

Module Specification

1. Factual information			
Module title	M150 :Data, Computing and Information	Level	Undergraduate
Module tutor		Credit value	30
Module type	Taught	Notional learning hours	

2. Rationale for the module and its links with other modules
<p>The M150 is a mandatory elementary level module which introduces students to the essential concepts related to data and information in addition to some of the ways in which humans interact with and make use of this information. The module also gives basic knowledge of computer logic, coding, analysis, design, and decomposition of large problems. These are important concepts and will be used in data structure and algorithms, programming and software engineering courses.</p>

3. Aims of the module
<p>The module aims to:</p> <ul style="list-style-type: none"> • Help students to recognise, analyse, and differentiate the diverse ways in which data can be acquired, transformed and presented. • Examine some of the social, political and legal dimensions of data and information. • Introduce the student to fundamentals of programming using JavaScript in addition to modular programming. • Develop a sense of the joy of enquiry. • Foster a sense that computers can be used creatively as well as mechanically. • Provide a foundation for future study.

4. Pre-requisite modules or specified entry requirements
<p>Studying this module is considering as an introduction to the ITC programme. The student should pass the English module EL111.</p>

5. Intended learning outcomes	
A. Knowledge and understanding	Learning and teaching strategy
<p>Students will be able to:</p> <p>A1. Explain the nature of data, methods of capture and how such data can be converted into different representations;</p> <p>A2. Demonstrate how agreed standards are</p>	<ul style="list-style-type: none"> • Knowledge and understanding are acquired from a teaching textbook, reference textbooks, directed reading, multi -media packages computer mediated, web-based resources.

5. Intended learning outcomes	
A. Knowledge and understanding	Learning and teaching strategy
<p>essential.</p> <p>A3. Understand the digital nature of the computer's world and contrast it with our analogue world of sense and motion.</p> <p>A4. Describe the basic composition of a simple computing system.</p> <p>A5. Analyse, design and implement simple and modular software solutions.</p> <p>A6. List the fundamental principles of information design (including Principles of human-computer interaction) and apply them in simple situations.</p> <p>A7. Deal with natural ways of interacting with computers such as speech – and pattern recognition.</p> <p>A8. Characterize secure computer systems.</p>	<ul style="list-style-type: none"> • 25% face-to-face tutorial sessions. • TMA work. • Office hours. • Learning from the feedback on the continuous assessment components (TMA work + MTA). • Forums on the LMS.
B. Cognitive skills	Learning and teaching strategy
<p>Students will be able to:</p> <p>B1. Analyse a small computer program in terms of its inputs, programming structures and outputs</p> <p>B2. Analyse a simple problem in terms of the necessary operations that are required to develop a program;</p> <p>B3. Modify part of a computer programme to incorporate specified operations on given data by choosing appropriate programme structures.</p>	<ul style="list-style-type: none"> • Knowledge and understanding are acquired from a teaching textbook, reference textbooks, directed reading, multi-media packages computer mediated, web-based resources. • 25% face-to-face tutorial sessions. • TMA work. • Office hours. • Learning from the feedback on the continuous assessment components (TMA work + MTA). • Forums on the LMS.
C. Practical and professional skills	Learning and teaching strategy
<p>Students will be able to:</p> <p>C1. Use the JS programming language to implement algorithms and flowchart.</p> <p>C2. Write a short report which is based on one or more sources and which has a well-argued conclusion.</p> <p>C3. Discuss the legal and ethical issues surrounding data acquisition, privacy, accuracy, surveillance, and the use of cryptography.</p>	<ul style="list-style-type: none"> • Knowledge and understanding are acquired from a teaching textbook, reference textbooks, directed reading, multi-media packages computer mediated, web-based resources. • 25% face-to-face tutorial sessions. • TMA work. • Office hours. • Learning from the feedback on the continuous assessment components (TMA work + MTA). • Forums on the LMS.

D. Key transferable skills	Learning and teaching strategy
<p>To be able to</p> <p>D1. Apply demonstrate study skills at a level appropriate to higher education, such as timetabling study; read critically for meaning and take effective notes; and use study aids such as dictionaries and glossaries.</p> <p>D2. Read and understand a simple computer programme.</p> <p>D3. Break down complex problems into small manageable modules.</p> <p>D4. Communicate appropriately with your tutor and other students using email and online conferences.</p> <p>D5. Write a short discursive piece on a given subject using information located on the World Wide Web by using JS programming.</p>	<ul style="list-style-type: none"> • Knowledge and understanding are acquired from a teaching textbook, reference textbooks, directed reading, multi-media packages computer mediated, web-based resources. • 25% face-to-face tutorial sessions. • TMA work. • Office hours. • Learning from the feedback on the continuous assessment components (TMA work + MTA). • Forums on the LMS.

6. Indicative content.
<ul style="list-style-type: none"> • Data and information: an introduction • Representation • Crossing the boundary: analogue universe, digital worlds • The structure of hardware and software • An introduction to programming using JavaScript • Programs and data • Managing complexity through modularity • Software development • Interacting with information • Sensational computing • Hiding data: an introduction to security

7. Assessment strategy, assessment methods and their relative weightings
<p>TMA Work: 20%</p> <p>MTA: 30%</p> <p>Exam: 50%</p>

8. Mapping of assessment tasks to learning outcomes																			
Assessment tasks	Learning outcomes																		
	A1	A2	A3	A4	A5	A6	A7	A8	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5
TMA	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MTA	✓	✓	✓	✓						✓						✓			
Final Exam	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓		

9. Teaching staff associated with the module	
Tutor's name and contact details	Contact hours
To be appointed	

10. Key reading list				
Author	Year	Title	Publisher	Location
The Open University	2015	Data, Computing and Information	The open university	UK

11. Other indicative text (e.g. websites)
https://lms.arabou.edu.kw http://arabou.edu.kw/

12. Disability Accommodation
Enquiries for academic accommodations by students with a documented disability and /or learning difficulties should be directed to the module tutor.

13. Academic Honesty
<p>All AOU students should be committed to uphold the AOU's Honor Code which states that AOU students should:</p> <ul style="list-style-type: none"> • accept responsibility for learning • conduct themselves with honor and integrity at all times • not deceive • not plagiarize • not fabricate • not commit professional misconduct • not lie • not cheat <p>Students should know that ignorance of the university rules and regulations will not be accepted as an excuse for violation of the AOU's Honor Code.</p> <p>For additional information please visit:</p> <ol style="list-style-type: none"> 1. http://www.arabou.edu.kw 2. https://arabou.edu.kw/files/plagiarism_mat.pdf 3. http://en.wikipedia.org/wiki/Academic_dishonesty

