MSc Applied Computing and Digital Technologies

Academic year: 2023-2024

Programme documents detail the aims, learning strategies, structure and intended learning outcomes that students should achieve if they fully engage with the learning provided within the programme. The document is intended to support and inform prospective students, current students, academic and support staff, external stakeholders (such as PSRBs) and external examiners.

1. PROGRAMME INFORMATION	
Title of Final Award	MSc Applied Computing and Digital Technologies
Code	OUpm017
Awarding Body	Open University of Mauritius
Academic Unit	Computer Science and Information Technology
Programme Manager	Ms Rubeena Doomun
Administrative Contact Point	Prospective learners: admission1@open.ac.mu Existing learners: studentsupport@open.ac.mu
Programme Duration	*Minimum 2 years* *Maximum 4 years*
Total Credits	120
Credits Per Year	Normally 60 credits per academic year
MQA NQF Level	Level 9
EHEA Level	Level 7
External Accreditors	Not applicable
Collaborative Partners	Not applicable
Programme Approval Date	May 2019
Last Revision	Not applicable
Last Update	April 2023

2. ENTRY REQUIREMENTS

General:	
	General Entry Requirements under Direct Entry to Taught Postgraduate Programmes:
	Successful completion of an undergraduate degree with
	• at least a Second Class or 50%, whichever is applicable or
	• a GPA not less than 2.5 out of 4 or equivalent, from a recognised Higher Education Institution.
	OR
	an Ordinary Degree or a non-honours degree from a recognized University with at least two years of work experience in the relevant field which demonstrate that a candidate possesses appropriate knowledge and skills at a standard acceptable by the Academic Council.
	OR
	possesses a Bachelor's degree with an award below a Second-Class degree from a recognised institution and has at least two years of relevant working experience.
	OR
	alternative qualifications acceptable to the Open University of Mauritius.
	<u>Note:</u>
	• Mature candidates will be considered on their own merit. (refer to OU general rules and regulations)
Programme Specific:	A Bachelor's degree in the field of IT

3. PROGRAMME OVERVIEW

Aims and Objectives of	The programme aims to develop skills to solve real-world industry related problems based on advanced knowledge of the principles and methodologies of a range of Computer Science specialisms such as Artificial Intelligence, Cyber Security, Data

the Programme**:**	Science, Software Engineering and Web Technology. You will be equipped to use appropriate techniques and tools in the management of IT projects. Students taking this degree will acquire knowledge and skills that will enable them to apply concepts and best practices in the IT industry. Graduates mainly go on to work in the IT industry as senior developers, team leaders, senior consultants, project managers or senior technical specialists. Academic possibilities include further study towards a PhD qualification, or research assistant positions undertaking related research.
Intended Learning Outcomes: After successfully completing this programme, students will be able to:	
Knowledge and Understanding	**K1**. Apply scientific and technological principles underlying Software Engineering and Computer Science **K2.** Apply advanced concepts in specialist areas of Computer Science such as Artificial Intelligence, Cyber Security, Software Engineering and Web Technology **K3.** Use specialist tools and state- of- the-art techniques used to design, implement and verify software-based systems **K4.** Practice methods of software design, development, project management and testing **K5.** Relate to methods of research and enquiry within the discipline.
Cognitive Skills	**C1.** Analyse problems to determine appropriate methods of design, testing and evaluation **C2.** Acquire new knowledge and understanding through critical reading of research material **C3.** Find, read, understand and explain literature related to advanced and specialised areas of Computer Science, including scientific publications, industrial documentation, standards, ethical, legal and environmental guidance **C4.** Apply such knowledge and understanding to specialist design problems **C5.** Formulate a research project involving an advanced and specialised software application, system, or other computer-based solution, using appropriate state-of-the- art techniques, technologies and tools.
Practical/ Professional Skills	**P1**. Use specialist software development and analysis tools **P2.** Model and design advanced and specialised software applications, information systems, and other computer-based solutions **P3.** Test, evaluate, and maintain such applications and solutions.
Transferable Skills	**T1.** Use a range of sources, both conventional and electronic, to locate relevant information, and critically appraise that information **T2.** Communicate effectively and present technical information concisely in written and verbal forms to a range of audiences **T3.** Work efficiently and effectively as a member of a project team, managing your own contribution and the overall task

| | **T4.** Work independently on a significant research project, managing time and risk in an effective manner |
| | **T5.** Recognise legal and ethical issues of concern to business, professional bodies, and society, including but not limited to information security, and follow relevant guidelines to address these issues. |

4. PROFESSIONAL, STATUTORY AND REGULATORY BODIES (where applicable)

Not applicable

5. LEARNING AND TEACHING STRATEGY

Learning and Teaching Methods:

Class will mostly take place via the Open University e-platform. In addition to the e-platform, the module offers optional face-to-face classes. While these classes are not mandatory, it is strongly advised that for those students who can attend, that they do so.

For every module, students will be expected to complete a range of activities and will have a variety of opportunities to achieve the learning outcomes through a combination of lectures, practical work, directed reading, presentations, technical reports, coursework assignments and written examinations.

At the end of the taught part of the course, you will have undertaken an individual applied dissertation project. A coursework can vary from design work to reports and presentations resulting from directed reading and coursework assignments with a literature review component. The individual applied dissertation project in the final year includes independent research, project implementation and report writing. After the submission of the project, students will go through a viva/oral defence.

Strategy	LO
Practical exercise	K3,K4,P1,P2,P3
Group work	T3
Independent research	C5
Independent learning	K1,K2,K5,C1-C4,T4
Presentation	T2
Technical Report	T1,T5

Overall Workload:

Your overall workload as a student consists of independent learning, e-learning activities and, if you choose to, face- to- face sessions. The following gives you an indication of how much time you will

need to spend on the different components of your programme at each level. Each ECTS credit taken equates to 25-30 hours of study time.

The expected study time for this programme will be as follows:

Year 1: 1,500 to 1,800 hours for 60 ECTS credits.
Year 2: 1,500 to 1,800 hours for 60 ECTS credits.

Typically, for each year of your degree, you will spend 0-15% of your time in face- to- face sessions, 35-40% of your time engaging with e-learning activities and 60% of your time in independent study time.

A typical study week for a student will involve some optional face- to- face sessions, required engagement in online discussion forum, the completion of online activities and independent study time to review attached readings, textbooks and relevant sections of the module document. Students should expect to devote 8 to 12 hours of study time per week per module.

These are indicative and may vary from student to student.

6. ASSESSMENT STRATEGY

Assessment Methods

A range of formative and summative assessment exercises are designed to enable you to demonstrate and apply your knowledge and understanding.

Most modules will consist of a Tutor Marked Assessment component and an examination. TMAs include:
- Technical reports
- Software designs and implementation
- Group project
- Exercises and problem set
- Project presentation
- Applied dissertation project
- Viva

Assessment mapping: See Appendix Page 12.

Academic Feedback

Throughout the course of your studies, tutors will provide informal feedback on your online activities and class contributions. Feedback may be individual or provided to the class as a whole.

Each summative assessment will be accompanied by detailed marking criteria and marking scheme detailing the expectation of the assessment at each grade classification level. Feedback on

assessment will be provided along the marking criteria. Marking criteria will be made available to the student at the same time as the assessment details.

Students will receive written individual feedback on all TMA components.

The University Policy on Assessment Feedback and Guidance on Provisional Marks can be found in the General Rules.

Late Submission, Extension and Re-sit Policy

The University Policy on Late Submission, Extension and Re-sits can be found in the General Rules.

Special Circumstances

The University Policy on Special Circumstances can be found in the General Rules.

Continuous Assessment and Exam Regulations

The University Regulations on Continuous Assessment and Examination can be found in the General Rules.

Dissertation

The University Regulations on Dissertations can be found in the General Rules.

7. ACADEMIC MISCONDUCT

As a safeguard to the quality and standard of Open University's qualifications and awards, the University takes any incidence of academic misconduct seriously and will investigate any reported case.

Academic Misconduct refers to any activity where a student, through unpermitted means, seeks to gain an advantage in the completion of an assessment. Any unpermitted action will be considered as academic misconduct when occurring during a formal examination, a TMA, or any other form of assessment considered by the Board of Examiners and undertaken in pursuit of a University qualification or award.

Plagiarism (using, intentionally or unintentionally another person work and presenting it as one's own) will be systematically checked through an automated text-matching detection software that supports the detection of plagiarism: Turnitin.

Any suspected cases of academic misconduct will be reported and investigated. Academic misconduct offences may lead to suspension or expulsion from the University.

The University Regulations on Academic Misconduct can be found in the General Rules.

8. PROGRAMME STRUCTURE

C= Core i.e. modules which must be taken to be eligible for the award
E = Electives i.e. modules chosen by students from a range of listed optional modules

S1 = Semester 1
S2 = Semester 2

Year 1 – Level 9 (NQ-MQA) – 2nd Cycle Advanced (NQ-EHEA)
All core modules must be taken.

Code	Module Title	Type	Semester	Credits
OUpm017111	Service-Oriented Architecture and Web Services	**C**	**S1**	**10**
OUpm017112	Cloud Computing Applications	**C**	**S1**	**10**
OUpm017113	Web Engineering & Analytics	**C**	**S1**	**10**
OUpm017121	Business IT	**C**	**S2**	**10**
OUpm017122	Wireless Sensors and Embedded Systems	**C**	**S2**	**10**
OUpm017123	Machine Learning and Artificial Intelligence	**C**	**S2**	**10**
			Credit Total	**60**

Year 2 – Level 9 (NQ-MQA) – 2nd Cycle Advanced (NQ-EHEA)
All core modules must be taken.

Code	Module Title	Type	Semester	Credits
OUpm017211	IT Project Management	**C**	**S1**	**7.5**
OUpm017212	Research Methods for IT	**C**	**S1**	**7.5**
OUpm017213	Mobile Application Development	**C**	**S1**	**15**
OUpm017221	Cyber Security and Cyber Law	**C**	**S2**	**7.5**
OUpm017222	Big Data Theory and Practice	**C**	**S2**	**7.5**
OUpm017223	Applied Dissertation Project	**C**	**S2**	**15**
			Credit Total	**60**

Overall Programme Credit Total	**120**

9. GRADING

Grading System:

Assessments are graded in percentage and correspond to a letter grade and a grade point.

To pass a module, students need an overall of 40% weighted average of their combined continuous assessment and examination.

Marks (x) %	Description	Letter Grade	Grade Point
X ≥ 70	Excellent	A	5

60 ≤ X < 70	Very Good	B	4
50 ≤ X < 60	Good	C	3
40 ≤ X < 50	Satisfactory	D	2
X < 40	Ungraded	U	0
Non-graded/pending	See section 17.1.1 in Assessment Rules and Regulations for pending grades letter codes		

All components of TMAs will have to have been submitted and examination sat to pass the module.

Students will normally not be allowed to postpone more than two modules for the following semester.

If a student obtains grade "U" in three or more modules in the same semester, and the CPA is below 40 for that semester, the student will be requested to repeat the semester unless decided otherwise by the Academic Council upon the recommendation of the Board of Examiners. When repeating a semester, a student may or may not take the modules for which Grade C or above has been obtained.

If after completing a level, the student's CPA < 40, the student will have to repeat the entire academic year, and retake the modules as and when offered. However, s/he will not be required, if s/he wishes, to retake 3 module(s) for which Grade C or above has been obtained.

Students will not be allowed to repeat more than two semesters during the entire duration of the programme.

University General Marking Criteria for Postgraduate Exams and Postgraduate Dissertations can be found in the General Rules.

Cumulative Point Average (CPA):

CPA will determine the classification of your degree. Your CPA is the weighted average of your overall mark in each module; the weight being the number of credits attached to each module and your average module mark being the weighted average of the continuous assessment and final exam.

Example calculation of the Total CPA at level 9 for Taught postgraduate programmes:

Semester	Course	% Scores	ECTS Credit Unit	Module Credit x % Score
1	MAXX1	65	10	65*10 = 650
	MAXX2	73	10	73*10 = 730
	MAXX3	42	10	42*10 = 420
2	MAXX4	65	10	65*10 = 650
	MAXX5	66	10	66*10 = 660
	MAXX6	60	10	60*10 = 600
3	MAXX7	68	7.5	68*7.5 = 510

	MAXX8	55	7.5	55*7.5 = 412.5
	MAXX9	64	10	64*10 = 640
4	MAXX10	63	7.5	63*7.5 = 472.5
	MAXX11	70	7.5	70*7.5=525
	MAXX12	70	15	70*15=1050
	Total	70	120	7320
	CPA = 7320/120			**61**

10. PROGRESSION, EXIT POINTS AND AWARD

Classification of Awards	For the award of the Honours degree, all modules of the programme must be completed. The Postgraduate certificate and diploma are awarded as possible exit points in the programme as indicated in the table below:

Award	Title	Level NQ-MQA	Total Required Credits	Classification
Postgraduate Certificate	Applied Computing and Digital Technologies	9	30	**Distinction**: CPA ≥70
Postgraduate Diploma	Applied Computing and Digital Technologies	9	60	**Merit**: 60 ≤ CPA < 70
Master's of Science	Applied Computing and Digital Technologies	9	120	**Pass**: 40 ≤ CPA < 60 **No award**: CPA < 40

11. STUDENT SUPPORT

Support available through:
studentsupport@open.ac.mu

12. Have your say

Open University values student feedback and students will be given opportunities to have their say on their learning experience in the following ways:

- Student programme and module evaluation surveys
- Acting as student representative and participating in a range of committees such as the staff-student consultative committee
- Participating in programme validation processes.

The University will respond to student feedback through the following channels:
- Response and action taken following the module evaluation survey will be posted on the e-platform.
- Action from minutes will be monitored by the chair of the relevant committees.
- Annual programme monitoring process will take into account student feedback.
- Programme review process (every five years).

13. Curriculum Map of Programme Learning Outcomes against Module Intended Learning Outcomes

Module Unit and Code				Knowledge and Understanding					Cognitive Skills					Transferable Skills and Personal Attributes					Practical Skills		
Module Title	Code	Type	Mode	K1	K2	K3	K4	K5	C1	C2	C3	C4	C5	T1	T2	T3	T4	T5	P1	P2	P3
Year 1 NQ-MQA Level 9																					
Service-Oriented Architecture and Web Services	OUpm017111	C	BL	●	●	●	●		●	●		●			●	●			●	●	●
Cloud Computing Applications	OUpm017112	C	BL	●	●	●		●	●	●	●			●	●	●			●		
Web Engineering & Analytics	OUpm017113	C	BL	●	●	●			●	●		●			●	●			●	●	●
Business IT	OUpm017121	C	BL	●				●		●	●			●	●		●	●			
Wireless Sensors and Embedded Systems	OUpm017122	C	BL	●	●	●			●	●		●			●	●			●	●	
Machine Learning and Artificial Intelligence	OUpm017123	C	BL	●	●	●			●	●		●			●	●			●	●	●
Year 2 NQ-MQA Level 9																					
IT Project Management	OUpm017211	C	BL					●	●	●				●	●		●	●			
Research Methods for IT	OUpm017212	C	BL					●			●		●	●	●	●		●	●			
Mobile Application Development	OUpm017213	C	BL	●	●	●	●		●			●			●		●		●	●	●

Module	Code	C/E	Delivery																			
Cyber Security and Cyber Law	OUpm017221	C	BL		●			●		●	●			●	●		●	●				
Big Data Theory and Practice	OUpm017222	C	BL	●	●			●		●	●	●		●	●		●	●	●			
Applied Dissertation Project	OUpm017223	C	BL	Subject to the topic, various combinations of the knowledge and understanding and learning outcomes will be demonstrated.				●	●	●	●	●	●	●		●	●	●	●	●		●	●

C = Core; E = Elective; DL = Distance Learning; BL= Blended Learning; CD = Campus Delivery

Appendix 1: Assessment Mapping

Module Code	Module Title	Assessment Method
Year 1 NQ-MQA Level 9		
OUpm017111	Service-Oriented Architecture and Web Services	**TMA 50%:** Online Exercises (10% of TMA) Group Project Presentation includes Individual Component (40% of TMA) **Final Examination 50%**
OUpm017112	Cloud Computing Applications	**TMA 50%:** Online Exercises (10% of TMA) Group Project Presentation includes Individual Component (40% of TMA) **Final Examination 50%**
OUpm017113	Web Engineering & Analytics	**TMA 50%:** Online Exercises (10% of TMA) Group Project Presentation includes Individual Component (40% of TMA) **Final Examination 50%**
OUpm017121	Business IT	**TMA 50%:** Online Quiz (10% of TMA) Business Process Report (20% of TMA) Implementation Report (20% of TMA) **Final Examination 50%**
OUpm017122	Wireless Sensors and Embedded Systems	**TMA 50%:** Online Exercises (10% of TMA) Group Project Presentation includes Individual Component (40% of TMA) **Final Examination 50%**
OUpm017123	Machine Learning and Artificial Intelligence	**TMA 50%:** Online Exercises (10% of TMA) Group Project Presentation includes Individual Component (40% of TMA) **Final Examination 50%**

Year 2 NQ-MQA level 9

OUpm017211	IT Project Management	**TMA 50%:** Online Quiz (10% of TMA) Technical Report (40% of TMA) **Final Examination 50%**
OUpm017212	Research Methods for IT	**TMA 100%:** Online Exercises (10% of TMA) Research Proposal Presentation (90% of TMA)
OUpm017213	Mobile Application Development	**TMA 100%:** Online Exercises (10% of TMA) Project Presentation (90% of TMA)
OUpm017221	Cyber Security and Cyber Law	**TMA 50%:** Discussion Forum Participation (10% of TMA) Cyber Security Report (20% of TMA) Cyber Law Report (20% of TMA) **Final Examination 50%**
OUpm017222	Big Data Theory and Practice	**TMA 50%:** Online Quiz (10% of TMA) Analytical Report (40% of TMA) **Final Examination 50%**
OUpm017223	Applied Dissertation Project	Project Software together with a Written Report (14,000 to 16,000 words) followed by Viva- 100%