class Activities Quizzes
3.0	Competence		
3.1	Learn the basics of programming languages	Lectures. Case studies. group discussions	Written Exam Homework assignments Class Activities Quizzes

## 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	First written mid-term exam	6	15%
2	Second written mid-term exam	12	15%
3	Presentation, class activities, and group discussion	Every week	10%
4	Homework assignments	After Every chapter	10%
5	Implementation of presented programs	Every two weeks	10%
6 7	Final written exam	16	40%
8			

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

Office hours - Office call – Email - Mobile:

# **F. Learning Resources and Facilities**

#### **1.Learning Resources**

<b>Required Textbooks</b>	Tom Jenkyns; Ben Stephenson, Fundamentals of Discrete Math for Computer Science,2018
Essential References Materials	-
Electronic Materials	Determines as the course is going on
Other Learning Materials	Video and presentation

## 2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom that are available at college of science at AzZulfi.
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	Smart Board - data show
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	A/N

## **G.** Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	<b>Evaluation Methods</b>
course evaluation	Student-faculty management meeting	Questionnaires
Evaluation of Teaching	Program/Department Instructor	Discussion within the staff members teaching the course Departmental internal review of the course.

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify) Assessment Methods (Direct, Indirect)

# **H. Specification Approval Data**

Council / Committee	
Reference No.	
Date	