INTRODUCTION

General

Welcome to the Copperbelt University School of Medicine (CBU SOM). This School is new and only the second public medical school in Zambia. There are 2 other privately run Medical Schools in Zambia. All these schools are located in Lusaka. CBU SOM is the only Medical school outside Lusaka. The School was inaugurated on 22\textsuperscript{nd} June 2011. It will open in November 2011. It is one of 9 schools under the Copperbelt University which is the Parent University located in Kitwe on Jumbo Drive in Riverside. There are over 10,000 students in the Copperbelt University. The CBU SOM like all schools of the CBU Schools is run by the Dean of the School and some Heads of Departments.

The school offers 2 key degree programs. These are the Bachelors of Dental Surgery (BDS) and the Bachelors of Medicine and Surgery (MBChB). These courses are designed to train Doctors and Dentist in a modern and exciting way.

The curriculum is a longitudinal curriculum which runs 4 main course themes with varying concentrations over the whole 5 year period. These core themes are basic medical science, curative (clinical) medicine, preventive medicine and social medicine. These courses are run together right from the beginning hence the term of longitudinal curriculum. This design permits for integration of the course materials and allows multidimensional approach to health care provision among trainees. The training is timetable constitutes a 40 hour training every week. courses materials include are mostly practical with some amount of clinical teaching. The courses each run for a total of 10 weeks.

This booklet provides information about the school in general, the administrative, teaching arrangements, information accommodation and some general information which maybe beneficial to students.
ABOUT THE CBU SOM

Location

The administrative offices are located on the 6th floor Eastwing of the Ndola central Hospital. The Ndola central Hospital is at the corner of Broadyway road and Nkana road in Ndola. The School is managed by the Dean of the school of Medicine. He is assisted by administrative staff who manage the staff and student affairs of the school. The objective of the school is to train Dentists and Medical Doctors in a manner that provides them with the skills to be successful practitioners in the modern changing environment. The trainees are expected to be able to manage all common medical conditions and urgencies in Medicine and Denistry. Students are also expected to have skills that will enhance there medical practice including leadership, entrepreneurship and communication skills.

Programs

The training duration is 5years for both the BDS(Bachelor of dental surgery) and the MBCHB(Bachelor of Medicine and Bachelor of Surgery) program. The two groups do the same courses for the first 2 years. They branch into specialised BDS and MBCHB training in the 3 to 5years. The key courses in the first two years will focus on basic science training. These are the sciences that train students in understanding the human body, its structures (Anatomy), their functions(Physiology) and dysfunctions(Pathology). The Students will also learning how these dysfunctions are assessed (Laboratory Medicine) and treated(Therapeutics). In addition to this students learn about community health. This course introduces them to rural communities and help them to understand the behaviours of these communities, their health risks and health seeking behaviours. In addition the subject focuses the student to understand how disease can be prevented and health can be promoted. From this course the students will develop an understanding of the health system in Zambia and how national prevention programs are managed.

This course is taught over a period of two years following a systems approach. This means that each of these areas is taught for one body system before moving on to the next. This is called a systems based curriculum. For example in the program students will first be taught the respiratory system and the cardiovascular system in term 2. Then in term3 the will have the Gastrointestinal System and the Reproductive system and so on until all 9 systems are completed.

The next 3 years focus on clinical medicine. In other words the practical part of training as a Doctor or a dentist. It involves working in the Ndola central hospital along with a team of qualified Doctors. Through this method the student learns medicine by apprenticeship. This means by watching and doing under instruction. During this period the students will get morning lecturers, tutorials and seminars in medical science, dental science and the revisions of the materials taught in years 1 and 2.

Students will be assessment by continuous assessment and by end of year assessments. Students must pass both to proceed to the next year. Full details of this is contain in the school of Medicine handbook.
Departments

The school has a Dean who is the officer in charge of the school, that includes the staff, students and all training programs. Under the Dean there are 3 departments. The department of Basic Sciences, the Department of Dental sciences and the Department of Clinical Sciences. Each of these departments is managed by a head of department.

The Basic Science Department
This department is responsible for running all the courses coded BS(Basic Science). These will be 4 in year 1.

The Clinical Science Department
This department is responsible for running all the courses coded CS(Clinical Science). These will be 2 in year 1.

The Dental Science Department
This department is responsible for running all the courses coded DS(Dental Science). These will begin in year 3 for BDS students.

The course will be taught using lectures in the morning mostly, students lead study groups in the mid morning and practicals in the afternoons.

Practicals:
Basic science practicals will be done in the basic science labs using the school of Medicine labs and some shared labs with the Ndola School of Biomedical sciences.
The clinical practicals will be done at Ndola central Hospital and Arthur Davison childrens hospital
The community health practicals will be done in the Ndola rural communities as wells as the rural/urban clinics in Ndola district.

Courses
The following courses will be done as listed below in years one and two for the Medical and dental Programs.

Structure MBChB course
Year 1

1. MBS 100 Introduction to Body Structures(Their development and Microscopic/Macroscopic structure)
2. MBS 110 Introduction to body function
3. MBS 120 Introduction to dysfunction of the body(diseases)
4. MBS 130 Introduction to Society and Medicine
5. MBS 140 Introduction to Diagnostics, Therapeutics and Laboratory sciences
6. MCS 100 Introduction to clinical skills and clinical practice
7. MCS 110 Introduction to community health

Year 2
1. MBS 200 The structure of body systems and regions
2. MBS 210 The function of body systems
3. **MBS 220** The disease of the body by System
4. **MBS 230** Society and Medicine
5. **MBS 240** Diagnostics, Therapeutics and Laboratory Sciences
6. **MCS 200** Clinical skills and clinical practice
7. **MCS 210** Community Health (Rural Clinics)

**Structure of the BDS Programme**

**Year 1**

1. **MBS 100** Introduction to Body Structures (Their development and Microscopic/Macroscopic structure)
2. **MBS 110** Introduction to body function
3. **MBS 120** Introduction to dysfunction of the body (diseases)
4. **MBS 130** Introduction to Society and Medicine
5. **MBS 140** Introduction to Diagnostics, Therapeutics and Laboratory sciences
6. **MCS 100** Introduction to clinical skills and clinical practice
7. **MCS 110** Introduction to community health

**Year 2**

1. **MBS 200** The structure of body systems and regions
2. **MBS 210** The function of body systems
3. **MBS 220** The disease of the body by System
4. **MBS 230** Introduction to Diagnostics and Therapeutics
5. **MDS 200** Clinical skills and clinical practice
6. **MCS 210** Community Health (Rural Clinics)

**Students**

Students selection is based on merit. You will have been selected to study this course because you have the base prerequisites for entry into the program. The key one is , a good basis two training in nature sciences (biology, chemistry and physics). In the case of dental trainees a 3 year training Dentistry with good basic science grades at O level. Some students will have completed science degree programs or health related programs.

To have a good chance to be successful in the medical and dental training program a good background in science is important. The programs are very demanding and assume that the basic science foundation already exists among the students.

**Student Accommodation**

The Copperbelt University has very limited accommodation, students are expected to find their own suitable accommodation within Ndola city. Some accommodation is available based on criteria used by the Dean of students. You will need to apply for
this accommodation. The University Accommodation is located at the School of biomedical science within the Ndola Central hospital.

Ndola is the provincial capital of Copperbelt province. It has a population of about 750,000 people. The Medical School is located at Ndola central hospital which is located at the corner of Broadway and Nkana street in town centre area. It is located between Northrise and Itawa in the North and South respectively, and Kansenshi and Chipulukusu residential areas in the west and east respectively.

Student Bursaries
Zambian students maybe eligible for GRZ bursaries and those who have bursaries may be able to change these for the Medical program. Students need to contact the Bursaries committee at Ministry of Education headquarters to determine this. Students older than 25 years who are non school leavers and have previously been sponsored by the bursaries committee maybe unlikely to be given bursaries. The tuitions fees and other fees are included in the letter of offer document that all accepted students will have received.

Student Materials
Students are required to purchase some key materials/equipment that will be required during the course. Some of these maybe purchased from the office of the Dean School of Medicine. All students will be required to have lap tops. This is because the some of the practical laboratory work will require lap tops. In addition all the assignments are expected to be type and some may be required to be submitted electronically. It is recommended that students purchase usb modems to get reliable low cost internet services. The university will set up local area networks in the library and in the
teaching areas, however due to limited band width and high traffic, the speed of this networks may be slow.

**Cafeteria**
The school will have a student cafeteria within the hospital managed by a private caterer. Student will need to buy meals from this cafeteria at their convenience. No cooking is allowed within the University Accommodation. The cafeteria is located in the hospital on the ground floor opposite the parking area of the Hospital.

**Library**
The library is located on the ground floor of Ndola Central hospital next to the Doctors common room. It has a reading room for about 70 students. Some books for borrowing and reference. It has computers for E resources. The e granary is a major E resource with lots of textbooks and web sites which will be valuable to medical students. The school will have a moodle platform on which all lectures practicals, tutorials and seminars will be posted each week.

**Laboratory and Practical Work**

The laboratory work will help you understand the theory material provided in the lecture period. Since medicine has a large skill component laboratory and practical works in a very important part of your training. If you fail the laboratory work you will fail the course. For each laboratory course you will be given a laboratory manual to use. All your laboratory work should be done in the laboratory manual.

**Students will have 3 lab and 2 practicals in the first 2 years of study.** The 3 labs are Anatomy(Gross Anatomy, Histology and Embryology), physiology and pathology. The practicals will consist of hospital practicals and community practicals.

There are 3 key laboratories which students will use for the first two years of training these are

1. The Anatomy laboratory
2. The Physiology Laboratory
3. The Pathology laboratory

**The Anatomy Laboratory**

This is located in the basement at Ndola Central Hospital next to the pathology department. This lab will be used for dissection of the Human body. Anatomy is the study of body structures. In addition the study of the development of human structures (Embryology) will be done as well as the study of the microscopic appearance of body structures (Histology). This two laboratory practicals will be done in the pathology laboratory which has microscopes. Students will need dissecting kits for the dissection. These can be bought from the Deans office.

**The Physiology Laboratory**
This is located at the Ndola Biomedical School. This used by the medical students on a shared basis with the Biomedical students. Physiology is the study of normal body functions.

The Pathology Laboratory

This is located at the Ndola Biomedical school and will also be shared. This is the first of 6 laboratories located at the Ndola biomedical school. Pathology is the study of diseases of the body. In addition to study of the disease using a microscope, you will also attend Post mortem done in the hospital by the pathologist. A post mortem is a procedure done by a pathologist (A doctor specialised in disease processes) to determine the cause of death of a patient or individual. This may be due to natural causes (hospital post-mortem) or due to criminal cause (police case/forensic post-mortem).

Hospital Practicals

Students will need to have hospital coats with the CBU logo on the front pocket and the student identity tags. The hospital practicals will be done at Ndola central and Arthur division childrens hospital. During the practicals students will be required under instruction to take histories, examine patients and perform procedures. It is important to dress appropriately in the hospital and treat patients with politeness and proper respect. Students will rotation in groups of 5 to 10 in all the hospital outpatient and inpatient areas for 4 weeks at a time. There will be a total of 6 rotations per year.

<table>
<thead>
<tr>
<th>Rotation</th>
<th>Duration</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Surgical Admission</td>
<td>Emergency</td>
<td>4wks</td>
</tr>
<tr>
<td>2. Medical Admission</td>
<td>Emergency</td>
<td>“</td>
</tr>
<tr>
<td>3. Obs &amp; Gyn Emergency</td>
<td>Admission</td>
<td>“</td>
</tr>
<tr>
<td>5. Laboratory</td>
<td>2wks</td>
<td>“</td>
</tr>
<tr>
<td>6. Pharmacy</td>
<td>2wks</td>
<td>“</td>
</tr>
<tr>
<td>7. Radiology</td>
<td>4 wks</td>
<td>“</td>
</tr>
<tr>
<td>8. Surgical In patient</td>
<td>“</td>
<td>“</td>
</tr>
<tr>
<td>9. Medical Inpatient</td>
<td>“</td>
<td>“</td>
</tr>
<tr>
<td>10. Obs &amp; Gyn Inpatient</td>
<td>“</td>
<td>“</td>
</tr>
<tr>
<td>11. Pediatrics In patient</td>
<td>“</td>
<td>ADCH</td>
</tr>
<tr>
<td>12. Medical Clinic</td>
<td>“</td>
<td>NCH</td>
</tr>
<tr>
<td>13. Surgical Clinic</td>
<td>“</td>
<td>“</td>
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**Community/Field Practicals**
These practicals are designed to give students a better understanding of the community in which they will work as doctors. Without this understanding it is impossible to be a good doctor. The students will also understand the factors that may predispose the community to disease such as water sources, waste/refuse disposal and environmental pollution. The will also see the health seeking behaviour of the community and the source of health care. In addition they will understand better the Zambian health system for prevention of diseases. The program will involve visits to the rural communities, the rural health centres, the district health management team, the provincial health system, the ministry of health and key national health programs such as the Malaria Control centre and the National AIDS Council. The field practicals will involve a visit to the tropical research disease centre.

**Staff**

The hospital will have academic staff and non academic staff. The academic staff are specifically responsible for the teaching of medical students. The non academic staff are responsible for the clinical care of patients. These duties frequently overlap. Most of the doctors and clinical staff in the hospitals will not be employees of the University. Most are employees of the Ministry of Health. Their primary responsibility is to provide service to the patients. However they will know that you are a medical students and will mostly be happy to help teach you or explain procedures to you. Each area where students are allocated there will be a member of staff to supervise the student practical sessions. Students are expected to be courteous and polite to staff and patients.

Where ever you may go for a clinical practical be aware of your learning objectives and ensure that these are achieved. There many things happening at a clinic or hospital area. **DO NOT BE DISTRACTED AND FAIL TO ACHIEVE YOUR LEARNING OBJECTIVE**

**Ndola Central Hospital**

This is a third level referral centre it has a total of 948 bed spaces. It has 7 floors. The top two floors are under TDRC- the Tropical diseases Research centre. This is a centre created by an act of parliament, which is autonomous and has a mandate to conduct research on national medical priorities.

**Inpatient areas**

The department has inpatient and out patient areas. The inpatient areas are the places where patients are admitted for clinical care. The largest of these are the surgical, obstetrics and gynaecology and medical wards. There is an operating theatre theatres which is located on the 1st floor above the x ray department and between the inpatient and outpatient blocks. The theatre has 4 operating theatres and a recovery room. The Intensive care unit is a special unit designed to provide clinical care to
severely ill patients. It is used both by general medical and obstetric patients. The ICU has about 10 beds and is designed to give physiological support to failing organs, but may also be used to care for very ill patients requiring careful monitoring. It is located opposite the main theatre.

**Outpatient areas**

This includes the emergency area (casualty), the emergency theatre and the outpatient clinics (orthopaedics, general surgery, urology, ophthalmology, medical and gynaecology/obstetric clinics). These clinics are located in the basement. The medical and surgical emergency admission wards are located on the ground floor. The casualty area has medical and surgical admission wards. Patients admitted after some form of physical trauma (i.e. Road Traffic Accident) and other surgical emergencies will first be seen here. If an operation is required this will be done in the emergency theatre. The outpatient areas is located in the front area of the hospital opposite the main gate. It is separated from the inpatient areas by one floor. The inpatient areas started from the first floor. The casualty is on the ground floor while the clinics are in the adjoining basement next to a nd one floor below. The laboratory and mortuary are also located in the basement.

**Arthur Davison Childrens Hospital**

This is a specialised pediatric hospital with 4 floors. It is located in Northrise and has 250 beds. It has medical and surgical departments dealing with children 13 years and below. The teaching and practicals related to children will be conducted here.

**ABOUT TEACHING**

**How is teaching done.**

The courses are under the supervision of a course co-ordinator who is responsible for the running of the course. The co-ordinator will be introduced to you when you begin the course. You will be expected to have a group representative with whom the course co-ordinator may liaise in dealing with any problems that may arise in the course. You are free to see the co-ordinator if you have any problems in the course of your training.

**Timetable**

Students will have teaching for 40 hours in a week. The first 3 hours, from 08:00 to 11:00 will be devoted to lectures. These will be in the form of 45 minute didactic lectures using power point slides. These materials will be made available on the E resource as well as electronically to all students. From 11:00 to 12:00 will be reserved for team based / problem based form of tutorial learning. The afternoons will be mostly reserved for practicals (laboratory or hospital practicals). Friday afternoon will be a three hour seminar reviewing the problem based questions.

**Tutorials (PBL/TBL)**
Students will be divided into small groups of 5. Three times a week students will be given clinical problems, which they will work together to resolve as a group. Students are expected to work as groups, but each student should provide an individual answer. These will be reviewed in a weekly seminar every Friday afternoon. Though the problem will be discussed in groups the seminar discussion will focus on individual understanding of the solutions to the clinical problems. These problems are designed to improve integration of course and medical reasoning among students.

**Lectures**

The department has a system of lectures which runs through the course of the year. These lecturers cover the whole scope of basic sciences. A timetable for lectures will be provided to all students. Attendance at lectures is compulsory. The lectures are given on Monday to Tuesday mornings in Hospital Lecture theatre located in the hospital basements.

The lectures are based on a teaching of the body by systems. This means that students will learn about each body system as outlined below from the structure, function, disease, investigation and treatment. This curriculum is called a system based curriculum. All the practical laboratory, community and clinical are intended to strengthen this knowledge by providing the skills that will help you to use or consolidate the knowledge provided in the lecture sessions. The problem based tutorials will help you with working as teams, integration and problem solving. These are skills which are important in medical/dental practice.

<table>
<thead>
<tr>
<th>Period</th>
<th>System</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Term 1 year 1</td>
<td>Introduction General Principals</td>
<td>9 weeks</td>
</tr>
<tr>
<td>Term 2</td>
<td>Respiratory and Cardiovascular System</td>
<td>9 weeks</td>
</tr>
<tr>
<td>Term 3</td>
<td>Gastrointestinal and Urinary Systems</td>
<td>9 weeks</td>
</tr>
<tr>
<td>Term 1 year 2</td>
<td>Reproductive and Endocrinological</td>
<td>9 weeks</td>
</tr>
<tr>
<td>Term 2</td>
<td>Musculoskeletal and Skin</td>
<td>9 weeks</td>
</tr>
<tr>
<td>Term 3</td>
<td>Nervous System</td>
<td>9 weeks</td>
</tr>
</tbody>
</table>

**Seminars**

The seminars are designed to evaluate the problem based/team based learning outcomes. The purpose of the seminars is to encourage learning by student participation. The students will be expected to answer any of the 3 pbl cases provided in the week individually. General open discussion will be expected. The
lecturer will moderate the discussion to emphasis important learning points and to direct the discussion.

Evaluations

The are 3 terms in a year. Each term is 10 weeks. You will have two forms of assessment. These are continuous assessment which makes up 40% of the marks, and final assessment which makes up 60% of the marks. The continuous assessment is based on your practical work and the problem based tutorials performance. The final assessment is based on assessment of each course in two papers. One which is MCQs paper and a second which is scenario questions format. Your end of term marks will be added to the continuous assessment mark.

OSCE (Objective Structured Clinical Examinations)

The clinical course will be assessed by a objective structured clinical exam. This format is based on stations. Each station has a specific question which the student must answer. This may be based on performing a clinical task or a clinical procedure. There will be an examiner on each station to assess the task performed and to mark the student.

Written examinations

MCQ and Scenarios.

Each course will have written and oral examinations. The written examinations will have be in two parts. There will be paper 1, which will consist of true false multiple choice questions with negative marking. This tests the scope of knowledge in the course. Paper 2 will consist of scenarios or problem questions. These questions will test depth of knowledge in the course. Scenarios will present a clinical problem followed by a series of questions related to the clinical problem presented.

Oral and Practical exams
Each of the major courses will have oral and practical exams. These may vary by course. In general students will have two examiners for the oral exams and be asked questions related to the course for 20 minutes. The students will be score for confidence, clarity and depth of knowledge.

The practical examinations will take the form of an objective structured examinations with timed stations as described above.

End of Year
The end of year exam will comprise a 100 MCQ questions of the T/F variety. The second paper is scenario based questions in all courses. Clinical exams of the same type as end of term exams are done. In addition, students get a 20 minute viva examination in each of the basic science courses.

**Surviving the medical course (Useful Tips)**

1. Medicine is fun. Make sure you enjoy your practical work.

2. Learn from the patient, from each other and from your lecturers.

3. Read your work daily, do not allow work to pile up.

4. Keep your lecture notes up to date, do all your practicals on time. Don’t miss lectures or practical sessions. Make it a habit to always ask questions. Always ask why? Be inquisitive.

5. The basis of being a good doctor is deductive reasoning. Get all the facts, evaluate the facts and make your conclusions.

6. Never give up if someone else can do it so can you!!