THE UNIVERSITY OF CAPE COAST ICT POLICY

INTRODUCTION

Information Technology (IT) is a term that describes the disciplines encompassing systems analysis, programming, telecommunications and multi-media applications. It is the convergence of computers and communication. The merging of computing, information, communication and technology have made ICT an essential part of our social infrastructure. Several organisations including academic institutions are increasingly using ICT for conducting their activities.

ICT has changed rapidly over the past ten years resulting in a significant shift of emphasis. Computers are being predominantly used for text manipulation and electronic mail. This trend is expected to continue until members of the University view computers as essential tools and where information is exchanged electronically rather than physically on paper.

The status of ICT in the University of Cape Coast is low and currently, the computer/student and computer/senior member ratios stand at 1: 215 and 1: …. respectively. In view of the critical role ICT plays in the educational sector of the country, it is imperative to build sound programmes and infrastructure in the University to facilitate its development. The University intends to adopt aggressive methods in securing resources, and more comprehensive proposals for financial support shall be sent out to stakeholders.

The ICT policy of the University shall therefore focus on addressing the basic needs of staff and students, especially those who need ICT in the quest for knowledge in their various disciplines. There is also the need for unification of all sources of information by their interconnection on a single high-speed network. A situation in which a lecturer's PC can be used:

> For research,
> To have access to students' information held at the administration and
> To have abstraction of bibliographic information from the library or remote database.
> For the internet

VISION

To become a Centre of Excellence in Africa where the potential of ICT is harnessed to serve as a catalyst for effective teaching, research, and replenishment aimed at the promotion of innovation in education technology.

MISSION

To use ICT optimally with the view to increasing efficiency among both staff and students and endeavour to fit into the new global information and knowledge based economies (IKEs).

GOALS

To realise the vision behind the ICT policy, the following goals have been set:

> i. Make the Computer Board a facilitator and an enabler to provide maximum opportunities to the Computer Centre to lead the thrust in the development of ICT in the university.
> ii. Develop an extensive pool of trained ICT manpower at all levels to meet the requirements of the University.

iii. Provide incentives to teaching, professional and technical staff to ensure the development of the University's ICT sector (including software, hardware, and training) and the use and maintenance of ICT infrastructure.

iv. Develop an enabling regulatory framework for ICT related issues.

v. Establish an efficient and cost-effective ICT infrastructure that provides equitable access to local, national and international networks.

vi. Set up University databases that are reliable, secure, up-to-date and easily accessible. These would be open databases.

vii. Promote widespread use of ICT applications in faculties and departments for efficient teaching, research and learning..

OVERALL UNIVERSITY ICT POLICY

The overall strategy for ICT is to provide staff and students with the appropriate facilities necessary for teaching, research and extension. These facilities shall be easily accessible from the desktop or computer laboratory through a common user-friendly interface. Accessing a wide variety of local, national and international networks across a high-speed communication network shall also be made available. It is anticipated that this will take place over at least a five- (5) year period and shall be executed in phases. Within this period:

A state of the art network infrastructure shall be provided to ensure that the University's network is capable of sustaining emerging new applications.

A user support facility shall be established and strengthened to ensure that the delivery of support is closely aligned to user and departmental requirement.

The University-wide computer literacy programme shall be adequately resourced to ensure its success.

ICT shall be used by the University to enhance distance learning.

The University shall support all national initiatives in ICT.

INFRASTRUCTURE

NETWORK DEVELOPMENT & CONNECTIVITY

The University shall provide a reliable campus-wide backbone communications network operating at the fastest speeds. Such a network shall be economically viable and capable of providing staff and students with inter-connectivity to both national and international networks.

With the development of multimedia applications and the increase in computing power on the desk, higher networking speeds and different networking techniques may be required in future. In this direction the University shall take appropriate steps towards securing funds for direct investment in new wiring within buildings of the various faculties.

The campus Wide Area Network (WAN) shall have priority at all times.

PHYSICAL INFRASTRUCTURE

In line with its vision for ICT, the University shall build a solid foundation of ICT infrastructure. A sound fiscal planning that will guarantee the state-of-the-art maintenance of the infrastructure at all levels shall be put in place.

In view of the fact that the University has to promote and nurture innovative development of ICT, efforts shall be made to provide adequate laboratory and office space. To develop the required infrastructure for the furtherance of basic research, the University shall look for resources to establish a Computer Science Complex. Such a Complex shall be equipped with facilities for multimedia computing and video conferencing.

EQUIPMENT
ACQUISITION AND MAINTENANCE

By making maximum use of bulk purchasing arrangements, a wide range of computers, accessories and software at economic prices shall be made available. Pooling the needs and requisition of all sections of the university to allow for bulk purchasing at economic rates shall also be pursued.

Adequate resources shall be made available for a regular maintenance of the ICT equipment (computers, servers etc.). The university shall put in place an elaborate programme of refurbishment and replacement of obsolete and outdated computer laboratory equipment. The university shall also systematically modernise her stock of computers to meet the demands of latest software, web access, and other basic tasks of computation and communication.

A maintenance program shall be put in place to ensure that the hardware are serviced, repaired and replaced from time to time.

NETWORK EQUIPMENT

The provision of central servers is critical to supporting the distributed computing environment on the University campus in a cost-effective manner. Also, the availability of central email directory, database, backup and archive services ensures the provision of coherent service to users on their own machines. Adequate resources shall be made available for a considerable expansion of the servers and additional staff recruited.

DEPARTMENTAL & PUBLIC EQUIPMENT

In line with the vision to use ICT optimally to maximise both staff and students efforts with the view to increasing efficiency, the University intends to provide centrally managed general-purpose computer laboratories at key locations. This investment shall be matched by smaller faculty/departmental funded facilities closely linked to their research and teaching goals.

One of the main inhibitors to further expansion is the lack of large unused areas to house such facilities. The university shall put in place an elaborate programme of refurbishment and replacement of obsolete and outdated public computer laboratory equipment.

MULTIMEDIA EQUIPMENT

Multimedia infrastructure must be developed such that, it is integrated into the curriculum of the University. To enable the University achieve this goal, the necessary wherewithal shall be found to invest into multimedia equipment.

POWER SUPPLY & EQUIPMENT PROTECTION

Uninterrupted power supply systems do not withstand rampant fluctuations and lightning induced surges. There is therefore the need to protect the ICT systems from the devastating effects of lightning and larger electrical power switching transient over-voltages and surges. The University shall source for resources from stakeholders to invest in ICT system protection devices.

TRAINING & SERVICES
TECHNICAL DEVELOPMENT & TRAINING

Technical development of ICT staff shall be given top priority. The University shall continue to educate and certify ICT professionals in needed functional areas of the profession.
A system shall be developed to attract, retrain, motivate and retain ICT staff.

COMPUTER LITERACY

All students shall be expected to acquire basic ICT skills in their own right rather than as adjunct to some other courses.

Successful implementation of the "Computer Literacy for everyone" programme for the University community shall require significant backing and additional resources provided at all levels of the University. The success of the programme shall lead to an expansion of the use of ICT for a significantly large group of new users and change the working ethos of the existing users.

USER SUPPORT

User support shall be provided in the form of informed help on academic and administrative computing and information to all categories of staff and students.

Computing services shall continue to be provided with strong user support to ensure integrated access to the new information service. The challenge shall be the provision of support for undergraduates to ensure a successful "computer literacy for everyone" programme.

The level and type of support shall be reviewed continually to allow for the introduction of new activities. These activities shall properly reflect the changing needs of the University. Appropriate incentives and support packages shall be made available to faculty and staff as encouragement in the creative use and application of ICT for teaching, research, and service.

SOFTWARE ACQUISITION AND DEVELOPMENT

Pooling the needs and requisition of all sections of the university to allow for bulk purchasing of software at economic rates shall be vigorously pursued.

The University shall engage in software development projects. These projects shall enable the University to produce application software for industries and also educational and multimedia software for educational institutions. The project shall generate income for the University.

HARDWARE MAINTENANCE

The University's stock of computers shall be systematically modernized to meet the demands of latest software, web access, and other basic tasks of computing and communication.

A maintenance program shall be put in place to ensure that the hardware are serviced, repaired and replaced from time to time.

ACADEMIC & ADMINISTRATIVE COMPUTING
ADMINISTRATIVE COMPUTING

Administrative computing shall support the corporate University through the provision of reliable management and administrative computing applications. It shall provide support for integrated databases whose relevant information shall be easily available to academic and administrative staff.

A set of core administrative applications to facilitate co-operation between the Universities shall also be provided to meet their present and future needs.

LIBRARY COMPUTER SCHEDULES

Library business through the provision of advanced library computing systems and easy access to library catalogues, databases and other library information available locally, nationally, and internationally shall be encouraged. Information held on CDROM and other electronic media for users to access shall also be encouraged.

Digital library infrastructure needed to support research, teaching and learning shall be developed and an 'electronic reserve' service developed. The 'electronic reserve' service shall make available content in all media and formats.

COMMUNICATION ON CAMPUS

The University shall establish, improve and support the smooth flow of information, particularly electronically, throughout the University to enable both staff and students manage their workloads effectively.

SPECIALISED COMPUTER SCHEDULES

The University shall provide infrastructure to support specialised computer schedules. The infrastructure shall include the provision of specialised computing services such as Geographical Information Systems (GIS) and desktop publishing.

OUTREACH

The University shall support local communities in the area of ICT. Computer Literacy programmes, distance learning and other specialised programmes shall be organised for the general public.

The University shall also develop a program of digital library research, and engage in national initiatives, to address the issues of innovative user services, creation and management of digital collections, the federation of distributed digital libraries, and the design of digital library systems.

FINANCE

The success of a programme for the integration of ICT into the University depends on the establishment of appropriate arrangements for managing ICT development and delivery systems.

It is important that all units of the University realise the importance of ICT and provide adequate resources to support ICT activities. To ensure the availability of funds, the University shall build life-cycle replacement funding into its planning at every level of investment in ICT.

The University shall have an annual budget to support life-cycle replacement of faculty and staff desktop computers.

SUSTAINABILITY

The success of this policy hinges on the enabling environment to pursue the vision and mission statements enshrined in this document. Sustaining ICT requires the support, leadership and commitment from top-level University authorities to champion this high profile policy document.

Structures must be put in place to complement each other in the areas of infrastructure development, generation of adequate funding and relevant investments to augment the financial base. This must be done with the appropriate fiscal and regulatory incentives for innovations, human resource development, and maintenance management systems.

This demands optimum transparency and accountability from policy decision-makers and ICT professionals. An adoption of a well-scheduled step-by-step approach with specific achievable indicators during the plan development process is a necessary prerequisite.

Finally, plans to ensure that this policy is sustainable would be vigorously pursued through the following measures:

Identifying sources of funding for acquisition and maintenance of equipment, and training ICT persons

Regularly updating of computers and related equipment according to their life cycle

Networking to be a continuous process as new building facilities for academic and administrative purposes spring up

Acquiring ICT hardware and software from a common source to reduce cost and enable easy maintenance
Training periodically of ICT technical staff to up-grade their knowledge in modern trends
Setting up a maintenance workshop

IMPLEMENTATION PLAN
The ICT policy of the University of Cape Coast aims at making ICT accessible from the desktop or computer laboratory through a common user-friendly interface. This will enable the university access a wide variety of local, national and international networks across communication network operating at the fastest speed locally available. It is envisaged that this will take place over at least a five- (5) year period and shall be executed in three (3) phases as outlined below.

PHASE ONE (1)

TIME	ACTIVITY
Available	Assess existing ICT facilities available in the various units, departments, faculties and the university in general.
June – October 2002	Establish an ICT database for the university: This must include the minimum needs of the various departments, faculties and units of the university.
July – September 2002	A senior university officer who will be solely responsible for networking shall be identified/employed. He shall be answerable directly to the Vice-chancellor. He shall be given further training and an opportunity to visit other network infrastructure, study network planning and management.
September 2002	Create an up to date internet/computer laboratory for students/staff of the university. A well-administered firewall and proxy servers shall also be provided. The laboratory shall for a start have a minimum sitting capacity of 200 places and shall have the potential of being expanded to 500 places
September 2002 -	A computer science department shall be established and the possibility of putting up a computer science complex pursued.
October 2002 - March 2003	Electronic mail addresses must be created for all senior members/staff and all first year students starting from the 2002/2003 academic year. The turnaround time for the email shall be small and have "close to desk" access.
June 2002 -	The possibility of renting/purchasing ICT equipment shall be pursued vigorously.
January-December 2003	Author and subject catalogues in the library shall be updated and put on CDROM including names of journals and periodicals. If

	possible, on-line journals must be subscribed and made available to students and academic staff.

PHASE TWO (2)

TIME	ACTIVITY
January – March 2003	Reliable university-wide internet backbone shall be provided
2003	All Local Area Network (LAN) on campus shall be connected into a campus-wide Wide Area Network (WAN) using spread spectrum (64kbps to 3mbps) point to point and point to multipoint
2002 – 2004	Existing buildings on campus shall be specifically wired for ICT purposes. ICT wiring should be incorporated into new buildings being put up on campus.
2003	Technical training of personnel to achieve autonomous development, installation and maintenance of local networks and services shall be pursued.
2003-2005	Web servers shall be created: Practical research findings, which shall be useful to governmental agencies and institutions, shall be published on the university websites, which shall be updated frequently with such research outputs.
Starting June 2003	Senior members and staff shall be trained to electronically publish their data as well as searching for data in the network. This training shall be periodic and organised three to four times in a year.
2003-2004	Departments shall provide all academic staff with desktop computers to help facilitate teaching and learning as envisaged in the mission of the ICT policy.
2004 - 2006	"Reverse" mirroring: vital/national data shall be copied to a well-connected location. Requests from the Internet shall be redirected there. This will help reduce costs.
2005	An elaborate programme for the refurbishment and replacement of obsolete computer equipment shall be established.

PHASE THREE (3)

TIME	ACTIVITY
Starting 2005	The computer science department shall be encouraged to engage in software development activities
2005-2006	As part of the university outreach activities, old computers shall be sold at subsidised prices to the university staff/students and

	surrounding communities. Donations shall also be made to needy second cycle institutions within the community.

The time frame indicated in this document is tentative and therefore shall be subject to changes with respect to the financial situation of the university.

Implementing ICT plans all over the world is capital intensive. To ensure the availability of funds, the University should have an annual budget to support life-cycle replacement of faculty and staff desktop computers

The university must vigorously pursue the vision and mission set out in this ICT policy. The process demands optimum commitment at all levels.