This course teaches the principles related to the creation of computer systems, software and connectivity between computers. Students will develop conceptual and technical skills as they learn how to diagnose and solve problems in the course of understanding the basic building blocks of computing.

**Computer Science 1AB**

**Recommended Background**

Students entering this course will have achieved a B/C grade in English and Maths.

This course is for students looking to pursue a career in Computer Science, Networking, Programming and Database Design.

**Commitment:**

Students will be required to complete a minimum of 2 hours of study per week. Generally, students who choose this course would continue to study Computer Science 2AB in Year 12 and therefore be required to sit the external WACE exam at the end of Year 12.

**Course Content (1A)**

The focus for this unit is the personal use of computers. It covers the knowledge and skills required to maintain a personal computer.

During this course students will:

- Learn about computer hardware and parts of a computer;
- Understand how the parts work;
- Learn the history of computers;
- Learn and use software for personal use;
- Understand the maintenance of an operating system;
- Understand the Internet;
- Understand copyright while using a computer;

- Consider other people in the social and ethical use of computers; and
- Use and understand ergonomics associated with working on computers.

**Course Content (1B)**

The focus for this unit is the personal use of communication and information systems.

During this course students will:

- Create and have an understanding of databases;
- Understand data types;
- Learn network structures and types;
- Learn how data is communicated;
- Understand how the Internet works;
- Understand privacy of information; and
- Consider other people in the use of data.

**Computer Science 2AB**

**Recommended Background**

It is recommended that students studying Computer Science 2AB should have completed Computer Science 1AB, or equivalent.

**Commitment:**

Students will be required to complete a minimum of 3 hours of study per week.

**Course Content (2A)**

The focus for this unit is developing systems solutions. Students are introduced to computer-based systems in an industry context.

During this course students will:

- Learn about computer hardware design;
- Learn about software design;
- Understand how computer systems address specific job challenges;

- Learn to use diagrammatic design tools;
- Study and use algorithms;
- Understand programming concepts and use programming tools;
- Consider other people in the social and ethical use of computers in industry; and
- Understand the legal requirements of the use of computers in industry.

**Course Content (2B)**

The focus for this unit is developing database and communication systems solutions.

During this course students will:

- Learn about network uses in industry;
- Understand the applications of databases in industry;
- Understand how the Internet is used in industry;
- Understand other communication methods within industry;
- Understand how ICT has changed communication, with a focus on industry; and
- Understand privacy of information in relation to industry.