

UNIVERSITY OF MEDICAL SCIENCES & TECHNOLOGY



**Faculty of Medical Laboratory Science
(MLS)**

STUDENT HANDBOOK 2011 INTAKE

TABLE OF CONTENTS

	Page
A Message from the Dean	3
General Information	5
Deans Office	5
College Administration	5
Education & Examination Office	5
Academic Departments	5
Examinations Committee	5
Medical Library	6
Time tables	5
Notice boards	6
Academic Administration in the College of Medicine	7
Education & Examination Office	7
Registration	7
Change of College	8
Postponement of Study	8
Attendance	8
Absenteeism	8
Punctuality	8
Dress Regulations	9
Academic Organization	10
College Curriculum Committee	10
Course Coordinator	10
Tutor	11
Academic Adviser	12
Elective Coordinator	12
Outline of Studies of the 200 Cohort in the College of Medicine	12
Programme I	12
Programme II	13
Programme III	14
Programme IV	16
Grading	17
Degree Work Plan	18

A MESSAGE FROM THE DEAN

To All Medical Laboratory Sciences (MLS) Students

Welcome to University of Medical Sciences & Technology (AMST).

The Faculty Handbook for Student is provided as a guide to those University and Faculty Regulations which are most relevant to your studies. There may well be occasions when further information is necessary and the Education Office in the University will be only too pleased to help.

To begin with, let me bring the following important points to your attention:

1. As in other Science Colleges, in the Faculty of MLS, English is the language of instruction. A good command of English is absolutely necessary for success in your undergraduate and postgraduate studies.
2. University education may be quite unlike anything you have previously experienced. All courses relate to one another. You must acquire a comprehensive understanding of all the information you encounter rather than attempt only to memorize facts. To achieve this you must begin to study from the very first day.

It is most important that you seek advice on academic matters from your own adviser to whom you will be assigned. Even when you have no problems to discuss, I strongly suggest you visit your Adviser regularly. Help may sometimes be necessary when you are least aware of the end.

3. To be successful in the College of Faculty of MLS the student must develop especially in three main areas:

Attitudes

The Faculty expects all its students to develop:

- A strong sense of commitment, and responsibility.
- The highest ethical standards.
- An ability to work hard and as part of a team.

Knowledge

- Learning must be constantly refreshed throughout your professional life and you must be prepared to learn from others, no matter what their role in the medical professions. You will not be “spoon-fed” therefore you must develop the skills of self-learning and making use of what you have learned to solve problems to the benefit to your future patients.

Skills

- Right from the beginning the application of your knowledge to social, medical and laboratory techniques will require constant practice and revision to keep up with modern developments.

Many years of hard work lie ahead as you prepare to become a medical laboratory technologist, if you are successful I can assure you that it will be well worth all your efforts. However, you must learn to use your time wisely and balance your studies with the use of recreational facilities that the University provides. I sincerely hope you enjoy your years in the Faculty of Medical Laboratory Sciences and wish you every success.

Dean

Faculty of Medical Laboratory Science

GENERAL INFORMATION

The Faculty of Medical Laboratory Science (MLS) is one of the faculties within the University. It trains future medical laboratory technologists to high international standards. The B.Sc. degree given by this faculty is recognized by the Ministry of High Education and is accredited by the Council of Allied Health in the Sudan. Graduates of this Faculty have been admitted to some of the best medical training centers in the world for postgraduate specialty training.

FACULTY OF MEDICAL LABORATORY SCIENCES ORGANISATION

The Dean's Office: The Dean has his office on the first floor of the Faculty of MLS. Students will normally conduct all their affairs through the Registrar Office but when special circumstances make it necessary, appointments to see the Dean should be made through his Secretary.

The Faculty Administrator: The Education and Examination Office is situated on the main office of the Faculty of MLS. This office deals with day-to-day student administration, including the registration of all faculty students. The office is responsible for coordinating various programmed and for liaising with the Dean's office and with the Office of the Deanship of Admissions and Registration in all matters concerning student's academic records, as well as student transfer to and from the Faculty of MLS.

Academic Departments: The Head of each Department in the Faculty of MLS is responsible for all matters relating to the department's specialty and for all the material taught by members of his/her department. Heads of Departments also have duties which extend to wider faculty affairs. Students requiring help with their studies will normally deal directly with course tutors in their own offices. Heads of Departments will be pleased to help where necessary.

Examinations Committee: No grades can be released from any department until after they have been approved by the Examinations Committee, accepted by the Faculty Board, signed by the Dean and received by the Office of Examinations, after approval of The University Board. This is a University Rule and students are asked to respect it by not asking tutors for marks at inappropriate times. When it is time to release marks, lists will be posted on the Faculty notice boards.

Library: The Medical and Electronic Libraries are located in the same building of the Faculty of MLS. Students are privileged to borrow library material and utilize its resources and services. Books, audio-visuals, recent journals are shelved. Periodicals bound volumes, References Collection and Readers Services are located on the 6th floor.

Timetables: Official timetables are fully coordinated by different departments through the registrar Office and cannot be changed.

Notice Boards: Faculty notice boards are situated in the reception area at the dean office. There is a separate area for each year. These notice boards must only be used for official notices and no notice may be placed there by any student without the permission of the Education and Examination Office and the approval of the Dean (and stamped by his office). Examination results are always placed on these boards as soon as it is possible to release the marks. Students must not deface these notices in any way as they are official University documents. Any breaking of this rule will be considered a very serious matter.

ACADEMIC ADMINISTRATION IN THE FACULTY OF MLS

Education Office

This is the main point of contact for the student within the faculty. The staff will advise and assist the students to comply with the University and Faculty of Medical Laboratory Sciences. The office deals with day to day student administration including registration of all at the beginning of each semester, the individual student enquiries.

The office is responsible for coordinating various Programs including:-

- Liaison with the Student Affairs Office at the University.
- The Student Adviser Program including the allocation of academic Advisers.
- Coordinating the In-service Training Program at the University Charity Hospital, Yastabshiroon Medical Centre and Other training centers.

The office cooperates with the Office of the Deanship of Admissions and Registration in all matters concerning academic policy, including the allocation of lecture rooms and , degree plans, student transcripts and records, as well as student transfer to and from the Faculty of Medical Laboratory Sciences.

The following are guidelines for some of the procedures with which the Education Office can help the student.

Registration: There is a centralized registration in the Office of the Deanship of Admissions and Registration.

- All medical laboratory students will be required to sign an agreement that they will comply with the special regulations of the Faculty of Medical Sciences.
- All the students are also required to fill the student information sheet and return it to the Education Office before allowed to start their studies.

Change of College: There are strict rules, governing the transfer of a student form one faculty to another. If, after carefully discussing the matter with your adviser, it appears wise to consider a transfer:

- i) Contact the Office of the Deanship of Admission and Registration from where the necessary formalities will be started.
- ii) Students approved to transfer from the Faculty of Medical Sciences must notify the Education Office and the Faculty Administration.
- iii) When a change of faculty is approved, and all the formalities completed, a new ID card will be issued.
- iv) Students transferring into the Faculty of Medical Laboratory Sciences must be sure that all requirements are completed at their original faculty and with the Deans of Admissions and Registration. They should then report to the Education Office in the faculty.

Postponement of study: Postponement of studies is dealt with on an individual basis when special circumstances apply. When seeking postponement you should:

- i) Consult your adviser about the University Regulations and how they apply to your special circumstances.
- ii) The Dean of Admissions and Registration will provide you with the appropriate postponement / withdrawal forms and guide you through its completion.

Attendance: Attendance at all classes is compulsory. Tutors will keep accurate attendance records and students should never attempt to make false signatures. If you are absent from more than 5-10 % of the course, depending on the contact hours of the course, you will receive a warning letter. If your attendance does not improve and you are then absent for more than 15% of the contact hours of the course you will receive an absentee failure notice and you will not be allowed to take the final examination. A grade of fail (F) will be entered on your transcript.

Absenteeism: It is the student's ultimate responsibility (or through his/her family, relatives or friends to notify the University (Dean's Office, Education Office or course coordinator) of any compelling reasons of absenteeism. Such compelling reasons include serious illness, hospitalization or family bereavement. Appropriate certification should support such absenteeism. Notification should be within 24 hours. Unsupported absence from any part of a course or an exam will be dealt with in accordance with the University & Faculty Academic Regulations.

Punctuality: Students are expected to be punctual at all lectures and laboratory classes. Special circumstances may occur from time to time when it is impossible to be on time and allowances can then be made. Unpunctuality is bad manners and disruptive and every attempt should be made to avoid it. Students arriving more than 10 minutes late will be marked absent.

Dress Regulations: Students are reminded that the correct form of dress is essential for attendance at the University. During the first two weeks of semester 1, students who are not properly dressed will be warned. After that time students continuing to appear dressed in an inappropriate manner will be reported to the Office of Student Affairs for further action. In all laboratories and clinical hospital rotations, lab coats must be worn.

ACADEMIC ORGANISATION

In the Faculty of Medical Laboratory Sciences there are three main phases which lead to the B.Sc. qualification and final certification in the Medical laboratory Sciences in Sudan.

Phase I (Semester 1&2)	- Basic Sciences
Phase II (Semester 3, 4, 5 &6)	- Medical Laboratory Sciences Modules
Phase III (Semester 7&8)	- Specialization Modules & Dissertation

The student earns the degree of B.Sc. after successful completion of the three phases.

Faculty Curriculum Committee: The curriculum committee reviews all the content and organization of the courses. It ensures that there is integration and a balanced progression of training through the three phases.

Course Coordinator: Each course in the Faculty of Medical Laboratory Sciences is managed by a Course Coordinator who is responsible to the Curriculum Committee. Some course / courses may be taught by more than one tutor if several disciplines are involved e.g. anatomy, Histology etc. The coordinator is responsible for all matters relating to the total course content and also manages the system of in-course assessments and final examinations.

Students should seek help from course coordinators in all matters relating directly to the content and organization of courses.

Academic Adviser: Every student is allocated to an Academic Adviser during the orientation week. Advisers will help students in all matters relating to their studies and the organization of their courses, as well as personal problems.

The name of the Adviser to whom you are allocated will be given to you by the Dean Office. Students should consult their advisers whenever they have problems but should also see them regularly – about once a month.

Academic advisers receive copies of transcripts for students their care and students should make a point of keeping them well informed of all other aspects of their academic progress.

OUTLINE OF STUDIES FOR THE 2011-2012 COHORT IN THE FACULTY OF MEDICAL LABORATORY SCIENCES

All courses are taught in English

Phase I: Basic Medical Sciences **Two Semesters**

The major objective of Phase I (Semester 1 &2) is to acquire a comprehensive understanding of the normal form and function of the human body. There will be an increasing, ongoing application of what you are learning to examples of medical importance.

Semester 1: During this semester, the students will follow a program of courses in Biology, Chemistry and Physics in the **Preparatory College** as well as a few basic sciences courses from the Faculty of MLS and Faculty of Computer Sciences. English courses will also be taken during this time.

Semester 2: The organs of the body work together in systems. You must learn what they are and how they function by understanding anatomy (form), biochemistry, and physiology science (function) of the system.

Introductory/Foundation Courses are mainly in Semester 2 & 3, which are considered the building blocks, for the Medical laboratory Sciences courses which follow.

Phase II: Basic Medical Laboratory Sciences courses **Three Semesters (4, 5, 6)**

The major objective of Phase II (Semester 4, 5 & 6) is to acquire a comprehensive understanding of the Medical Laboratory Sciences (Haematology, Chemical Pathology, Medical Parasitology, Medical Microbiology, plus others. There will be an increasing, ongoing application of what you are learning to examples of laboratory importance.

Also students will learn how to do research and to present it in a form of dissertation during their final year.

Phase III: Specialized Medical Laboratory Sciences courses **Two Semesters (7 & 8)**

The major objective of Phase III (Semester 7 & 8) is to acquire a professional understanding in one of the major modules of the Medical Laboratory Sciences (Hematology, Chemical Pathology, Parasitology, Microbiology, and Histopathology & Cytology). Students will acquire at an internationally acceptable standard. This will be achieved through many courses (Laboratory Management, and presentation skills).

The final year students are encouraged to do voluntary work in hospital laboratories during their vacation in order to familiarize themselves with the hospital laboratory activities.

NB: The understanding of a number of courses is built on the information gained in ones taken earlier. Therefore, be aware that there are two types of courses.

1. Prerequisite courses that you must have passed before you may take subsequent courses.
2. Those that do not require a pass in previous courses (continuous).

The student will be specialized in one of the five major medical laboratory Faculty Of Medical Laboratory Sciences disciplines/subjects in the : These are:

Haematology
Medical Microbiology
Chemical Pathology
Medical Parasitology
Histopathology and Cytology

During the final year students will:

AWARD OF B.Sc. (MEDICAL LABORATORY SCIENCES) DEGREE

Transition from one phase into another one requires the student to:

Obtain a pass in ALL subjects at the end of each phase (semester 1 & 6) courses, with a minimum Cumulative Grade Point Average (cGPA) of 2.5

Students, who do not achieve the standard for entry in to another phase, may attempt to raise their grade by repeat the courses of semester 1 & 2 OR 5 & 6 the next time they are offered (which will normally be the next year).

NB: Maximum time allowed for completion of B.Sc. (MLS) degree is 6 years altogether.

COURSE EVALUATION

1. There will be a continuous assessment and at the end of each course. The final grade will be based on
 - Mid semester Exam (minimum 20 % of total)
 - final examinations (maximum 80 % of total)

In course assessments will vary in type and may include written examination, quizzes essays, presentations, contributions from laboratory work, open-book exams etc. Final examinations are usually written and practical examinations in which the student has to pass each of them separately. However, in some courses written examinations only will be the form of the final examination.

NB: Courses in which the student has been unsuccessful must be retaken at the next available opportunity.

The final B.Sc. examinations (Semester 8) will be in the:

- Specialized subject
- Dissertation
- Good performance in in-service training

Successful students will be awarded the B.Sc. degree.

Students must complete all 4 years (with a possible maximum extension of two years). They will be required to leave the Program if the total time exceeds the 6 years allowed.

IN-Service Training

The objective of this training is to gain laboratory skills and experience under the direct supervision of senior medical laboratory technologist.

Continuous evaluation by means of a logbook which must be completed satisfactory (it is considered a subject with one credit hour) before being admitted to the B.Sc. examinations. Unsuccessful students may be required to repeat the final year.

The rotations are in: - Laboratory reception, Rotation through various medical laboratories and specialties in each particular specialty at any one of a number of approved health care teaching centers in this country (One of which will be in an accredited hospital). Laboratory management

EVALUATION

Minimum standards have been set that a student must achieve at the end of a given enrollment period in order to remain in good academic standing. The Minimum Academic Requirements and definitions of classification and minimum cumulative grade point average (CGPA) follow.

Classification for the purpose of establishing the minimum cumulative grade point average requirement for each student is determined by the sum of all hours attempted in residence in regularly graded courses at semester.

The following are important topics related to academic standing:

Additional information concerning academic status is available from the offices of the academic deans or the Registrar's Office? All CGPA and academic status calculations are subject to post-audit and correction by the Registrar's Office.

Regulations Governing Students on Academic Warnings

Academic warning is an alert to the students that their quality of work has fallen below the minimum requirement of a 2.5 CGPA. A student can only be placed on academic alert twice during their college career.

A student who succeeds in raising their CPGA to a 2.5 will return to good standing.

The grade report distributed at the end of each semester includes the student's academic status and a data summary on which the status is based? Each student is responsible for knowing whether the minimum CGPA for the proper classification hours has been achieved and whether the student is eligible to reenroll in the University? No special consideration will be given to such a student on a plea of ignorance of academic status? If the cumulative record is believed incorrect the student should see the Registrar.

Regulations Governing Students Academic Discontinue

A student discontinue from the University for failure to meet the standards prescribed above will not reenroll for an indefinite period of time.

Each student is responsible for knowing the minimum CGPA requirements and the standards for academic standing. Any ineligible student who enrolls in semester is withdrawn by the Registrar regardless of whether the student has registered or pre-registered and paid fees. No suspended student may enroll in or continue courses at University.

GRADING*

The items given below have been selected from the Academic and Faculty Regulations. Students are advised to **study these regulations in full** and to consult their Academic Advisers if clarification is needed.

Course Evaluation: A combined final grade is awarded from each course. This grade is obtained from various components which will generally consist of an in-course assessment together with an **end-of-course examination**, and mid-semester examinations. The percentage contribution of each of these components and that of the final examination will be announced at the beginning of the course. When the in-course assessment is combined with a final examination the final grade will be presented as a letter grade according to the following scheme:

Grade	Rating Scale	Grade Description
A + A	80 – 100 % 70 - 79 %	Exceptional Performance. All course objectives achieved. Objectives met in a consistently outstanding manner.
B+ B	65 - 69 % 60 - 64 %	Very good performance; significantly more than the majority of the course objectives achieved (ie at least two thirds). Objectives met in a consistently thorough manner.
C	55 - 59 %	Satisfactory performance; at least the majority of course objectives achieved. Objectives met satisfactorily.
D	50 - 54 %	Minimally acceptable performance; less than the majority but more than the minimum required course objectives achieved. Objectives met at a minimally accepted level.
F	≤ 49 %	Unacceptable performance, minimum required course objectives not met. Objectives not met at a minimally acceptable level. No credit earned.

System of Coding

First digit – Year

Second digit – Semester

Third & Forth digits- Subject codes

Subject code

- | | |
|--------------------------|----------------------------------|
| 1. Anatomy & Histology | 2. Biochemistry |
| 3. Biostatistics | 4. Cell Biology |
| 5. Chemistry | 6. Chemical Pathology |
| 7. Computer | 8. General Pathology |
| 9. Haematology | 10. Histopathology |
| 11. Immunology | 12. In-service training |
| 13. Lab equipment | 14. Lab safety |
| 15. Medical Ethics | 16. Molecular Biology |
| 17. Microbiology | 18. Physiology |
| 19. Parasitology | 20. Presentation Skills |
| 21. Physics | 22. Quality Control & Management |
| 23. Research Methodology | 24. Scientific English |

Course					
#	Title	Code	Credits	Cat	Pre- (Co)* Requisites

SEMESTER 1					
1.	Cell biology	BIOL 1104	5		
2.	Chemistry	CHEM 1105	3		
3.	Physics	PHIS 1121	3		
4.	Computer	COMP 1107	2		
5.	Scientific English	LANG 1124	2		
6.	Biostatistics	STAT 1103	2	TOTAL 17	

SEMESTER 2					
7.	Anatomy & Histology	HIST 1201	3		
8.	Physiology (I)	PHYS 1218	5		
9.	Biochemistry (I)	BIOC 1202	5		
10.	Computer II	COMP 1207	2		
11.	Scientific English II	LANG 1224	2		
12.	Lab safety	LBSF 1214	2		
13.	Arabic Language			TOTAL 19	

SEMESTER 3					
14.	Histology & Anatomy	HIST 2301	3		
15.	Physiology (II)	PHYS 2318	3		
16.	Biochemistry (II)	BIOC 2302	3		
17.	Gen. pathology	GPTH 2308	2		
18.	Immunology	IMUN 2311	2		
19.	Lab equipment	LEQP 2313	3		
20.	Scientific English	LANG 2324	2	TOTAL 18	

SEMESTER 4					
21.	Chemical pathology I	CHEM 2406	3		
22.	Haematology I	HAEM 2409	3		
23.	Microbiology I	MICR 2417	3		
24.	Parasitology I	PARA 2419	3		
25.	Histo & Cytology I	HISP 2410	3		
26.	Immunology	IMUN 2411	2		
27.	Scientific English	LANG 2424	2	TOTAL 19	

SEMESTER 5					
28.	Chemical pathology II	CHEM 3506	3		
29.	Haematology II	HAEM 3509	3		
30.	Microbiology II	MICR 3517	3		
31.	Parasitology II	PARA 3519	3		
32.	Histo & Cytology II	HISP 3510	3		
33.	Molecular Biology I	MOLE 35	2		
34.	Biostatistics & S. P. S. S.	STAT35	2	TOTAL 19	

SEMESTER 6					
35.	Chemical pathology II	CHEM 3606	3		
36.	Haematology II	HAEM 3609	3		
37.	Microbiology II	MICR 3617	3		
38.	Parasitology II	PARA 3619	3		
39.	Histo & Cytology II	HISP 3610	3		
40.	Molecular Biology II	MOLE 36	2		
41.	Research methodology	RESH 36	2	TOTAL 19	

SEMESTER 7					
42.	Chemical pathology III	CHEM 4706	8		
43.	Haematology III	HAEM 4709	8		
44.	Microbiology III	MICR 4717	8		
45.	Parasitology III	PARA 4719	8		
46.	Histo & Cytology III	HISP 4710	8		
47.	Medical ethics	ETIC 47	1		
48.	In-service training	TRAIN 47	1		
49.	Quality control & management	QULTY 47	2		
50.	Presentation Skills	SKIL 47	1	TOTAL 13	

SEMESTER 8					
51.	Chemical pathology IV	CHEM 4806	9		
52.	Haematology IV	HAEM 4809	9		
53.	Microbiology IV	MICR 4817	9		
54.	Parasitology IV	PARA 4819	9		
55.	Histo & Cytology IV	HIST 48	9		
56.	Dissertation	DISS 48	2		
57.	In-service training	TRAIN 48	1	TOTAL 12	

MASTER DEGREE IN MEDICAL LABORATORY SCIENCES

Program Information

This is a full-time program that enables professionals who hold a bachelor's degree in medical laboratory science to prepare for advanced clinical, technical, and administrative career opportunities. Through courses, and research projects, students enhance their proficiency in a chosen medical laboratory science discipline: Clinical chemistry, Hematology, Histopathology, Parasitology or Microbiology. Certification of a master degree in medical laboratory sciences in different disciplines is available upon completion of specific requirements.

The program has three course sequence areas in which students take advanced theoretical courses: general course sequence, specialty course sequence and research course sequence. A thesis as a partial fulfillment to the course is required. The program is designed to take a full-time student two years to complete. Depending upon their individual experience, graduates of the program should bring another level of intellectual stimulation to their present position, assume new professional roles, or elect to use their master degree work in preparation for doctoral study.

Accreditation: The Master degree program is accredited by the Ministry of Higher Education.

Credential Conferred: Master of Science in Medical Laboratory Sciences degree.

Length of Study: Approximately two years full-time for certified medical technologists.

The student is certification eligible upon completion of the program. Students must:

- Pass required courses with a minimum of 60%.
- present a thesis that reports original research within the student's chosen discipline, and
- Pass a final thesis and examination.

General:

The general course sequence requires a minimum of nine semester hours. It includes a multi-term divisional seminar and courses in quality improvement management, technical assessment, and educational methodology. Students may gain lecture, discussion, and laboratory teaching experience by instructing in undergraduate Medical Technology courses.

Research:

The research course sequence consists of a minimum of nine semester hours and includes courses in research methodology, quantitative methods, scientific inquiry, and statistics. Thesis and project credits are recorded as part of the research core.

Specialty:

The specialty course sequence consists of at least nine semester hours and includes courses in the specialty discipline of the student's choice. Specialties include clinical chemistry, hematology, histopathology, Parasitology and microbiology. Specialty course sequences are designed to provide in-depth scientific knowledge in the discipline of choice.