The University of the West Indies, Mona Campus

Department of Computing
Faculty of Science and Technology

BSc Computer Systems Engineering

Programme Description

Computer Systems Engineering embodies the science and technology of design, construction, implementation, and maintenance of software and hardware components of modern computing systems and computer-controlled equipment.
Computing devices have become smaller and their increased reliability as system building blocks has created an environment in which computers have replaced the more conventional electronic devices. This can be seen in the proliferation of mobile telephones, personal digital assistants, location-aware devices, digital cameras, and similar products. Computer Systems Engineering also reveals itself in the myriad of applications involving embedded systems, namely those computing systems that appear in applications such as vehicles, large-scale electronic devices, and major appliances.
The Computer Systems Engineering programme at UWI (Mona) brings together components from the sub-disciplines of Computer Science, Electrical Engineering and Software Engineering. These are delivered in a style that emphasises both theory and practical work. We incorporate an internship, projects, and business courses to produce a graduate that is ready for the job market or to start a business.

Characteristics of Computer Systems Engineering Graduates

With the ubiquity of computers and computer-based systems in the world today and because of the rapid pace of change in the computing field, computer systems engineers must not only be versatile in the knowledge drawn from standard topics in computer science, software engineering and electrical engineering, they must also be life-long learners to maintain their knowledge and skills within their chosen discipline.

What does a Computer Systems Engineer do?

The scope of study in Computer Systems Engineering is large and growing. It extends to all aspects of hardware and software covering diverse areas such as electronics, microprocessors and computers, computer programming using machine language and higher level languages, communications, digital signal processing, networks and control systems, and more. Computing power has been increasing steadily at an ever reducing cost. This has meant that small computers are now commonly integrated into systems meant to solve unique problems.

The computer systems engineer is trained to do both the hardware and software design of a system and often will play a key role in effectively integrating these two important components. Technological development and application are being increasingly emphasised in diverse areas of modern life, and there is an increasing demand for professionals who are not only well versed in current technology but are also capable of quickly assimilating and applying new advances as they arise. The computer systems engineer is just such a professional person. The employment prospects for graduating computer systems engineers are expected to increase worldwide. We need a reliable supply of trained innovative electrical, electronic and computer engineering personnel, together with other computing professionals, to satisfy the current worldwide technology explosion based on silicon chip technology, networks and computer applications.

Admission Requirements

In addition to fulfilling the general requirements for admission into the Faculty of Science and Technology, applicants must have a minimum of grade 3 passes in both units of Mathematics and Physics at CAPE or equivalent.

Collaborations

This programme is offered in collaboration with the Mona School of Engineering.