Status of IT Infrastructure and Services at College of Health Sciences
University of Ghana, Korle-Bu Campus.

Compiled by

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and

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Preamble

As part of restructuring of University of Ghana ICT system, Mr. Barfi-Adomako Owusu was temporal transferred to the College of Health Sciences, University of Ghana Campus to reorganize the IT systems to conform to the new created University of Ghana Computing Systems (UGCS). UGCS is a merger of all the previous ICT related department and units in the University, including the ICT Directorate (ICTD), the Planning and Management Information System Directorate (PMIS) and the Electronic Support Unit (ESU). This merger was initially recommended by the Visitation Panel Report upon which a number of other restructuring exercises in the University are based.

The Korle-Bu Campus of College of Health Sciences (CHS) has three constituents of the College in addition to the College Central Administration. These constituents are the Medical School (UGMS), Dental School (UGDS) and the School of Allied Health Sciences (SAHS).

It is only the Dental School, which is housed in two buildings close to each other. The UGMS and SAHS are scattered all over the Korle-Bu Teaching Hospital compound with some departments in the hospital wards etc. SAHS has recently relocated some of its offices to the student hostel and the ground floor of the CHS Administrative Block.

The College Library has taken up all issues related to ICT for the College and continues to do so. The Computer Assisted Learning Centre (CALC) which is a unit in the library, headed by an Assistant Librarian (Senior Member) with six other staff and national service personnel handle all ICT issues.

- **CURRENT STATUS OF NETWORK INFRASTRUCTURE**
  - Three administrative blocks (Medical School, Dental School and Allied Health Sciences) are connected by fiber optic cable. Medical School, Central Administration (CHS) and Allied Sciences have managed switches installed. Dental School and Computer Lab are connected by ordinary switches.
  - The rest of the departments in the various schools have their own internet connectivity on individual local area networks. Physically each network is separate and maintained by the respective departments without connection to the University backbone.

- **CURRENT CONNECTIVITY ISSUES**
  - On the university link generally connectivity is slow and usually has disruptions almost every day. On a typical day it starts well and starts to slow down after 9am and continues to be slow throughout the day and disrupted in the evening after 5pm and comes on after 6pm or the next day. Occasionally it works well.
• CURRENT STATE OF THE COMPUTER LABORATORY (CALC)
  - There are not more than 20 computers working in the CALC computer lab.
  - There are a lot of computers with faulty motherboards and other obsolete system units, mouse, keyboards and faulty monitors, printers that are deboarded and since disposed of. The Computer Lab. has space for between 180 to 250 computers

• INFORMATION ACCESS CENTRE (IAC) PROJECT
  - This project seeks to refurbish the computer laboratory - (Computer Assisted Learning Centre) with partitioning of the hall into two training labs, one Internet lounge, a seminar room and four offices. The initial contract has been signed and the contractor has made his initial visit and has promised to start work soon. It appears only 40 computers and corresponding tables and chairs will be provided for the Internet lounge only and the College will have to take care of the two training labs. First formal meeting has been held with the contractor and some briefing done and some issues relating to the project clarified. We are waiting for the final signing of the contract for work to begin and the necessary changes initiated through the Project Director.

• THE COLLEGE LIBRARY
  The College Library is on the first floor of the College Administrative Block. The network is linked to the library from CALC on the second floor. One member of staff from the CALC is assigned to see to the computers and ask for support when there is the need.
  a. The issue in the library is continuation of the automation project started some few years back. Currently desktop computers (7) have been installed with the appropriate software for cataloguing and circulation, passwords assigned to staff and awaiting the technical support staff from the main University library.
  b. The library needs to purchase some few things to help in the cataloguing of books such as scanners, markers, pencils etc.
  c. Staff who participated in the start of the automation have been informed and new staff oriented on the project and the roles they must play

• THE UNIVERSITY OF GHANA DENTAL SCHOOL (UGDS)
  The following is the state of the IT infrastructure in the UNIVERSITY OF GHANA DENTAL SCHOOL
  - Network

  - There is a fiber optic link between the UGDS and the College of Health Sciences Administrative Block (CALC) where a Cisco managed switch for the UGDS is sited. The internet is however unreliable; it gets very slow at times and frequently has parts going down due to IP conflicts. These difficulties are reported to the CHS IT Unit, which is the Computer Assisted Learning Center (CALC) which also forwards it to the University of Ghana main campus. This makes rectification of these problems time consuming as work has to grind to a halt until someone arrives from the UG main campus.

  The UGDS has a wireless router around the School which provides internet service for its students and staff.
UGDS Website
The UGDS has a website which stands alone from the University of Ghana website. The University of Ghana website has a page for the UGDS but currently has very little information on the Dental School. It would be more efficient if someone from the Dental School or the CALC is allowed to update the website as and when it becomes necessary.

- **Hardware**
  There are 30 Desktop Computers and 10 Laptops in the UGDS. Out of these, 6 PCs are in the Dental Clinic, 5 in the Library and 19 are used by staff and faculty for administrative and teaching purposes. There are 2 servers, one for managing the accounts and other one for the Clinic.

Personnel
- **Staff**
The UGDS has one ICT Technician in charge of the network, software and hardware installation and maintenance and user support. He is sometimes supported by staff from the CALC and relieves him when he takes his annual leave.

- **Software**
  Software used in the UGDS is obtained by the following means:
  - Those supplied with the purchase of new PCs. Eg. Windows 7, Windows XP
  - Free software from the internet. Eg. Adobe reader, VLC media player etc.
  - Licensed software bought from companies. Eg. eScan Anti-Virus and Topaz software for the Accounts Department
  - Some of the software eg. Windows 7 and XP have to be replaced with genuine licensed copies.

THE UNIVERSITY OF GHANA MEDICAL SCHOOL (UGMS)
The following is the state of the IT infrastructure in the UNIVERSITY OF GHANA MEDICAL SCHOOL
- **Network**
  - There is a fiber optic link between the CALC and only the UGMS Administrative Block with a Cisco managed switch. The internet connectivity is the same as what has been reported for the UGDS as the connectivity is from the same source.

- **UGMS Website**
The UGMS also has a website which stands alone from that of University of Ghana. The University website has a page for the UGMS but currently has very little information on the Medical School. The solution is either to link it up to the UG website or close it and transfer it to the UG website where a bigger slot is allocated with no fee been charged.

- **Departments**
The UGMS is the largest School in the College with 18 departments. All the departments have their own local area networks built and in use. Each department has its own internet link with a few departments using one service provider. None of the departments is connected to the UG backbone.
Few departments are housed in the same building like the Basic Sciences namely Anatomy, Medical Biochemistry, Physiology and Pharmacology. Others like Community Health and Microbiology are in the building. Pathology and Chemical Pathology are in the same building close to the Community Health commonly referred to as the red building. The same can be said of departments of Surgery and Anaesthesia.

The rest like Obstetrics and Gynaecology, Paediatrics, Medicine, Haematology, Radiology, etc are scattered all over the Korle-Bu compound.

- **Hardware**
  Each department and unit has its own hardware. The CALC unit services some of the computers as private companies do the rest.

- **Staff**
  The CALC staff as well as Electronic Support Unit staff do service IT equipments in the School. There are a few individuals in the departments with various IT specialties who also help. Below is the list of staff in the Electronic Support Unit.

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
<th>POSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Michael Ofori-Adjei</td>
<td>Senior Staff</td>
<td>Chief Electronics Technician</td>
</tr>
<tr>
<td>Mr. S. B. Asamoah</td>
<td>Senior Staff</td>
<td>Principal Electronics Technician</td>
</tr>
<tr>
<td>Mr. Richard Sampah</td>
<td>Senior Staff</td>
<td>ICT Assistant</td>
</tr>
<tr>
<td>Mr. Francis Atikpli</td>
<td>Senior Staff</td>
<td>ICT Assistant</td>
</tr>
<tr>
<td>Owureku Simpeh Omane</td>
<td>Junior Staff</td>
<td>Technical Assistant (GD1)</td>
</tr>
</tbody>
</table>

- **SCHOOL OF ALLIED HEALTH SCIENCES (SAHS)**

The following is the state of the IT infrastructure in the SCHOOL OF ALLIED HEALTH SCIENCES.

- **Network**
  - There is a fiber optic link between the CALC and only the SAHS Administrative Block with a Cisco managed switch. The internet connectivity is the same as what has been reported for the UGDS and UGMS as the connectivity is from the same source.

- **SAHS Website**
  SAHS has a website slot on the main university website which is yet to be developed. This site is supposed to be handled by a staff at CALC.

- **Departments**
  The SAHS has few departments which are scattered from each other and the same can be said of the central administration. All the departments have local area networks built and
in use. Each department has its own internet link with a few departments using one service provider with the exception of those in the College administration building which uses the CALC link by wireless.

- **Hardware**
  Each department and unit has its own hardware. The CALC unit services some of the computers as others are done by private companies.

**Personnel**

- **Staff**
  There is one junior staff attached to the library that provides support for the School with assistance from the CALC unit.

  - **STATE OF CONNECTIVITY AT DEPARTMENTAL LEVEL**

  Appendix A shows the state of Internet connectivity at almost all the departments, units and sections within the College. The most common internet provider is Vodaphone with a few buildings using the UG link. Most buildings have the E-Government fiber cable laid but yet to be terminated and operationalized.

  The various vodaphone internet subscriptions could be consolidated and a good bargain made to reduce cost and to have an effective communication link. There is the urgent need to pursue the connectivity between the UG link and that of the E-Government Project to enable the departments to benefit.

  - **STAFF STRENGTH (CALC)**

  The staff strength at the CALC is seven and made up of one senior member, five senior staff and one junior staff. There are national service and attachment personnel who do support from time to time.

<table>
<thead>
<tr>
<th>STAFF</th>
<th>STATUS</th>
<th>WORK SCHEDULE &amp; RESPONSIBILITIES</th>
</tr>
</thead>
</table>
| Samuel Bentil Aggrey         | Senior Member    | Library Services Unit  
  • Deputy head of the Department  
  • Supervise all other units/sections  
  • Oversees all ICT issues in the library  
  • Supervise ICT staff  
  • Training of staff and students  
  • Handles Electronic resources |
| (Assistant Librarian)        |                  |                                                                                                   |
| Micheal Quartey              | Senior Staff     | Library services Unit  
  • Assist head of unit  
  • Support in repair of computers  
  • Support installation of applications  
  • Support internet connectivity  
  • Support in printing of materials |
<p>| (ICT Assistant)              |                  |                                                                                                   |</p>
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Unit</th>
<th>Duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisdom Dzikunu</td>
<td>Senior Staff</td>
<td>Networks Unit</td>
<td>- Assist head of department</td>
</tr>
<tr>
<td>(Senior Programmer)</td>
<td></td>
<td></td>
<td>- Repair of computers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Internet connectivity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Installation of software</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Evaluation of hardware</td>
</tr>
<tr>
<td>Richard Otieku-Boadu</td>
<td>Senior Staff</td>
<td>Networks Unit</td>
<td>- Assist head of department</td>
</tr>
<tr>
<td>(ICT Assistant)</td>
<td></td>
<td></td>
<td>- Support in repair of computers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Maintenance of networks</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Internet connectivity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- IP Phone directory and services</td>
</tr>
<tr>
<td>Samuel Nii Lamptey</td>
<td>Senior Staff</td>
<td>User Support Unit</td>
<td>- Assist head of department</td>
</tr>
<tr>
<td>(Senior ICT Assistant)</td>
<td></td>
<td></td>
<td>- Managing Internet café</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Training of staff</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Training of students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Support in the use of applications</td>
</tr>
<tr>
<td>Maxwell Addo</td>
<td>Junior Staff</td>
<td>User Support Unit</td>
<td>- Assist head of unit</td>
</tr>
<tr>
<td>(ICT Clerk Grade II)</td>
<td></td>
<td></td>
<td>- Handling internet café</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Registration of students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Registration of staff</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Repair of computers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Installation of software</td>
</tr>
<tr>
<td>Samuel Addo-Yeboah</td>
<td>Senior Staff</td>
<td>Web/Email Administration</td>
<td>- Assist head of department</td>
</tr>
<tr>
<td>(ICT Technician)</td>
<td></td>
<td>Unit</td>
<td>- Managing email accounts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Managing websites</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Support repair of computers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Support training of staff/students</td>
</tr>
<tr>
<td>National Service/Attachment</td>
<td></td>
<td></td>
<td>Support the various units.</td>
</tr>
<tr>
<td>Beatrice A. Ayamba</td>
<td>Junior Staff</td>
<td>Cleaner – floor, louvers,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>tables etc</td>
<td></td>
</tr>
</tbody>
</table>

**Other Staff at the College/Constituents**

There are other staff at other places/schools or on projects such as:
- Jones Osei-Tutu – Dental School- Junior Staff – ICT Clerk Grade II
- Albert Nyinah – School of Pharmacy – Junior Staff-ICT Clerk Grade II
- Carl Agbenohavi – Allied Health Sciences- Junior Staff-ICT Clerk Grade II

OER/Brown University project with two people.
- Chris Yeboa – Research Assistant
- Nyametei Philip – Assistant Research Assistant
The Medical School and some of its departments have some staff employed or do additional or assigned roles on ICT who are not under the control of the CALC. One of such unit is the Electronic Support in the Medical School.

- **TRAINING NEEDS**
  - All staff needs training in general and specific areas relating to networks, library services, user support and web administration. Only few have had some training from the main campus and elsewhere
  - The following appears to be the common areas staff need to be trained on namely hardware repairs, software installations, operating system administration, network administration, security, Internet and web administration, programming, electronic mail administration, user rights etc.

**ITS USAGE**

To better understand the ITS Usage at CHS, views of randomly selected staff on the use of ITS was conducted and the responses are presented below:

**Accounts**
An Accountant at the Finance Department reports of the following:

- Very slow internet link at certain times of the day
- Not being able to use the ITS back office
- Not being able to generate report at certain times
- Long periods/time in generating reports
- Fluctuation in the internet links

**Academic Affairs**

The following were the problems reported by the Academic Affairs:

- SAHS students cannot complete their registration as they cannot view the courses to register for though she as an administrator sees them all.
- After registering some students, the ITS indicates that the class size is exceeded.
- There are no codes for the coordinated courses at the clinical level for the medical students.
- Slow internet link
- Lack of access to do more work like enabling students who pay fees in bits before reaching the 70%. For now can do for those who pay the 70% at the first instance.

**Personnel**

Representative of the personnel section was at hand to answer questions. He said the ITS was alright and can work with it and the only problem was the slow link.
Procurement
The procurement officer was around to share her views. She admitted not using the ITS frequently and hence could not tell for certain the problems in its use.

General Problem:

Key outcome that runs through and is likely to come up with the rest of the schools are:
- Slow internet link
- Lack of training for stakeholders
- Increase access for some selected staff both technical and principal
- Alternative links (backups)
- Increase or improve internet link
- Having a server at CHS that can serve the schools and at night synchronize with the main one at Legon.

RECOMMENDATIONS

1. Establishment of IT Department

An IT Department should be formally established and recognized in the College and the University of Ghana Computing Systems (UGCS). The department should be responsible for all ICT issues in the College. We proposed that, the department should be headed by an Information Technology Officer (ITO). The following units as depicted in the organogram below should be created in line with the establishment at UGCS for staff progression and other related issues:

- Library Services
- Network and Systems Administration
- Business Systems and Web Administration
- End-User Support

![Organogram of IT Department](image-url)
Job Description of Units

Information Technology Officer
- Responsible to CITO/Provost
- In-charge of all ICT issues on the Korle-Bu campus (CHS)
  - Network Administrative/Server Support – oversees the day-to-day operations of computer networks including hardware/software, training and special projects etc.
  - E-mail/Internet/Systems – coordinate the support and maintenance of user e-mail accounts, lead efforts by IT staff to provide e-mail training and software support etc.
  - Telecommunications Support – plan, recommend and assist in the design of telecommunication systems, research and recommend telecommunications equipments etc.
- Initiate the recruitment, training, appraisal of staff

Library Services Unit:
- Responsible to the Head of ICT
- In charge of all ICT issues in the Library
- Ensure Internet Connectivity
- Ensure effective use of ICT hardware and software
- Establishment and extension of network
- Installation of applicable software
- Servicing of computers and accessories
- Liaise with other units
- Any duty to be assigned by Head of Department

Network and System Administration Unit:
- Responsibly to the Head of ICT
- In charge of all connectivity issues between CHS and main campus
- Ensure connectivity between the various schools and CHS Administration
- Monitor the use of bandwidth
- Ensure periodically the expansion of network
- Building and maintenance of local area networks
- Handle all security issues
- Maintain the server room
- Ensures the authentication of all users and computers
- Administer the webmail for staff and students
- Liaise with other units
- Any duty to be assigned by Head of Department
Business System and Web Administration Unit:
- Responsibly to the Head of ICT
- Ensure the visibility of the College on the Internet through the main campus website
- Handle of all issues of websites
- Maintenance of websites
- Posting of notices on the website
- Purchase of software
- Develop software to be used
- Study and recommend software to use/adopt
- Liaise with other units
- Any duty to be assigned by Head of Department
- Support ITS usage on Korle-Bu Campus
- Maintain and deploy ITS modules
- Coordinate with the Finance Directorate, Human Resources and Academic Affairs to train users on ITS
- Training Students in ITS

End User Support Unit:
- Responsibly to the Head of ICT
- In charge of all training programmes
- Support in the training in the use of basic applications
- Ensure the effective use of the official electronic mail
- Assigning and management of electronic mails
- Introduction and use of databases
- Repair works on hardware (computers and accessories)
- Organize various training for faculty, staff, and students
- Handle the day to day use of the CALC – (Internet café )
- Liaise with other units
- Any duty to be assigned by Head of Department

2. Library Services
The Library has played a key role in the development of ICT in the College for many years and continues to do so. However, the core library IT services need urgent support to bring it in line with current trend in library automation, library security and library IT services delivery in general. The recommendations are as follows:
- **The library automation** should be given a priority by vigorously continuing with the retrospective conversion of the manual catalogue to electronic catalogue. This will require assignment of staff in the catalogue unit to work solely on this project. Additional staff from elsewhere could be engaged to complete the project on time. Other resources required are the acquisition of barcode scanners, computers, markers, printers and spine labels. Training for new staff and refresher tutorials for staff
already trained on the Millennium Software should also be carried out. It should be mandatory for all newly acquired books to be entered into the Millennium software before they are put on shelve

- **Millennium Acquisition module** – to speed up the procurement of books for the library; the acquisition module of the millennium software should be explored. This will require the training of staff in its usage as the module has already been purchased by the University of Ghana Library System

- **Library Security System** should be installed in the library to protect books, equipment and other valuables. We recommend the installation of 3M3502 Dual Aisle Direct Mount 36"W Corridors and accessories at the main entrance to the library. Similar systems have been installed at the Balme Library and the Law faculty with Accra City Campus one yet to be deployed. The tagging of books in anticipation to the installation of the security gates should be done alongside the retrospective conversion. We also recommend the deployment of security cameras at vantage points in and around the library to protect books from mutilation

- **OPAC and Circulation Desk** – there should be an appropriate table to house computers for the Online Public Access Catalogue (OPAC) to make it visible and comfortable for patrons. The circulation desk should be redesigned to accommodate the use of the circulation module of the millennium software and the re-de-activator unit of the 3M security system

- **Internet access** to users should be adopted by providing computer terminals and wireless access points to patrons. A space should be created in the library to accommodate the PCs.

### 3. Internet and Intranet Connectivity

The Internet connectivity remains one of the major issues confronting the CHS. We therefore recommend the following to improve on the situation:

- Increase in the bandwidth or dedicated bandwidth
- Completion of work on labeling switches/ports/computers etc
- Enabling CHS IT staff to monitor their intranet and link to Legon
- Installation of a server to manage and control traffic outflow. The server would also provide services like Active Directory, secondary DNS and storage
- Installation of managed switches in the Computer lab. and Dental School

### 4. Training of Staff

The following training and certification programmes are recommended for staff to improve on their skills in the management of IT resources at CHS:
Networks
- CCNA – various training to cover Cisco managed switches/products.
- CompTIA A+ (A+ certification)
- CompTIA Network+ (N+ certification)
- MCSE Windows Servers

User Support
- MCITP: Enterprise Desktop Support Technician on Windows
- MCITP: Enterprise Desktop Administrator on Windows
- MCITP: Enterprise Administrator on Windows Server 2008

Vmware Certification
- VMware Certified Professional – Cloud (VCP-Cloud) certification validates one's ability to install, configure and administer a Cloud environment using vCloud Director and related components.
- The VMware Certified Associate 4 – Desktop (VCA4-DT) is the first step toward gaining expertise in desktop virtualization and earning the respect and recognition that comes with being VMware Certified.

Library Services
- Library software (millennium software) management and system maintenance
- Institutional Repository, Library Security and Digitization

Conferences, workshops, seminars (in-house, local and international)
- Attending various workshops, conferences, seminars related to ICT by various professional bodies in-house, local or abroad:
  - 2013 ALA Annual Conference takes place in Chicago, June 27-July 2. This conference has the reputation for being a top educational and networking event for librarians and IT professionals
  - VMware 2013 Virtualization Conference, October 15-17, 2013, Barcelona, Spain

5. ITS Software
The ITS currently supports the main administrative and accounting departments of the College and the University in general. Users therefore expect uninterrupted service to carry out their daily routines. To achieve the above objectives we recommend the following:
- Alternative link to use when current link fluctuates or slows down
- More training for faculty in the input of marks
- More training to support IT staff
• Increase bandwidth
• Good and fast internet link
• Re-training for all stakeholders in the use of ITS
• Deployment of the Procurement module to allow users to place orders online
• Deployment of Budget modules to assist units and departments to prepare annual operation budget

6. Information Access Center
The Ministry of Communication under the e-Ghana project will furnish the center with 40 computers and corresponding tables and chairs for the Internet lounge. The University and the College will have to provide furniture for the two (2) IT labs and staff offices. The lab and staff offices should also be equipped with 70 computers by the College. See Appendix B & C for revised floor design.

7. Network Upgrade and Extension
- Completion and upgrading of LAN at CHS Administration
  The LAN in the CHS Administration (ground Floor) should be completed and well structured. Again, there is the need to upgrade the switches at CALC and UGDS to Cisco Managed Switches to improve on the network performance and monitoring.

- Extension of network to students’ hostels
  The College’s network should be extended to the student hostels to enable them access resources like UG (Library databases, MIS, etc) from the hostel.

8. Computers for IT Laboratory
- There is the urgent need to purchase about 70 new computers to support training and user at the IT Lab
- There is also the need to purchase a high capacity UPS as few stand-alone UPS are available.
- There is the need to replace the existing tables and chairs in the Lab as the Information Access Centre (IAC) project seeks to stock only the Internet lounge.
- There is only one laser printer.
- There are no servers but one desktop computer is configured to serve as such to help manage users who use the cafe.

9. Recruitment of Additional Staff
The formation of University of Ghana Computing Systems (UGCS), which seeks to bring all ICT and IT materials, issues and staff under one unified structure, has resulted in the recruitment of additional staff among others.

The new ICT Department in the College has five (5) proposed units in line with what is in place on the main campus.
The units need to have at least one junior staff, one senior staff and in exceptional cases a senior member. Currently there are just a minimal staff for example one junior staff supporting five senior staff and only two senior members.

Three constituent schools of the college continue to rely on the few staff at the central administration to support them and even to relief their ICT staff when they are on their annual leave. This puts much pressure on staff at the centre.

There is the urgent need to recruit two senior staff to add to the junior staff at Allied Health Sciences and the Dental School. For the ICT centre, there is the need to recruit four junior staff to help the senior staff. The unit also needs a secretary (Administrative Assistant) to help the head of department in among other things typing of letters, handling all correspondents etc.

The department has identified some of such staff to be recruited.

Name: Mr. Edwin Solomon  
Placement: Dental School  
Status: Senior Staff  
Position: ICT Assistant  
Justification: has since finished his mandatory 3 months attachment and has it renewed upon his request. He is very hard working, punctual and always on time though he stays very near at Korle Gonno. Under the period, he has relieved staff at the Dental and Allied Health Schools. He is a fast learner and gotten on well with staff at the Centre. Works well with little or no supervision. I have interacted with him and looking at his performance during the period found him suitable to assist the Dental School.

Name: Chief Ansere-Sarpong  
Placement: School of Allied Health Sciences  
Status: Senior Staff  
Position:Senior ICT Assistant  
Justification: completed his national service last year. Currently staying on to help when needed and just finished relieving the IT staff at Allied Health. He is hardworking, punctual and always on time. He has good knowledge of ICT and mostly does not need much supervision. Looking at his work and later discussions with him, I can say he is very much committed, willing to stay and to assist the School of Allied Health Sciences.

Name: Charles Essuman  
Placement: ICT Department  
Status: Junior Staff  
Position: ICT Clerk  
Justification: He came in to do his national service few years back and has since left. He often times comes around asking on any development on his application. He is
hardworking, shows commitment to anything he engages in, very supportive, very co-operative and has sound knowledge in the repair of computers and management of café issues. As someone who has worked under me for some time, I think he can be employed as a junior staff to support the ICT department to help manage the café and help in the servicing of computers.

**Name:** Ebenezer Adjei Effah  
**Placement:** ICT Department  
**Status:** Junior Staff  
**Position:** ICT Clerk  
**Qualifications:** Senior High School Certificate, hardware and networks certificate, Diploma in systems administration  
**Justification:** He is about to finish his industrial practical attachment. He is hardworking and has sound knowledge of hardware and network issues. He comes to work on time early and when needed stays on to do extra work to support staff. He needs not much supervision in working and works fast most of the time in identifying problems or serving users. I see him as a young man full of promise and when employed the College will benefit a lot.

Vacancies exit for an Administrative Assistant (Secretary) and other IT staff to work in the various units proposed in the organogram.

**Conclusion**

In sum, the foregone shows the state of ICT infrastructure in the College of Health Sciences Korle-Bu Campus. There is no centralized setup but a limited campus area network restricted to four administrative blocks with many departments having their own local area networks not connected to the university backbone. There is the need to consolidate all links available. In the interim a volume purchase deal can be done for all the departments using vodaphone.

The issue of inter-connectivity between the UG link and the E-Government project should be pursued seriously. This apart from linking up the rest of the departments will increase the speed and bandwidth available to users. The various vodaphone internet subscriptions by departments should be consolidated and a good bargain made to reduce cost and to have an effective communication link.

The establishment of a new department for ICT in the College Administration will go a long way to recruit the needed additional technical staff, coordinate all ICT issues and relate with the various stakeholders to ensure proper campus area network, improvement on the connectivity etc.

There is also an urgent need to support the IT infrastructure in the Library to bring it up to standard. The College library should be equipped with computers for Online Public Access Catalogue (OPAC) and Information Retrieval. Installation of Book Theft Detection system and IP cameras should be pursued.

The IAC will bring a major facelift to the College with the provision of state of the art ICT facilities. The College and the University must be in the position to provide funding
for the acquisition of additional facilities such as furniture, computers and accessories which the e-Ghana Project is not covering.

The Chinese phase II project should equipped the College library with more hardware and software. It is expected that Book and Document scanners will be provided to the library and the college under the project to quick start digitization of materials and records at the College. The completion of LANs and the extension of the campus backbone should also be pursued
### Appendix A – State of Connectivity at Departmental Level

#### UGMS

<table>
<thead>
<tr>
<th>No.</th>
<th>Departments</th>
<th>UG Link</th>
<th>E-Govt. Project</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Administration</td>
<td>Yes</td>
<td>No</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>2.</td>
<td>Anatomy</td>
<td>No</td>
<td>Yes (Not Done)</td>
<td>IDN (Private)</td>
</tr>
<tr>
<td>3.</td>
<td>Physiology</td>
<td>No</td>
<td>Yes</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>4.</td>
<td>Biochemistry</td>
<td>No</td>
<td>Yes</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>5.</td>
<td>Pharmacology</td>
<td>No</td>
<td>Yes</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>6.</td>
<td>Community Health</td>
<td>No</td>
<td>No</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>7.</td>
<td>Microbiology</td>
<td>No</td>
<td>No</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>8.</td>
<td>Pathology</td>
<td>No</td>
<td>No</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>9.</td>
<td>Chemical Pathology</td>
<td>No</td>
<td>No</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>10.</td>
<td>Medicine</td>
<td>No</td>
<td>Yes</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>11.</td>
<td>CTCPT</td>
<td>No</td>
<td>Yes</td>
<td>Vodaphone</td>
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<tr>
<td>12.</td>
<td>Surgery</td>
<td>No</td>
<td>Yes</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>13.</td>
<td>Anaesthesia</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>14.</td>
<td>Psychiatry</td>
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<tr>
<td>15.</td>
<td>Haematology</td>
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<tr>
<td>16.</td>
<td>Urology</td>
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<td>None</td>
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<tr>
<td>17.</td>
<td>Paediatrics</td>
<td>No</td>
<td>Yes</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>18.</td>
<td>Obs &amp; Gyn</td>
<td>No</td>
<td>Yes</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>19.</td>
<td>Illustration</td>
<td>Yes</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td>20.</td>
<td>Research(Alumni Office)</td>
<td>No</td>
<td>Yes</td>
<td>IDN from Anatomy</td>
</tr>
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<td>21.</td>
<td>GEMP</td>
<td>No</td>
<td>No</td>
<td>Vodaphone</td>
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<tr>
<td>22.</td>
<td>Simulation Centre</td>
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<td>No</td>
<td>Vodaphone</td>
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<td>23.</td>
<td>UGMS Stores</td>
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<td>24.</td>
<td>UGMS Clinic</td>
<td>No</td>
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<td>25.</td>
<td>Maintenance Unit</td>
<td>No</td>
<td>No</td>
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<tr>
<td>No.</td>
<td>Departments</td>
<td>UG Link</td>
<td>E-Govt Project</td>
<td>Others</td>
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<tr>
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<td>---------</td>
<td>----------------</td>
<td>---------</td>
</tr>
<tr>
<td>1.</td>
<td>Administration</td>
<td>Yes</td>
<td>Yes</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>2.</td>
<td>All Departments</td>
<td>Yes</td>
<td>Yes</td>
<td>Vodaphone</td>
</tr>
</tbody>
</table>

*All units are in two buildings adjacent to each other.

**SAHS**

<table>
<thead>
<tr>
<th>No.</th>
<th>Departments</th>
<th>UG Link</th>
<th>E-Govt. Project</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Administration</td>
<td>Yes</td>
<td>No</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>2.</td>
<td>Library</td>
<td>No</td>
<td>No</td>
<td>Vodaphone</td>
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<tr>
<td>3.</td>
<td>Radiology</td>
<td>No</td>
<td>Yes</td>
<td>None</td>
</tr>
<tr>
<td>4.</td>
<td>Physiotherapy</td>
<td>No</td>
<td>Yes</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>5.</td>
<td>Registry</td>
<td>Yes</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td>6.</td>
<td>Student Hostel</td>
<td>No</td>
<td>No</td>
<td>Vodaphone</td>
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</table>

**COLLEGE ADMINISTRATION**

<table>
<thead>
<tr>
<th>No.</th>
<th>Departments</th>
<th>UG Link</th>
<th>E-Govt Project</th>
<th>Others</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Administration</td>
<td>Yes</td>
<td>No</td>
<td>Vodaphone</td>
</tr>
<tr>
<td>2.</td>
<td>All Departments</td>
<td>Yes</td>
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<td>Vodaphone</td>
</tr>
<tr>
<td>3.</td>
<td>Library</td>
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<td>No</td>
<td>Vodaphone</td>
</tr>
</tbody>
</table>

*All departments/units on the same building.
Appendix B - Information Access Center (Floor Plan) – CALC/Lab.

Appendix C - Information Access Center (Floor Plan I)