

# CLARENCE FITZROY BRYANT COLLEGE



**PROGRAMME:** *INFORMATION TECHNOLOGY ASSOCIATE DEGREE*

<b>CURRICULUM:</b>	<i>Information Technology and Communications</i>
<b>COURSE TITLE:</b>	<i>Introduction To Computer Science</i>
<b>COURSE CODE:</b>	IFTH1008
<b>LEVEL OF STUDENTS:</b>	N/A
<b>CREDITS:</b>	3
<b>SEMESTER:</b>	<i>1 (one)</i>
<b>DURATION:</b>	<i>45 hours</i>
<b>PREREQUISITE(S):</b>	<i>None</i>

## RATIONALE

This course is meant for ICT students just entering the Information Communication Technology major and interested students from other disciplines. It will give you a broad overview of different areas of computer science. This will enable you to get an idea of the types of issues studied, and the skills required, in the rest of your ICT curriculum.

## COURSE DESCRIPTION

This course is an introduction to the fundamental concepts of computing, data arrangement, management, programming and problem solving. It focuses on basic computing, hardware and software, operating systems, storage, files, security, simple data types, control structures, and introduction to array and string data structures and algorithms, as well as debugging techniques and the social implications of computing. It emphasizes good software engineering principles and developing fundamental programming skills in the context of a language that sports the object-oriented paradigm. The lab component provides hands on programming experience that is vital for beginning programmers and computer science students.

## LEARNING OUTCOMES

On completion of this course the student should be able to:

1. Explain basic computing concepts, principles and ethics
2. Identify and install different computer hardware and software
3. Use different operating systems and computer applications to solve business problems
4. Create different types of files and use a variety of storage devices to store them.
5. Analyse the effects of different viruses and worms.
6. Create ways to protect computers and e-mails from virus attacks
7. Clean a computer that is infected by a worm or virus
8. Create a computer boot disk
9. Use and maintain a laptop
10. Set-up a computer system
11. Describe different kinds of computer programming languages, concepts and functions.

## CONTENT KNOWLEDGE

1. Basic Computing
  - Introduction – what is a computer
  - Computer ethics
2. Computer Hardware and Software
  - Computer data
  - Computer hardware -peripheral devices

- Computer software
- Networking
- The Internet

### 3. Operating Systems

- Types of Operating Systems
- Capabilities of Operating Systems
- Use of the Control Panel

### 4. Applications

- Application Programs
- Using Application Programs (Word-processing, Spreadsheet and PowerPoint)
- How do Application Programs work?
- Application Programs problems
- Application Problems solutions

### 5. Files

- Definition of a file
- Different types of files
- Managing files
- Window files
- Backup files

### 6. Storage

- Types of storage

### 7. Security

- Viruses and Worms
- Prevention of viruses and worms
- Securing your system
- Removing viruses
- SPAM
- Securing e-mails from SPAM

### 8. General Computing Basics

- Making a Boot Disk
- Laptop basics

- Setting up a computer

## 9. Computer Programming

- C++ basics
- Control structures
- Value-returning functions
- Void functions
- Selection structure
- Repetition structure
- I/O stream
- String, classes, array, dynamic arrays, and pointers

## TEACHING AND LEARNING METHODS

- Demonstrations
- Guided practice
- Individual training
- Case studies,
- On-the-job-training
- Role play
- Subject matter experts
- Discussions
- Individual study
- Study/ field trips
- Case study

## ASSESSMENT PROCEDURES

Continuous Assessment -20%

Practical Coursework – 40%

Theoretical Examination -40%

## ASSESSMENT SUMMARY

Task / Assignment No. & Name	Due Date	Time	Weight	Type	Learning Outcomes
1. Assignment	Sept. 29 <sup>th</sup>	2pm	20%	Class Work	1, 2, 3,4
2. Case Studies	Oct. 27 <sup>th</sup>	2pm	20%	Project	5,6,7,8

3. Mid Term	Nov. 24 <sup>th</sup>	2pm	20%	Test	9,10,11
4. Final Exam	December		40%	Individual	1 – 11

**Nb:** Dates are subjected to be changed.

## TOOLS AND EQUIPMENT

1. COMPUTER REPAIRS TOOLS KIT:
  - a. Rosewill 90 Piece Professional Computer Tool Kit Components Other RTK-090 Black
  - b. Rosewill Network/PC Service Tool Components RTK-146 Grey
2. NETWORKING TOOL KIT  
Syba 50 Piece Computer Network Installation Tool Kit with Multi-Module Cable Tester (SYACC65047)
3. CUSTOMIZED LABORATORY COAT.

## TEXTBOOKS AND REFERENCES

- A. *Mueller, S. (2015). Upgrading and Repairing PCs. Twenty Second (22<sup>nd</sup>) Edition.*
- B. *Zak, D. (2015). An introduction to programming with C++. Custom eight (8) edition, Course Technology.*

### READING LIST

1. *Schmidt. C. (2005). Complete Computer Repair Book. Second (2<sup>nd</sup>) Edition.*
2. *Barnes. R. (2015) Build Your Own Gaming PC: The step-by-step manual to building the ultimate computer.*
3. *Meyers. M. (2016). CompTIA A+ Certification All-in-One Exam Guide, Ninth Edition (Exams 220-901 & 220-902) (9th Edition).*
4. *Meyers. M. (2016). CompTIA Network + Certification All-in-One Exam Guide, Sixth Edition (Exam N10-006) (6<sup>th</sup> Edition).*