

## **ORIENTATION SPEECH ACADEMIC YEAR 2020/2021**

### **DEPARTMENT OF INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT)**

#### **BACKGROUND**

The Department of ICT is one of the five departments in the Faculty of Science Technology and Environmental studies (FSTES) of the Open University of Tanzania (OUT). The Department educates, train and support students in their ICT endeavors to gain competitive and practical based digital skills and knowledge.

The department delivers education through a Blended mode which comprises of mostly online interactivity between lecturers and students with minimum contact (face to face) sessions. The online learning activities are embedded on the e-learning platform known as MOODLE which includes online discussion, online assignment and online lecture, while the face to face sessions are mainly for field/laboratory/research/project work, teaching practice etc. You will be constantly guided and informed on exact times and venues for each activity by responsible units.

The Department offers Postgraduate, Bachelors and Non Degree Programmes as follows

#### **Postgraduate Programmes by Thesis**

- PhD in ICT
- M Sc in ICT

#### **M SC Programmes by Coursework**

- Masters of Science in Computer Science (MCSC)
- Masters of Science in Information Technology Management (MSCITM)

#### **Bachelor Programmes**

- Bachelor of Science Information and Communication Technology (B.Sc. ICT)
- Bachelor of Science in Data Management (B.Sc. Data Management),

#### **Non Degree Programmes**

- Certificate in Computing and IT (NTA Level 4)
- Diploma in Computer Science (NTA Levels 5 and 6)

Below is the summary of the explanation of the programmes. For further details on the programmes and how to join us please read the University prospectus and/or visit us at the Open University of Tanzania HQ in Dar es Salaam or any of our regional centers.

## NON-DEGREE PROGRAMMES

- **Basic Certificate in Computing and IT - NTA Level 4**

The Technician Certificate (NTA level 5) is geared towards producing innovative, creative and flexible graduates who would spearhead in ICT management and usage in the country. Generally students are given opportunity to specialize in the fields of their interest. The purpose of this course programme is to enlighten and nurture individuals with interest in facilitating, managing, maintaining and creating awareness in ICT related issues including its management, usage and research.

This programme comprises a total eleven (11) Modules that spread over one academic year with two semesters. Students in this course will be involved in lectures and industrial training. To reach the course objectives, the whole course is designed in a more practical oriented. Students are encouraged to put into practice all what they learn in order to develop their interest and competencies in problem solving skills, self-reflection and critical thinking. Students who successfully complete the course programme are eligible for the award of National Technical Certificate (NTA Level 5) provided they meet a minimum cumulative Grade Point Average (GPA) of 2.0 which is equivalent to pass.

### Semester I

Code	Module Title	Scheme of study Hrs/Wk				
		L	T	P	AS	Credits
IET 04101	Computer Fundamentals	4	2	2	2	15
IET 04108	Computing Mathematics	3	2		3	12
IET 04102	Office Automation Fundamentals	2	1	2	1	9
IET 04107	Communication Skills	2	2		2	9
IET 04110	Introduction to Entrepreneurship Skills	4	3		3	15
Sub-total Hours/Week		15	10	4	11	60
Total Hours/week		40				

### Semester II

Code	Module Title	Scheme of study Hrs/Wk				
		L	T	P	AS	Credit
IET 04203	Principles of Computer Support and Maintenance	4	1	2	1	12
IET 04204	Introduction to Web Technologies	2	1	2	1	9
IET 04205	Helpdesk Operations	1		2	1	6
IET 04206	Network Essentials	2		2	2	9
IET 04211	Practical Training					18
IET 04209	Introduction to cross-cutting issues	2	1		1	6
Sub-total Hours/Week		11	3	8	6	60
Total Hours/week		28				

- **Technician Certificate in Computing and IT - NTA Level 5**

The philosophy behind this programme is geared towards producing innovative, creative and flexible graduates who would spearhead in ICT management and usage in the country. Generally students are given opportunity to specialize in the fields of their interest. The purpose of this course programme is to

enlighten and nurture individuals with interest in facilitating, managing, maintaining and creating awareness in ICT related issues including its management, usage and research.

This programme comprises a total twelve (12) Modules that spread over one academic year with two semesters. Students in this course will be involved in lectures and industrial training. To reach the course objectives, the whole course is designed in a more practical oriented. Students are encouraged to put into practice all what they learn in order to develop their interest and competencies in problem solving skills, self-reflection and critical thinking. Students who successfully complete the course programme are eligible for the award of National Technical Certificate (NTA Level 5) provided they meet a minimum cumulative Grade Point Average (GPA) of 2.0 which is equivalent to pass.

#### Semester I

Code	Module Title	Scheme of study Hrs/Wk				
		L	T	P	AS	Credit
IET 05101	Computer Architecture and Systems	2	2	2	2	12
IET 05103	Computing Mathematics	2	2		2	9
IET 05104	Introduction to Programming	4	1	2	1	12
IET 05105	Database Design and Implementation	2	1	2	1	9
IET 05108	Business and Entrepreneurship Skills	2	2		2	9
IET 05110	Cross-cutting issues: Environment, gender, HIV/AIDS, Poverty and Morals	3	1		2	9
<b>Sub-total Hours/Week</b>		<b>15</b>	<b>9</b>	<b>6</b>	<b>8</b>	
<b>Total Hours/week</b>		<b>40</b>				<b>60</b>

#### Semester II

Code	Module Title	Scheme of study Hrs/Wk				
		L	T	P	AS	Credit
IET 05202	Managing Computer Systems	3	1	2	2	12
IET 05206	Website Design	2	1	2	1	9
IET 05207	Network Design and Implementation	2	1	2	1	9
IET 05209	Leadership and Management	3	1	0	2	9
IET 05211	ICT in business process	2	1	0	1	6
IET 05212	Industrial Training					15
<b>Sub-total Hours/Week</b>		<b>12</b>	<b>5</b>	<b>6</b>	<b>7</b>	
<b>Total Hours/week</b>		<b>30</b>				<b>60</b>

- **Ordinary Diploma in Computer Science - NTA level 6**

IET, using NACTE guidelines has prepared programme leading to the award of the Technician Certificate in Computing and Information Technology. The philosophy and rationale behind the design and development of the programme have taken into consideration the recent socio-economic changes, as well as rapid development of science and technology. The employers, Professional bodies, self-employment and societal needs have also been considered when establishing the NACTE programmes.

The programme comprises a total 14 Modules that spread over 18 months with three semesters, each with six months. The first and second semester will be dedicated for teaching and practices, while the last semester will be for teaching, practices, and final year project.

#### Semester I

Code	Module Title	Scheme of Study Hrs/Wk				
		L	T	P	AS	Credit
IET 06101	Advanced Website Design	3		3	2	12
IET 06102	System Analysis and Design	3	3		2	12
IET 06104	Object Oriented Programming	3		3	2	12
IET 06105	Database System Design and Administration	3		3	2	12
IET 06106	System Administration	3		3	2	12
<b>Sub-Total hours/week</b>		<b>15</b>	<b>3</b>	<b>12</b>	<b>10</b>	
<b>Total hours/week</b>		<b>40</b>				<b>60</b>

#### Semester II

Code	Module Title	Scheme of Study Hrs/Wk				
		L	T	P	AS	Credit
IET 06207	System Modelling	3	3		2	12
IET 06203	Network Management	3		3	2	12
IET 06209	Research Methodology	3	3		2	12
IET 06212	Multimedia Applications	2	3	2	3	15
IET 06213	Cross-cutting issues in ICT	3	1		2	9
<b>Sub-Total hours/week</b>		<b>14</b>	<b>10</b>	<b>5</b>	<b>11</b>	
<b>Total hours/week</b>		<b>40</b>				<b>60</b>

#### Semester III

Code	Module Title	Scheme of Study Hrs/Wk				
		L	T	P	AS	Credit
IET 06311	Corporate Social Responsibility (CSR) Techniques	2	2		2	9
IET 06308	Project Management	2	1		1	6
IET 06310	ICT Security	3	1		2	9
IET 06314	Industrial Training					16
<b>Sub-Total hours/week</b>		<b>7</b>	<b>4</b>	<b>0</b>	<b>5</b>	
<b>Total hours/week</b>		<b>16</b>				<b>40</b>

## UNDERGRADUATE DEGREE PROGRAMMES

- **Bachelor of Science Information and Communication Technologies**

The award of the degree will require students to pass and complete all the prescribed core courses adding up to 40 units. A student can opt any of the elective courses. This programme is offered in blended mode (online learning, online lectures and face to face sessions for practicals). All students must attend the online lectures and face to face practical sessions by the Department. To receive information on the timetable ensure that you send your email to the coordinator Grace Mbwete at [ictdpt.coordinator@out.ac.tz](mailto:ictdpt.coordinator@out.ac.tz) and Head of Department [rogers.balalusesa@out.ac.tz](mailto:rogers.balalusesa@out.ac.tz); include your name, programme, year of study, registration number and center.

### Level One

Course Code	Course Name	Mode of Delivery		Number of Units
		Equivalent Lecture hours	Equivalent Practical hours	
OIT 111	Fundamentals of Information Systems	18	35	1
OIT 112	Computer Mathematics I	35	-	1
OIT 113	Probability and Statistics	35	-	1
OIT 114	Communication Skills for IT	35	-	1
OIT 115	Introduction to Computer Architecture	35	70	2
OIT 116	Programming in C	35	70	2
OIT 117	Data Communications and Networking I	18	35	1
OIT 118	Industrial Training I			
OIT 119	Web Design and Development	35	70	2
	<b>Total</b>	<b>246</b>	<b>280</b>	<b>11</b>

### Level Two

Course Code	Course Name	Mode of Delivery		Number of Units
		Equivalent Lecture hours	Equivalent Practical hours	
OIT 211	Operating Systems	35	70	2
OIT 212	Software Design and Development	35	70	2
OIT 213	Computer mathematics II	35	-	1
OIT 214	Object Oriented Programming with Java	35	70	2
OIT 215	Data Communication and Networking II	35	70	2

OIT 216	Introduction to Computer Security	18	35	1
OIT 217	Database Concepts and Design	18	35	1
OIT 218	Web Programming	35	70	2
OIT 219	Industrial Training II		120	
	<b>Total</b>	<b>246</b>	<b>540</b>	<b>13</b>

### Level Three

Course Code	Course Name	Mode of Delivery		Number of Units
		Equivalent Lecture hours	Equivalent Practical hours	
OIT 311	Information Systems Security Management	18	35	1
OIT 312	Information Systems Planning and Management	18	35	1
OIT 313	Network Design and Administration	18	35	2
OIT 314	Computer Ethics and Social Cultural Implication	35	-	1
OIT 315	Wireless Networks	35	70	2
OIT 316	Final Year Project		180	3
OIT 317	Database Implementation and Administration	18	35	2
	<b>Total</b>	<b>124</b>	<b>355</b>	<b>12</b>

### Elective courses

Course Code	Course Name	Mode of Delivery		Number of Units
		Equivalent Lecture hours	Equivalent Practical hours	
OIT 220	Introduction to e-Business	30	30	1
OIT 221	Multimedia Technologies and Applications	30	30	2
OIT 318	Introduction to Computer Graphics	30	60	2
OIT 319	Programming in C++	30	60	2
	<b>Total</b>	<b>120</b>	<b>180</b>	<b>7</b>

- **Bachelor of Science in Data Management (B.Sc. in Data Management)**

The award of the degree will require students to pass and complete all the prescribed core courses adding up to 40 units. A student can opt any of the elective courses.

This programme is offered in blended mode (online learning and face to face sessions). All students must attend face to face sessions in scheduled timetable planned by the Department. To receive information on the timetable ensure that you send your email to the coordinator Grace Mbwete at [ictdpt.coordinator@out.ac.tz](mailto:ictdpt.coordinator@out.ac.tz) and Head of Department [rogers.balalusesa@out.ac.tz](mailto:rogers.balalusesa@out.ac.tz); include your name, programme, year of study, registration number and center.

Level One: Courses						
SN	Course Code	Course Title	Learning/ Lecture Hours	Practical Hours	Units	Tutor
1	OIT 131	Fundamentals of Information Systems	35	-	1	Elizabeth Isaya
2	OIT 132	Discreet Mathematics with Applications	18	35	1	Michael Peter
3	OIT 133	Probability and Statistics	18	35	1	Mustapha Kiswanya
4	OIT 134	Communication Skills for IT	18	35	1	Ndibalema Mwemezi
5	ODM 108	Data Structures and Algorithm	18	35	1	Grace Mbwete
6	ODM 103	Introduction to Computer Programming Languages	35	35	2	Mwemezi Ndibalema
7	ODM 105	Data Governance in Organizations	18	35	1	Catherine Mkude
8	OIT 138	Database Design and Implementation	18	35	1	Elia Lukwaro
9	OIT 231	Operating Systems	18	18	1	Rogers Bhalalusesa
10	OIT 139	Industrial Training 1		120	2	Mwemezi Ndibalema
<b>TOTAL</b>			<b>213</b>	<b>365</b>	<b>12</b>	
Level Two: Courses						
SN	Course Code	Course Title	Learning/ Lecture Hours	Practical Hours	Units	Tutor
11	ODM 201	Graphics Processing & Human Computer Interaction	18	35	1	Mathias Ombeni
12	ODM 204	Enterprise Resource Planning (ERP) Systems	35	70	2	Elizabeth Isaya
13	ODM 206	Research Methods & Data	35	70	2	Raiton Ambele

		Analysis				
14	ODM 207	Fundamentals of GIS	18	35	1	Mathias Ombeni
15	ODM 209	Cross Cutting Issues in Community	35	-	1	Elizabeth Isaya
16	ODM 211	E-Commerce and Entrepreneurship	18	-	1	Catherine Mkude
17	ODM 212	Data Mining Techniques and Application	35	70	2	Rogers Bhalalusesa
18	OIT 137	Data Communications and Networking	18	35	1	Juliana Kamaghe
19	OIT 233	Inventory Models and Queuing Theory	18	-	1	Michael Peter
20	OIT 238	Industrial Training 2		120	2	Mwemezi Ndibalema
	TOTAL		282	470	15	
Level Three: Courses						
SN	Course Code	Course Title	Learning/ Lecture Hours	Practical Hours	Units	Tutor
21	ODM 301	Multimedia Technologies	18	35	1	Khamisi Kalegele
22	ODM 302	Data Mining and Data Warehousing	18	35	1	Rogers Bhalalusesa
23	ODM 303	Cyber Ethics & Data Security	70	35	2	Prof. George Oreku
24	ODM 304	Education Data Management and Digital Libraries	70	35	2	Edephonc Nfuka
25	ODM 305	Health Data Management	70	35	2	Prof. Kigadye/Grace Mbwete
26	ODM 306	Data in Agriculture Systems	70	35	2	Dr. Said Massomo
27	ODM 307	Financial Data Management	70	35	2	Michael Mwacha (FBM)
28	ODM 310	Special Project	-	480	3	Mathias Ombeni



## POSTGRADUATE PROGRAMMES

- **Master of Science in Information Technology Management (MSITM)**

The Master of Science in Information Technology Management is a mixed mode programme and consists of taught courses and a dissertation. The programme consists of a total of 18 units. Candidates must complete and pass 6 core courses with a total of 12 Units and a Dissertation with 6 units. The dissertation is compulsory to all candidates.

	CORE COURSES		
CODE	COURSE TITLE	Units	
OCS 601	Scientific Research Methods	1	Dr KhamisiKalegele
OIM 601	IT Entrepreneurship and Management	1	Dr Chachage FBM
OIM 602	IT Security Planning and Management	2	Dr Said Ally
OIM 603	IT Strategic Management, Communications and Leadership	2	Dr Nfuka
OIM 604	Legal and Ethical Aspects of Computing	2	Catherine to ask FLAW
OCS 607	Management Information Systems	2	Dr Catherine Mkude
OCS 610	Dissertation	6	Supervisor
	ELECTIVE COURSES (Choose 1)		
CODE	COURSE TITLE	Units	
OIM 605	Networks and Smart Computing	2	Dr EdephoncNfuka
OIM 606	Data and Knowledge Management	2	Dr Rogers Bhalalusesa

- **Master of Science in Computer Science (MScS)**

The Master of Science in Computer Science is a mixed mode programme and consists of taught courses and a dissertation. The programme consists of a total of 18 Units. Candidates must complete and pass 6 core courses with a total of 12 Units and a Dissertation with 6 units. The dissertation is compulsory to all candidates.

There are two streams leading to MSc in Computer Science which are Information Systems and Cyber Security (the different streams will only be reflected on Transcripts, but the Certificate will read MSc in Computer Science). Both streams will share 5 core courses. However, specialized courses will be selected based on the stream. Furthermore, the candidate must produce a project that is in line with the chosen stream.

	CORE COURSES		
CODE	COURSES	UNITS	LECTURER
OCS 601	Scientific Research Methods	1	Dr KhamisiKalegele
OIM 601	IT Entrepreneurship and Management	1	Dr Chachage FBM
OCS 602	Data Warehouse and Data Mining	1	Dr Rogers Bhalalusesa

<b>OCS 603</b>	Core networks, Virtualization and Cloud Computing	2	Dr Said Ally
<b>OCS 604</b>	Advanced Programming and Algorithms	1	Dr Rogers Bhalalusesa
<b>OCS 610</b>	Dissertation	6	Supervisor
<b>SPECIALIZATION COURSES</b>			
<b>INFORMATION SYSTEMS</b>			
<b>OCS 605</b>	Mobile and Web based Information Systems	2	Dr Catherine Mkude
<b>OCS 606</b>	Intelligent Expert Systems	2	Dr KhamisiKalegele
<b>OCS 607</b>	Management information systems	2	Dr Catherine Mkude
<b>CYBER SECURITY</b>			
<b>OCS 608</b>	Ethical Hacking, Security Audit and Digital Forensics	2	Prof George Oreku
<b>OCS 609</b>	Network Security and Cryptography	2	Dr George Oreku
<b>OIM 602</b>	IT Security Planning and Management	2	Dr Said Ally

- **M SC in ICT by Thesis**

The department offers an M Sc in ICT by Thesis. Each M.Sc. degree programme shall start at the beginning of the academic year and conclude 60 months later

- **PHD**

The department offers a PhD in ICT by Thesis. Candidates registered for the Ph.D. shall be required to register at the beginning of the first year of their studies and renew their registration at the beginning of subsequent years

**Head of the Department of ICT**

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