



## Course Specifications

<b>Course Title:</b>	Information and Computing Technology Concepts
<b>Course Code:</b>	ICTC 1302
<b>Program:</b>	Cybersecurity, Computer Science, and Information Systems
<b>Department:</b>	Computing and Informatics
<b>College:</b>	Hekma School of Engineering, Computing and Informatics
<b>Institution:</b>	Dar Al-Hekma University

## Table of Contents

<b>A. Course Identification.....</b>	<b>3</b>
6. Mode of Instruction (mark all that apply) .....	3
<b>B. Course Objectives and Learning Outcomes.....</b>	<b>3</b>
1. Course Description .....	3
2. Course Main Objective.....	3
3. Course Learning Outcomes .....	4
<b>C. Course Content .....</b>	<b>4</b>
<b>D. Teaching and Assessment .....</b>	<b>4</b>
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods .....	4
2. Assessment Tasks for Students .....	5
<b>E. Student Academic Counseling and Support .....</b>	<b>5</b>
<b>F. Learning Resources and Facilities.....</b>	<b>6</b>
1. Learning Resources .....	6
2. Facilities Required.....	6
<b>G. Course Quality Evaluation .....</b>	<b>6</b>
<b>H. Specification Approval Data .....</b>	<b>7</b>

## A. Course Identification

<b>1. Credit hours:</b>			
<b>2. Course type</b>			
a.	University <input type="checkbox"/>	College <input type="checkbox"/>	Department <input type="checkbox"/>
b.	Required <input type="checkbox"/>	Elective <input type="checkbox"/>	Others <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b> 1 <sup>ST</sup> year, 1 <sup>ST</sup> semester			
<b>4. Pre-requisites for this course (if any):</b> None			
<b>5. Co-requisites for this course (if any):</b> None			

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

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%
2	Blended	0	0%
3	E-learning	0	0%
4	Distance learning	0	0%
5	Other	0	0%

## 7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	30
2	Laboratory/Studio	30
3	Tutorial	0
4	Others (specify)	0
	<b>Total</b>	<b>60</b>

## B. Course Objectives and Learning Outcomes

### 1. Course Description

This course focuses on the history of computer evolution and the role of computation in solving problems for cybersecurity, computer science, information systems, and information technology. It overviews computer hardware, software and information systems, as well as communication applications and security protocols. It also focuses on enhancing the problem-solving skills using problems analysis techniques, Flowcharts and algorithms. This course will introduce foundation programming technique to students.

### 2. Course Main Objective

A major course that fulfils the requirements of the CS POS for graduation.

The main purpose of the course is to build the foundation for coding experience through explaining the syntax and semantics of a higher-level language. The students will identify the developing programs using fundamental concepts of procedural programming including primitive data types and strings, conditional and iterative control structures, methods, and

parameter passing, files and I/O streams, and arrays. Finally, students will examine the mechanics of running, testing, and debugging computer programs using proper Integrated Development Environment (IDE) with a substantial utilization of lab-based exercises.

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
1	<b>Knowledge and Understanding</b>	
1.1	Describe the history and evolution of computers including contemporary trends.	1
1.2	Describe key concepts related to ICT, devices, computer storage and software	1
1.3	Differentiate between the types of communications (internet, email, and social networks)	1
2	<b>Skills :</b>	
2.1	Solve problem using algorithms and flowcharts.	2
2.2	Identify keywords and program structure.	2
2.3	Define variables and constants of different data types.	2
2.4	Use input and output statements.	2
3	<b>Values:</b>	
3.1	Use online tools to learn collaboration	5

### C. Course Content

No	List of Topics	Contact Hours
1	Computers and Digital Basics	4
2	Computer Hardware	4
3	Computer Software	4
4	Communication applications	8
5	Cyber Security	8
6	Information Systems	8
7	Algorithms and pseudocodes.	8
8	Programming keywords and structure	4
9	Define Variables and constants	4
10	Print statements	4
11	Input statements	4
<b>Total</b>		<b>60</b>

### D. Teaching and Assessment

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

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	<b>Knowledge and Understanding</b>		
1.1	Describe the history and evolution of computers including contemporary trends.	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Labs</li> <li>• Group activities</li> </ul>	<ul style="list-style-type: none"> <li>• Quizzes</li> <li>• Assignments</li> <li>• Exams</li> </ul>

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.2	Describe key concepts related to ICT, devices, computer storage and software	• Reading and videos	• Participation
1.3	Differentiate between the types of communications (internet, email, and social networks)		
2.0	Skills		
2.1	Solve problem using algorithms and flowcharts.	• Lectures • Labs • Group activities • Readings and videos	• Quizzes • Presentations • Participation
2.2	Identify keywords and program structure.		
2.3	Define variables and constants of different data types.		
2.4	Use input and output statements.		
3.0	Values		
3.1	Use online tools to learn collaboration	• Lectures • Labs • Group activities	• Quizzes • Presentations • Participation

## 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz 1	4th	5%
2	Assignment 1	6th	5%
3	Midterm Examination	7th	20%
4	Quiz 2	9th	5%
5	Project Report	8th	15%
6	Project Presentation	9th	5%
7	Assignment 2	10th	5%
8	Final Exam	16th	30%
	Participation	All weeks	10%

\*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 :**

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

**Full time faculty** are required to have a minimum of 10 office hours per week on campus.

Usually the time allotted to student exceeds this amount since faculty are always available to students as required.

**Part time faculty** are required to have a minimum of one office hour per week on campus for each course. The faculty is also available through email and Blackboard messaging system.

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	Parsons, J. J., & Oja, D. (2018). New perspectives on computer concepts 2018: Introductory. Boston: Course Technology. ISBN 13: 978-1-305-95151-8
<b>Essential References Materials</b>	Parsons, J. J., & Oja, D. (2015). New perspectives on computer concepts 2014: Introductory. Boston: Course Technology. ISBN – 13: 978-1-285-09768-8
<b>Electronic Materials</b>	Introduction to Computer Information Systems <a href="https://en.wikibooks.org/wiki/Introduction_to_Computer_Information_Systems">https://en.wikibooks.org/wiki/Introduction_to_Computer_Information_Systems</a>
<b>Other Learning Materials</b>	None

### 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	Computer lab equipped with 20 computer stations.
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	Computers with Windows Operating System Projector connected to the instructor computer Internet connection Audio system White board
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	None

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course Indirect Assessment (ABET): the instructor collects valuable feedback regarding the course CLOs	Students	Course Survey, indirect
Student course evaluations: The university collects valuable feedback from the student course evaluation which is completed at the end of the semester for each course.	Students	University Survey, indirect
Other surveys: The University gathers several surveys measuring teaching effectiveness; this includes	Students	Questionnaire, indirect

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student Satisfaction Survey and Graduating Senior Survey which are both held every year.		
Peer & department chair visits and evaluations	Faculty members	Visits & evaluation form, indirect
Performance management KPIs annual assessment	Quality Assurance Office	Forms, direct
Course reports	Faculty Members	Forms, direct
Annual program reports	Program Director	Forms, direct
External evaluation for course reports and files once a year	External examiner	Forms, indirect

**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	6
Reference No.	6
Date	20/05/2021