

BSc (Hons) Mobile and Smart Technologies (Full Time) - IC323

1. CONTEXT AND OBJECTIVES

With ubiquitous internet connectivity, modern software applications are increasingly being developed as mobile and web-enabled. The accessibility of mobile devices and the internet has drastically changed the way we communicate, work, do business, access and gather information. Increasingly smart technologies (IoT, Sensors, Smart TV, Smart Air-conditioning, Smart Light) are incorporated in our daily life in such a way that they become seaming less but yet important. The demand for innovative mobile and web applications as well as smart devices, is on the rise and the need for skilled developers in these domains, being among the fastest growing career fields, is vital for the IT industry.

The entry requirement for this programme is different from the existing undergraduate programmes of the Faculty as it is open to students with no science or mathematics background (Technical – Art, Design and Humanities). The programme has been designed in such a way that it provides the required skills/knowledge needed by non-STEM (Science, Technology, Engineering and Mathematics) students. Furthermore, this programme is a specialised undergraduate programme in the field of Mobile/Web/IoT Development which is an area of high employability in Mauritius.

Objectives

The objectives of this programme are to enable graduates to:

- identify, critically analyse, and characterise common computing problems;
- adopt a design-centric approach to User Interface (UI) and User Experience (UX) designs;
- apply principles and concepts with leading edge technologies to creatively design and develop efficient and robust smart applications/solutions;
- grow as a mature professional and be able to take leadership roles with good knowledge of Mobile/Web/Smart application development of solutions in interdisciplinary or multidisciplinary areas;
- keep up-to-date in the field of IT through continuous professional growth; and
- emerge as entrepreneurs in the area of mobile and web computing.

Competencies and Career Opportunities

Job prospects for graduate exist in the fields of Mobile, Web and Smart Application designers and developers. They will also be able to work as IT professionals given the technical competencies acquired in the fields of programming, databases, networking and cloud.

This programme of study aims at reducing this skill gap by producing graduates with the necessary competence to develop, enhance and maintain mobile, web applications and smart devices by applying state of the art and leading edge concepts and technologies to meet today's industry needs. The programme provides students with a solid foundation in software development along with best practices in the development of mobile and web applications and mounting of smart devices using Sensors and IoT. Students will be exposed to commonly used programming languages, frameworks, proper responsive interface design as well as topics such as networking, cloud system and security.

Competencies

After successful completion of this programme, students should be equipped with the following competencies:

- analytical, problem solving and programming skills;
- effective communication skills; and
- adaptability and flexibility skills.

2. LEARNING OUTCOMES

At the end of the programme, learners of BSc (Hons) Mobile and Smart Technologies programme should be able to:

- apply general programming knowledge in the field of developing mobile and web applications;
- understand the specific requirements, possibilities and challenges for the development of a mobile app or web service;
- understand the interactions between user interface and underlying application infrastructure;
- plan and carry out a design work including developing a prototype that can be evaluated with a specified user group;
- develop practical skills and knowledge to construct software for a mobile, web application and smart devices using IoT tools; and
- reflect over possibilities and demands in collaborative software development.

3. TEACHING AND LEARNING METHODS

The BSc (Hons) Mobile and Smart Technologies programme consists of Teaching Contact Hours, Self-Study and Other Learning Activities. Teaching methods may include face-to-face lectures, online delivery, tutorials or practical sessions.

Each module of 6 LCCS credits contribute to 30 hrs of direct contact, 60 hrs of self-study and 90 hrs of other learning activities, except for modules ICDT 2200(3) & DGT 3000Y(5), for which the details about the total hours in each category will be specified in the module catalogue.

Other Learning Activities may comprise of the following:

- Working on assignments;
- Preparation for Class Tests and Examinations;
- Sitting for Class Tests and Examinations;
- Group work;
- Attending Workshops/Conferences recommended by the Department/Faculty;
- Fieldwork;
- Site Visits/Trips;
- Presentations among peers;
- Experiential Learning;
- Guest lectures.

4. ENTRY REQUIREMENTS

General Requirements

As per General Entry Requirements for Admission to the University for Undergraduate Degrees.

5. PROGRAMME DURATION

	Normal (Years)	Maximum (Years)
Degree:	3	5

6. MINIMUM LCCS CREDITS REQUIRED FOR DEGREE AWARD:

- **For Each Academic Year:** As per University Regulations.

Students may register for a maximum of 96 LCCS credits and a minimum of 12 LCCS credits, per year.

- Degree Award

For the degree award in BSc (Hons) Mobile and Smart Technologies, the student must obtain at least 204 LCCS credits as indicated below:

	Core Modules	Dissertations	Industrial Training	Electives	Total LCCS Credits
Degree	180	18	6	-	204
Diploma	108	12	-	-	120
Certificate	60	0	-	-	60

- Exit points:

- Students may exit with a Diploma in Mobile and Smart Technologies after having earned 120 LCCS credits.

A student may also opt to complete a Diploma project, worth 12 LCCS credits, to attain the 120 LCCS credits. The assessment of the Diploma project will be based on project report, presentation and software/system demo. Written requests to exit with Diploma should be made to the Dean of Faculty.

- Students may exit with a Certificate in Mobile and Smart Technologies after having earned 60 LCCS credits.

7. ASSESSMENT AND DEADLINES

7.1 Examinations: 40 - 70 % (except those listed below)

The following modules will be examined on 100% coursework:

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|------------------|--|
| 1. ICDT 1016Y(1) | Communication and Business Skills for IT |
| 2. DGT 1042Y(1) | Computing Fundamentals |
| 3. DGT 1041Y(1) | Front-End Web and HCI |
| 4. DGT 2037Y(3) | Mobile Application Development |
| 5. DGT 2041Y(3) | Digital Design |

7.2 Continuous Assessment: 30 - 70 %

The specific details and/or formula for the calculation of the final mark for each module are included in its corresponding Module Catalogue. An overall total of at least 40% for combined continuous assessment and written examination components would be required to pass the module.

Industrial Training will be assessed as either “Satisfactory” or “Unsatisfactory”.

7.3 Submission Deadline for Dissertation/Research Project: As per University Regulations.

8. LIST OF MODULES

Module Code CORE	Module Name	L*/P*/T* Contact Hours/Week	Self- Study/ Week	Other Learning Hours/Week	LCCS Credits
Year 1					
DGT 1039Y(1)	Problem Solving Techniques	2+1+0	6	9	12
DGT 1040Y(1)	Database Fundamentals	2+1+0	6	9	12
DGT 1041Y(1)	Front-End Web and HCI	2+1+0	6	9	12
DGT 1042Y(1)	Computing Fundamentals	2+1+0	6	9	12
ICDT 1016Y(1)	Communication and Business Skills for IT	2+0+1	6	9	12
MGT 1102 (1)	Fundamentals of Entrepreneurship	2+0+1	6	9	6
MGT1216(1)	Introduction to Digital Marketing	2+0+1	6	9	6
Year 2					
DGT 2037Y(3)	Mobile Application Development	2+1+0	6	9	12
DGT 2038Y(3)	Network Fundamentals	2+1+0	6	9	12
DGT 2039Y(3)	Back-end and Web Services	2+1+0	6	9	12
DGT 2040Y(3)	Object Oriented Programming	2+1+0	6	9	12
DGT 2041Y(3)	Digital Design	2+1+0	6	9	12
DGT 2042Y(3)	Smart Technologies and Internet of Things	2+1+0	6	9	12
ICDT 2200(3)	Industrial Training	(10 Weeks)	-	-	6
Year 3					
DGT 3000Y(5)	Final Year Project	-	-	-	18
DGT 3124Y(5)	Advanced Mobile Application Development	2+1+0	6	9	12
DGT 3125Y(5)	Web Frameworks and Analytics	2+1+0	6	9	12
DGT 3126Y(5)	Social and Cloud Computing	2+1+0	6	9	12

Note:

Contact Hours = L*: Lectures + T* : Tutorials + P*: Practicals

9. PROGRAMME PLAN

Year 1 - Semester 1 and 2			
Module Code	Module Name	L*/P*/T* Contact Hours/ Week	LCCS Credits
DGT 1039Y(1)	Problem Solving techniques	2+1+0	12
DGT 1040Y(1)	Database Fundamentals	2+1+0	12
DGT 1041Y(1)	Front-End Web and HCI	2+1+0	12
DGT 1042Y(1)	Computing Fundamentals	2+1+0	12
ICDT 1016Y(1)	Communication and Business Skills for IT	2+0+1	12
MGT 1102(1)	Fundamentals of Entrepreneurship ¹	2+0+1	6
MGT 1216(1)	Introduction to Digital Marketing ²	2+0+1	6
	Sub Total		72
Year 2 - Semester 1 and 2			
Module Code	Module Name	L*/P*/T* Contact Hours/Week	LCCS Credits
DGT 2037Y(3)	Mobile Application Development	2+1+0	12
DGT 2038Y(3)	Network Fundamentals	2+1+0	12
DGT 2039Y(3)	Back-end and Web Services	2+1+0	12
DGT 2040Y(3)	Object Oriented Programming	2+1+0	12
DGT 2041Y(3)	Digital Design	2+1+0	12
DGT 2042Y(3)	Smart Technologies and Internet of Things	2+1+0	12
ICDT 2200(3)	Industrial Training	10 Weeks	6
	Sub Total		78
Year 3 - Semester 1 and 2			
Module Code	Module Name	L*/P*/T* Contact Hours/Week	LCCS Credits
DGT 3000Y(5)	Final Year Project	-	18
DGT 3124Y(5)	Advanced Mobile Application Development	2+1+0	12
DGT 3125Y(5)	Web Frameworks and Analytics	2+1+0	12
DGT 3126Y(5)	Social and Cloud Computing	2+1+0	12
	Sub Total		54
	Grand Total		204

Note:

¹ Modules taught and examined in Semester 1;

² Modules taught and examined in Semester 2;

50° FB-09.11.20

*** This Programme has been amended as follows:**
Year programme was launched: 2019
Year programme was revised: 2020