Module specification

1. Factual information			
Module title	**TM111: Introduction to Computing and Information Technology 1**	**Level**	**Undergraduate**
Module tutor	Ms. Amal Ghazi	**Credit value**	**30**
Module type	Taught	**Notional learning hours**	**8**

2. Rationale for the module and its links with other modules

This is an introductory level 1 module, which provides students with a broad introduction to Computing and Information Technology concepts, principles and theories.

3. Aims of the module

This module aims to:

- Help students to develop their understanding about the significant role of computers in our lives.
- Explore some processes by which sound and images in the real world are captured and stored and may be shared with peers and the wider world through social networking sites.
- Introduce students to algorithmic thinking and problem-solving skills using examples from everyday life.
- Enhance student's knowledge about implementing solutions to simple problems in a visual programming.
- Introduce students to the key concepts and technologies underpinning the communication networks.
- Prepare the student for further academic study by helping him develop his study skills.

4. Pre-requisite modules or specified entry requirements

EL111

5. Intended learning outcomes	
A. Knowledge and understanding	**Learning and teaching strategy**
A1. Understand the fundamental principles, concepts and techniques underlying Computing and IT. **A2.** Explore various situations in which Computing and IT systems are used, the ways in which people interact with them, and the possibilities and limitations of such systems **A3.** Be aware of the ethical, social and legal issues that can be associated with the development and deployment of Computing & IT systems. **A4.** Demonstrate an understanding of algorithmic thinking and problem-solving skills using examples from everyday life. **A5.** Understand the general principles, roles of various components, and the challenges involved in sending data across communication networks. **A6.** Know how to find, rank and reference information; how to build your information literacy skills and how to interpret data in different forms.	The methods of instruction may include, but are not limited to : • 25% face-to-face tutorial sessions • Class discussions • Topic-related activities • Independent study • Forums on the LMS • Office hour discussions • Feedback and guidance on TMA and MTA • Module textbook and support video material

B. Cognitive skills	**Learning and teaching strategy**
B1. Evaluate key computing and IT concepts in a range of contexts. **B2.** Apply appropriate techniques and tools for abstracting, modelling, problem solving, designing and testing computing and IT systems. **B3.** Compare, contrast, critically analyze and refine specifications and implementations of software systems and/or simple hardware systems. **B4.** Identify situations in which different network technologies may be used.	• 25% face-to-face tutorial sessions • Class discussions • Independent study • Forums on the LMS • Feedback and guidance on TMA and MTA • Module textbook and support video material

C. Practical and professional skills	**Learning and teaching strategy**
C1. Communicate information, arguments, ideas and issues clearly and in appropriate	The methods of instruction may include, but are not limited to :

C. Practical and professional skills	Learning and teaching strategy
ways, bearing in mind the audience for and the purpose of your communication. **C2.** Use appropriate numerical and mathematical skills to carry out calculations and analyze data. **C3.** Work independently, planning, monitoring, reflecting on and improving your own learning **C4.** Demonstrate study skills at a level appropriate to higher education, such as study planning, learning from feedback and reading actively	• 25% face-to-face tutorial sessions • Class discussions • Independent study • Forums on the LMS • Feedback and guidance on TMA and MTA • Module textbook and support video material

D Key transferable skills	Learning and teaching strategy
D1. Evaluate computing and IT systems, using appropriate simulation and modelling tools where appropriate **D2.** Use a range of resources to help you develop as an independent learner. **D3.** Use information literacy skills, computers and software packages appropriate to the workplace. **D4.** Communicate appropriately with your tutor and other students using email, online conferences and forums.	The methods of instruction may include, but are not limited to : • 25% face-to-face tutorial sessions • Class discussions • Independent study • Forums on the LMS • Feedback and guidance on TMA and MTA • Module textbook and support video material

6. Indicative content.

Block 1

Part 1: Introduction to Computing and IT

Part 2: Key milestones in the development of computer and the internet; Binary logic; Bits and bytes

Part 3: Capturing sound and vision; Analogue to digital conversion

Part 5: Human Computer Interaction; HCI design; usability; accessibility/inclusivity issues

Part 6: Developing algorithmic thinking; problem-solving and other employability skills

Block 2

Part 1: Programming with sequencing, variables, expressions, strings & input/output.

Part 2-3: Programming with selection.

Part 4-5: Programming with repetition

Block 3

Part 1: Introduction to networks and how the internet works

Part 2: The internet: IP addresses; packets; routing; gateways. Internet protocols, layers and stacks

Part 3: Wireless communication: WiFi, BlueTooth, RFID, LANs, PANs.

Part 4: The Internet of Things - Smart cities, smart cars; 'smart' technologies

Part 6: The information society

7. Assessment strategy, assessment methods and their relative weightings

TMA Work: 20%
MTA: 30%
Final Exam: 50%

8. Mapping of assessment tasks to learning outcomes

	Learning outcomes																	
Assessment tasks	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
TMA'S	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

8. Mapping of assessment tasks to learning outcomes

Assessment tasks	Learning outcomes																	
	A 1	**A 2**	**A 3**	**A 4**	**A 5**	**A 6**	**B 1**	**B 2**	**B 3**	**B 4**	**C 1**	**C 2**	**C 3**	**C 4**	**D 1**	**D 2**	**D 3**	**D 4**
MTA	✓	✓	✓	✓			✓	✓	✓	✓		✓		✓	✓			
End of Semester Exam	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓			

9. Teaching staff associated with the module

Name and contact details

Ms. Amal Ghazi, aghazi@aou.edu.kw

10. Key reading list

Author	Year	Title	Publisher	Location
Module adopted from OU, UK. It will be finalised by OU, UK by October 2017. Suggested /Preferred books :		Using Information Technology	McGraw Hill	2015

11. Other indicative text (e.g. websites)

https://lms.arabou.edu.kw