

## **BSc (Hons) Information and Communication Technologies – E316 (Under Review)**

### **1. Objectives**

This programme is geared towards producing ICT professionals, with the ability to adapt to the rapid developments in Information & Communication Technologies. The course is intended to facilitate the integration of our graduates into the job market with prospects such as telecommunication professionals/programmers. Students will study a range of core ICT topics such as mobile and wireless communications, database design and implementation, multimedia and networking security. This programme will help students to develop a critical understanding of the tools, systems and communication networks that allow people to manage, translate and exchange secure information.

### **2. General Entry Requirements**

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

### **3. Programme Requirements**

2 GCE ‘A’ Level Passes in Mathematics and one of the following subjects: Physics, Physical Science, Engineering Science, Physics with Chemistry.

### **4. (i) Minimum Requirements for Degree Award**

<b>MODULES</b>	<b>CREDITS</b>
Engineering	102
GEM	6
<b>TOTAL</b>	<b>108</b>

For the degree award all core modules prescribed by the department must be completed.

### **(ii) Minimum Requirements for Diploma Award**

A student may opt for a Diploma in Information and Communication Technologies provided s/he satisfies the following minimum requirements. The Diploma project would normally be of 8 weeks duration for an input of at least 90 hours.

<b>MODULES</b>	<b>CREDITS</b>
ELEC 1060Y(1) Analytical Methods	6
ELEC 1061Y(1) Discrete Mathematics and Sampling techniques	5
Engineering	43
Diploma Project (ELEC 2000(3))	6
<b>TOTAL</b>	<b>60</b>

5. **Programme Duration:** Normal 3 years  
Maximum 5 years

6. **Credits per Semester:** Minimum 18, Maximum 48 subject to Regulation 5.

## 7. **Assessment**

### *Continuous and Written Assessment of Modules*

Assessment will be based on a written examination of 2 to 3-hour duration (normally a paper of 2 hour duration for modules carrying less or equal to 3.5 credits and 3 hour paper for modules carrying four-six credits) and on continuous assessment done during the semester or year.

Written examinations for all modules, whether taught in semester 1 or in semester 2 or both, will be carried out at the end of the academic year (unless otherwise stated).

The continuous assessment will count for **20% to 30%** of the overall percentage mark of the module(s), except for a Programme where the structure makes for other specific provision(s). Continuous assessment may be based on laboratory work, seminars and/or assignments and **should include at least two (2) assignments/tests per semester/year per module.**

There will be a compulsory class test for all modules taught in semester 1 at the end of semester 1 of the given academic year unless stated otherwise in the Programme Structure.

An overall total of **40%** for combined assessment and written examination components would be required to pass the module, without minimum thresholds within the individual continuous assessment and written examination.

Special examinations (e.g. class tests) will be arranged at the end of semester 1 or semester 2 for exchange students who have registered only for one semester. In case of yearly modules, credits will be assigned on a pro-rata basis.

## 8. **Repeat and Termination of Registration**

If the CPA of a student is <40% for an academic year, s/he will have to repeat the entire academic year, and the retake modules as and when offered. However, s/he will not be required, if s/he wishes, to retake modules for which Grade C or above has been obtained.

Students will be allowed to repeat only once over the entire duration of the Programme of Studies. Registration of a student will be terminated if

- (i) the CPA < 40% at the end of an academic year and the student has already repeated one year of study; or
- (ii) the maximum duration allowed for completion of the Programme of Studies has been exceeded; or
- (iii) If s/he is a year 1 student who has scored a CPA of <25% at the end of an academic year (for yearly programmes). However the Board of Examiners might allow a repeat if there are evidence of compelling circumstances or valid medical grounds.

## 9. List of modules - BSc (Hons) Information and Communication Technologies

<b><u>CORE MODULES</u></b>		<b>Hrs/Wk L+P</b>	<b>Credits</b>
<b>ENGINEERING</b>			
CSE 1018Y(1)	Computer Programming	1.5+2	5
ELEC 1053Y(1)	Digital Electronics 1	2+1	5
ELEC 1060Y(1)	Analytical Methods	3+0	6
ELEC 1061Y(1)	Discrete Mathematics and Sampling Techniques	2.5+0	5
ELEC 1062Y(1)	Electrical Engineering and Analog Electronics	2+2	6
CSE 1001Y(1)	Fundamentals of Computer Science	2.5+1	6
ELEC 1200	Practical Training/ Software Development	8 weeks	0
CSE 2010Y(3)	Network Computing	1.5+2	5
ELEC 2053Y(3)	Digital Electronics 2	2+1	5
ELEC 2055Y(3)	Analog Communications	2+1	5
CSE 2001Y(5)	Software Engineering	2.5+1	6
CSE 2011Y(3)	Database and Information Systems	2+1	5
CSE 2013Y(3)	Networking and Security	2+1	5
CSE 2012Y(3)	Mobile Application Development	1.5+2	5
ELEC 3000(5)	Degree Project	-	10
ELEC 3052Y(5)	Mobile Communications and Wireless Technologies	3+0	6
ELEC 3060Y(5)	Digital Communication Systems	2+1	5
<b>GEM</b>			3
<b>GEM</b>			3
<b><u>ELECTIVES</u></b>			
MATH1111(1)	Mathematics 1	D.E	3
<b>ENGINEERING</b>			
ELEC 3053Y(5)	Telecommunications Network	3+0	6
ELEC 3054Y(5)	RF Design and Microwave Engineering	3+0	6
ELEC 3061Y(5)	Broadcasting technologies	3+0	6
CSE 3005Y(5)	Artificial Intelligence	2+2	6
CSE 3006Y(5)	Operations Research and Simulation	2+2	6
CSE 3010Y(5)	Neural Networks, Fuzzy Systems and Genetic Algorithms	2+2	6

## 10. Programme Plan - BSc (Hons) Information and Communication Technologies (ICT)

### LEVEL 1

#### Semester 1 & 2

<u>CODE</u> <u>CORE</u>	MODULE	Hrs/Wk L+P	Credits
ELEC 1053Y(1)	Digital Electronics 1	2+1	5
ELEC 1060Y(1)	Analytical Methods	3+0	6
ELEC 1061Y(1)	Discrete Mathematics and Sampling Techniques	2.5+0	5
ELEC 1062Y(1)	Electrical Engineering and Analog Electronics	2+2	6
CSE 1018Y(1)	Computer Programming	1.5+2	5
CSE 1001Y(1)	Fundamentals of Computer Science	2.5+1	6
ELEC 1200	Practical training/Software development	8 weeks	0
<b><u>ELECTIVE</u></b>			
MATH 1111(1)	Mathematics 1	D.E	3

### LEVEL 2

#### Semester 1 & 2

<u>CODE</u> <u>CORE</u>	MODULE	Hrs/Wk L+P	Credits
CSE 2010Y(3)	Network Computing	1.5+2	5
ELEC 2053Y(3)	Digital Electronics 2	2+1	5
ELEC 2055Y(3)	Analog Communications	2+1	5
CSE 2001Y(5)	Software Engineering	2.5+1	6
CSE 2011Y(3)	Database and Information Systems	2+1	5
CSE 2013Y(3)	Networking and Security	2+1	5
CSE 2012Y(3)	Mobile Application Development	1.5+2	5
GEM			3
GEM			3

### LEVEL 3

#### Semester 1 & 2

<u>CODE</u> <u>CORE</u>	MODULE	Hrs/Wk L+P	Credits
ELEC 3000(5)	Degree Project	-	10
ELEC 3052Y(5)	Mobile Communications and Wireless Technologies	3+0	6
ELEC 3060Y(5)	Digital Communication Systems	2+1	5
<b><u>ELECTIVES</u></b>			
<b>ENGINEERING</b>			
ELEC 3053Y(5)	Telecommunications Network	3+0	6
ELEC 3054Y(5)	RF Design and Microwave Engineering	3+0	6
CSE 3005Y(5)	Artificial Intelligence	2+2	6
CSE 3006Y(5)	Operations Research and Simulation	2+2	6
CSE 3010Y(5)	Neural Networks, Fuzzy Systems and Genetic Algorithms	2+2	6
ELEC 3061Y(5)	Broadcasting technologies	3+0	6

NOTE: Students should take at least two (2) electives in Year 3