

Jazan University
College of Applied Medical Sciences
Medical Lab Technology Department



MLT Program

Student Handbook

Regulations & Requirements

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MLT Program - Student Handbook

Regulations and Requirements

Abbreviations

Abbreviation	Identification
MLT	Medical Laboratory Technology
MLTs	Medical Laboratory Technologist
KFCH	King Fahd Central Hospital
CAMS	College of Applied Medical Sciences
HOD	Head of Department
AHOD	Assistant Head of Department
UH	Unit Head
CC	Course Coordinator
SAC	Student Affairs Committee
LMSC	Lab Management and Safety Committee
ERC	Examination Reviewing Committee
QACM	Quality Assurance Committee Member
CL	Clinical Lab
ARD	Admission and Registration Deanship
NQF	National Qualification Framework
GPA	Grade Point Average
ID	Identification Number
SOPs	Standard Operations Procedures
SDS	Safety Distinguisher shower
MMR	Measles/ Mumps/ Rubella
Tdap	Tetanus/diphtheria, pertussis
TB	Tuberculosis
WBCs	White Blood Cells
RBCs	Red Blood Cells
ABO	A,B,O Blood groups
Rh	Rhesus
CSF	Cerebrospinal fluids
ELISA	Enzyme-linked Immunosorbent assay
PRE	Preparatory

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PART I: INTRODUCTION

1.1. Welcome

Welcome to Medical Laboratory Technology department (MLT) in College of Applied Medical Sciences (CAMS), Jazan University. The MLT program is dedicated for helping you become one of the best medical lab technologists in the area. Joining this program is a felicitous decision; you have chosen a recommended and exciting profession which demands a commitment to caring, quality and responsibility. More than 70% of the decisions made by doctors are based on the results of laboratory testing so you are considered as an active partner in the health care institution.

MLT Program is not an easy program since you will spend long hours moving among classes and labs but it is really an interesting program. You'll learn how to collect, perform and interpret the results of tests of the clinical samples. You'll learn how to identify the blood cells that cause leukemia, how to identify which microorganisms are causing the infection, how to detect and measure chemicals in the blood such as cholesterol, drugs, and hormones. Then you'll be assigned to a clinical rotation for more practice and application in the clinical laboratory of the college or in one of the hospitals like; King Fahd Central Hospital (KFCH).

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1.2. Purpose of the Handbook:

This Student Handbook has been designed and well prepared to provide essential information you will need during your academic life. The requirements and regulations mentioned in this handbook are the guides that you must follow and adhere. Most of these regulations are follow the same of Jazan University policies, regulations and may be changed or modified at any time to reflect the current polices of the Kingdom*.

The program will provide you with persons you should refer if you have any issue in addition to the academic advisor who will assigned by the program to guide you academically. We all want you to learn, know, and practice properly to be a distinct medical laboratory technologist.

It is your responsibility as a student to become thoroughly and be aware with all the MLT program requirements and regulations and all the other rules and instructions mentioned inside as well. Your unawareness by the regulations does not relieve you of responsibility**.

** For more general and specific information guides, you can visit the university site (www.jazanu.edu.sa) and take a tour in its deanships, centers, services, activities and all you need.*

*** The MLT Program Requirements & Regulations will be available on the College/Department websites and as a hard copy in the student's affairs office (1116- Building No.1).*

PART I: INTRODUCTION

1.3. Identification of the Program

Medical Laboratory Technology Program is interested in consolidating the values of modern medical technologies that would assist the physician in the proper diagnosis and thus the appropriate treatment. The program objective is to provide specialists with scientific and technical expertise in helping him to perform his role more effectively, and in improving the performances and quality of medical and health care provided to the patients. The program aims to prepare competent graduates, who possess the scientific and practical knowledge to conduct all laboratory tests and medical research studies.

On the other hand, the program constructed to prepare graduates to become regional and national leaders in health care system for serving the community through researches and innovations which meet the mission and goals of Jazan University.

1.4. MLT Career:

The Medical Laboratory Technologists (MLTs) typically work in hospital and private laboratories (clinical or research) or physician office labs in addition to the research centers. Graduates will have gained the basic laboratory skills required for entering the career and be able to perform all the routine clinical laboratory tests done in all major areas of the laboratory.

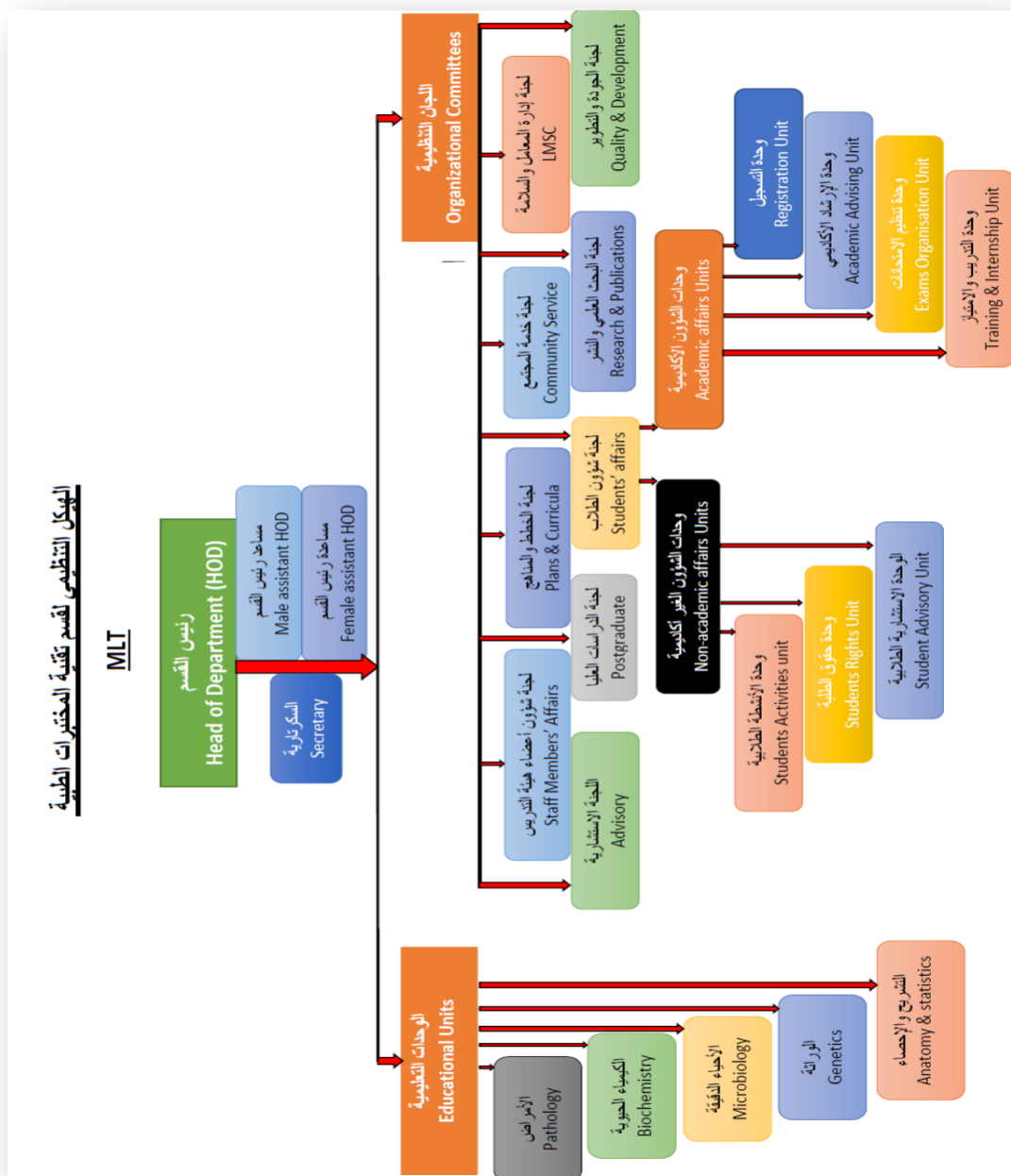
1.5. The MLTs Responsibilities

- ❖ Processing of samples for testing, including collection, evaluation of collection and/or handling.
- ❖ Daily instrument operation, including maintenance and quality control.
- ❖ Sample analysis, including low, moderate, and high complexity testing.
- ❖ Collection and interpretation of data and results.

- ❖ Maintenance of accurate records and reporting of data.
- ❖ Critical thinking, including knowledge of critical values and follow up or confirmatory testing.
- ❖ In addition, the MLTs will have responsibilities related to information processing, training, safety and quality control within the laboratory.

PART II: MLT PROGRAM ORGANIZATION

2.1. Organization Chart*



** Updated information about the staff members including, name, unit, mobile no., office hours, hospital day and their emails will be updated and be available in the student's affairs office (1116- Building No.1).*

PART II: MLT PROGRAM ORGANIZATION

2.2. Program Head and Assistants

Position	Name	e-mail	Office
Head of Department	Dr. Abdullah Mobarki	abmobarki@jazanu.edu.sa	S329
Assistant HOD	Dr. Farkad Bantun	fbantun@jazanu.edu.sa	S335
AHOD	Dr. Sali Bajabir	sbajabir@jazanu.edu.sa	108
MLT Department	-	ml.ams@jazanu.edu.sa	-

2.3. Program Administration Offices

Position	Name	e-mail	Office
Secretary/ HOD	Mr.Ammar Ahmed	aabdelmola@jazanu.edu.sa	S330
Student Affairs	Mr.Salih Ahmed	ssaleh@jazanu.edu.sa	S320
Student Affairs	Ms. Naema Alqahtany	nalqahtani@jazanu.edu.sa	1116

2.4. Common College Offices

Service	Office	Name
Dean	S1	Dr. Yahya H. Hobani
Vice Dean		Dr. Nouf H. Abu Hadi
Vice Dean (Academic Affairs)	S18	Dr. Aymen M. Madkhali
Assistant Vice Dean (Academic Affairs)	108	Dr. Sali A. Bajabir
Assistant Vice Dean (Preparatory Year)	1020	Dr. Nada Alomairy
Vice Dean (Clinical Affairs)	S13	Dr. Abdullah A. Mobarki
Secretary of College		Ms. Ruba Alharbi- Ms. Hind Alagi
Secretary of College	S6	Mr.Ahmed Faqihi
College Student Affairs	1028	Ms. Noura M. Alallah
College Student Affairs	F199	Mr.fahad Alajam
Non Academic Activity	1025	Dr. Naglaa Fathi

Non Academic Activity	-	
Internship Affairs	1106	Ms. Najwa Zidan
Internship Affairs	-	
Clinic Room		Ms. Soma
Clinic Room	-	

PART II: MLT PROGRAM ORGANIZATION

2.5. Program Educational Units

Unit	Position	Name	e-mail	Office
Pathology	Head	Dr. Hassan Hamli	hhamali@jazanu.edu.sa	S361
	Assistant	Dr. Mohamed Saboor	msaboor@jazanu.edu.sa	S336
	Assistant	Dr. Tagwa Yousuf	Telsayed@jazanu.edu.sa	4133
Biochemistry	Head	Dr. Mahmoud Habib	mhabibullah@jazanu.edu.sa	S343
	Assistant	Prof. Ashraf Hassan	aahassan@jazanu.edu.sa	S345
	Assistant	Dr. Asmaa Hamoud	afmoustafa@jazanu.edu.sa	4109
Microbiology	Head	Dr. Farkad Bantun	fbantun@jazanu.edu.sa	S335
	Assistant	Dr. Yousuf Adam	yaali@jazanu.edu.sa	S350
	Assistant	Ms. Shagraa Kriri	Skriri@jazanu.edu.sa	4126
Genetics	Head	Dr. Sali Bagabir	sbagabir@jazanu.edu.sa	4132
	Assistant	Mr. Suhail Akhtar	makhter@jazanu.edu.sa	S344
	Assistant	Ms. Bayan Qadri	bqedri@jazanu.edu.sa	205
Anatomy/Statistics	Head	Dr. Aymen Madkhali	ammadkhali@jazanu.edu.sa	S348
	Assistant	Dr. Kandeel Abdulhai	kaattia@jazanu.edu.sa	S377
	Assistant	Dr. Monami Mondal	mmondal@jazanu.edu.sa	4127

2.6. Program organizational Committees/Units

Committee/ Unit	Head/ Assistant (Office)	e-mail
Quality Committee	Dr. Alkhansa Alshabi	ashabi@jazanu.edu.sa
	Dr. Alaa Ali Alhazmi (S342)	alaaalhazmi@jazanu.edu.sa
Lab Management and Safety Committee	Dr. Mahmoud Habib (S343)	mhabibullah@jazanu.edu.sa
	Ms. Nuzhat Fatims	nfatima@jazanu.edu.sa
Registration/ Academic Advising Unit	Ms. Shagra Kriri (4126)	Skriri@jazanu.edu.sa
	Mr. Fahad AlAjam (F199)	falaajam@jazanu.edu.sa
Training/Internship Unit	Dr. Wafa Zaki	watta@jazanu.edu.sa
	Mr. Izz Eldin Ebrahim (S330)	ielbashir@jazanu.edu.sa
Social Activities Unit	Mr. Aymen Al Feel (S333)	aalfeel@jazanu.edu.sa
	Ms. Amani Marwan (4128)	amarwan@jazanu.edu.sa
Students Rights Unit	Mr. Abdullah Al Harazi (F197)	aalhrazi@jazanu.edu.sa
	Ms. Shagra Kriri (4126)	Skriri@jazanu.edu.sa
Students Advisory Unit	Ms. Bayan Qadri (205)	bqedri@jazanu.edu.sa
	Mr. Majed Khadomi (S330)	mkadumi@jazanu.edu.sa

E-Learning Unit	Dr. Ahmed AlEmam (S351)	aelimam@jazanu.edu.sa
	Ms. Soad Modaffar (4120)	smuthaffar@jazanu.edu.sa
Community Service Committee	Nahla Alshaikh (207)	nalshaihk@jazanu.edu.sa
	Mohamed Hashim (S321)	mhashim@jazanu.edu.sa

PART II: MLT PROGRAM ORGANIZATION

2.7. MLT Laboratories

Lab	No	Supervisor	Email
Hematology	G232	Mr. Apurba Mondal	amondal@jazanu.edu.sa
Blood Bank	G212	Mr. Apurba Mondal	amondal@jazanu.edu.sa
Pathology	G224	Mr. Mohamed Almaki	malmaki@jazanu.edu.sa
Histology	G213	Mr. Mohamed Hashim	mhashim@jazanu.edu.sa
Bacteriology	G293	Mr. Shah Alam	shahalam@jazanu.edu.sa
Mycology	G288	Mr. Badr Eldin Saif Eldin	brahama@jazanu.edu.sa
Parasitology	G276	Mr. Ammar Ahmed	aabdelmola@jazanu.edu.sa
Biochemistry	G239	Mr. Saif Eldin Babikir	sebrahim@jazanu.edu.sa
Biochemistry	G203	Mr. Mohamed Shane Alam	salam@jazanu.edu.sa
Immunology	G283	Mr. Jinu Thankachan	jthankacha@jazanu.edu.sa
Genetics	G274	Dr. Suhail Akhtar	makhter@jazanu.edu.sa
Physiology	G192	Dr. Kandil Attia	kaattia@jazanu.edu.sa
Anatomy	G192	Mr. Muntaser Mohammed	malhassen@jazanu.edu.sa
Hematology	1101	Ms. Asmaa Farah	AFARAH@jazanu.edu.sa
Pathology	1105	Ms. Wissam Omar	womersaid@jazanu.edu.sa
Microbiology	1107	Ms. Nuzhath Fatima	nfatima@jazanu.edu.sa
Biochemistry	1109	Ms. Rasha Alamin	rmohammedalamin@jazanu.edu.sa
Biochemistry	1008	Ms. Samia Faragallah	ssalem@jazanu.edu.sa
Immunology	1006	Ms. Noha Emad	nibrahim@jazanu.edu.sa
Genetics	1014	Ms. Farhana Riyaz	fshah@jazanu.edu.sa
Physiology	Research building	Ms. Monami Mondal	mmondal@jazanu.edu.sa
Anatomy	Building 5	Ms. Einas Hashim	esaidosman@jazanu.edu.sa



PART III: MLT PROGRAM IDENTIFICATION

3.1. Overview of the Program

3.1.1. Vision

To be among the best programs in the kingdom recognized nationally and internationally as a leader in providing the highest quality graduates in the field of medical laboratory and its researches to help the community and to cover the demands of medical labor market.

3.1.2. Mission

The department is dedicated to provide competent professionals in the field of medical laboratory sciences by imparting knowledge, skills and attitudes which are essential for the students to lead the profession and serve the community through research and innovation

3.1.3. Values:

- ✓ Commitment to Quality
- ✓ Commitment to Innovation
- ✓ Commitment to respect Community
- ✓ Honesty and Transparency

3.1.4. Goals:

- ✓ To provide educational program that graduate well-trained students to fulfil the need of local medical labor market.
- ✓ To increase lifelong learning opportunities for students and the community.

- ✓ To participate in the community development via involvement of both faculty and students in community services.
- ✓ To contribute to the knowledge in the field of Medical Laboratory by way of innovative, fundamental and applied research.
- ✓ To promote programs and activities that enhances the cultural and social well-being of students and community.

PART III: MLT PROGRAM IDENTIFICATION

3.2. Why the MLT program was established?

Medical Laboratory Technology Program has been established in 2006 to meet the challenges of lacking health care services which Jazan province was facing at that time. The Program involves all the supplemental diagnostic branches that will work in parallel with other medical specialization as complementary disciplines that can give the community full health services in the area.

3.2.1. Economic reasons:

- ❖ Overcome the paramedical professional's nationwide scarcity in the medical laboratory technologist cadre.
- ❖ Provide job opportunities in the governmental and private sectors including hospital laboratories, pharmaceutical companies and clinical laboratories.

3.2.2. Social- culture reasons:

- ❖ For conducting Scientifics researches helping in diagnosis and treatment of the prevalent diseases in Jazan region and solving the other local problems.
- ❖ To enhance the delivery of health care system to the society throughout increasing the laboratory diagnostic services for patients in the remote regions.
- ❖ To provide the region with well trained graduated Saudi female technologists who help keeping the culture, society habits and Islamic law and work in parallel with the male partner in health care development.

3.2.3. Technological Development:

- ❖ Meet the international parameters in the field of medical lab technology and diagnosis using the most recent techniques, instruments and apparatuses.
- ❖ Encourage the cooperation with the other health care institutions represented in establishment of a links between the department represented by the College of Applied Medical Sciences and other hospitals.

PART III: MLT PROGRAM IDENTIFICATION

3.2.4. National Policy Development:

- ❖ Meet the national need for medical technologist to assist the physician for best care for patients in hospitals and to contribute in solving the patients' problems in the society.
- ❖ Establish paramedical education and health promotion in Jazan region.
- ❖ Train the students to be competent of orienting scientific research and paramedical services in the field of laboratory medicine.
- ❖ Prepare graduates able to take the responsibility and lead the health institution ably.

3.3. MLT program Information:

Program Title: Medical Laboratory Technology, **Code:** MLT
Total Credit Hours: 136 hrs needed for completion of the program
Award granted on completion of the program:
 Bachelor of Science in Medical Laboratory Technology

3.3.1. General Program Description

The program is a combination of different courses which are complementary for each other and distinguish into 5 stages:

Stage	Level	General Description
First	1-2	The preparatory year (level 1 and 2), which is common and prepare the students to the different programs in the college and other medical colleges as well. It includes mainly English courses in the 1 st level and the core courses biology, chemistry, physics, computer science in the 2 nd level.
Second	3-4	The beginning of the MLT program in which the basic

		and introductory courses are conducted in the 3 rd and 4 th levels
Third	5- 6	The more specific one which includes the proficient courses distributed between level 5 and 6
Fourth	7- 8	The advanced stage which includes the more advanced and applied courses distributed between the 7 th and 8 th levels.
Fifth	Internship	The final stage which includes the training period (internship) of the students in the clinical laboratories of the different hospitals inside and outside Jazan area.

PART III: MLT PROGRAM IDENTIFICATION

3.3.2. Brief Courses Description

Unit	Course Name	Course Code	Brief Description
Pathology	Pathology	230 MLT	Basic information about cells and tissue in health and diseases. Indicate the disturbances in circulation, the main concepts of inflammation (healing and repairing), the main roles of immunopathology, Neoplasia, pathology of breast, female and male genital systems and some sexually transmitted diseases
	Histology	231 MLT	Fundamental concepts in histological and ultra-structure of different organ systems (cardiovascular, respiratory, digestive, renal and genital system, endocrine glands and nervous system) and understanding how these organ systems perform functions necessary for action to maintain life.
	Histotechnology	232 MLT	Basic information on different practical diagnostic techniques for histopathology, histochemistry and cytology together with cytodiagnosis.

	Hematology I	250 MLT	Introduction to the basic hematology, the first part of this course deals with the basic concepts of normal fluid and cellular blood components (WBCs, RBCs & platelets), structure and function, the second part emphasis on the production of normal red blood cells, corresponding abnormalities (anemia) and their laboratory diagnosis.
	Hematology II	350 MLT	Identification and diagnosis of all types of benign and malignant WBCs disorders, normal and abnormal hemostasis, normal and abnormal WBCs and bone marrow morphology.
	Blood Bank	451 MLT	Deals with the immune process as it relates to Immunohematology. It includes; identification of the characteristics of the antigens and antibodies of the ABO, Rh, and other blood group systems, the donor selection process, the principles and theories in the performance of routine blood bank procedures utilized in pre-transfusion testing, intermediate level blood bank testing in the resolution of antibody problems, hemolytic disease of the newborn and transfusion reaction.
	Clinical Practice in Hematology	450 MLT	Covers the interpretation of hemogram (complete blood count report), diagnosis of anemia, identification and diagnosis of non-neoplastic disorders of white blood cells, diagnosis of bleeding disorders due to platelet abnormalities and coagulation factors.

Unit	Course Name	Course Code	Description
Biochemistry	Basic Biochemistry	210 MLT	Explain the importance of aqueous environment for living organisms and cover the essential topics of biochemistry including micro-and macro molecules of carbohydrates, lipids, proteins, nucleotides and nucleic acids

	Clinical Biochemistry	211 MLT	Basic biochemical processes involved in processing and utilization of energy and biological substances in the human body.
	Diagnostic Clinical Chemistry I	310 MLT	Conclude the different metabolic disorders for all macromolecules metabolism. Give a background about vitamins, mineral and their important functions in body in addition to the clinical enzymology and use of enzyme in clinical diagnosis.
	Diagnostic Clinical Chemistry 2	311 MLT	Study of the functions of various organs in the human body, related disorders/diseases and related laboratory diagnostic methods for the assessment of the functions/diseases and their clinical interpretation.
	Clinical Practice in Clinical Chemistry	410 MLT	Role of clinical chemistry tests in medicine (screening, diagnosis, monitoring and treatment of the patients). In addition to the specimen's managements and variables that may affect biochemical tests. The advanced techniques used in clinical chemistry including electrophoresis and chromatography.
	Endocrinology	411 MLT	Advanced theoretical information needed to understand the physiological and pathophysiological changes associated with human endocrine glands such as pituitary, thyroid, adrenal glands and reproductive organs in order to direct and perform laboratory diagnosis of the endocrine glands related disorders.
	Urinalysis and Body Fluids	412 MLT	Importance of urine analysis and body fluids in the diagnosis of different disease. It includes; the urine compositions as well as abnormalities present in the urine, the status of fetus in the Amniotic fluid in addition to indicating the importance of CSF, peritoneal, synovial, pleural, pericardial fluids and semen analysis in our life.

PART III: MLT PROGRAM IDENTIFICATION

Unit	Course Name	Course Code	Description
Microbiology	Basic Microbiology	220 MLT	Introduction and fundamentals in microbiology including; isolation and purification of bacteria, the principles of bacterial culture techniques, staining and identification. Involve the classification and characteristic features of bacteria and the physiology and reproduction of microorganism. The harmful and beneficial aspects of microorganisms, their ecological role in the environmental balance in addition to the types of parasite-host relationship
	Clinical Mycology	320 MLT	A fundamental concept in Clinical Mycology including; different pathogenic fungi which causes infections in humans. It includes general characters, transmission, pathogenesis, clinical findings, laboratory diagnosis and treatment.
	Diagnostic Parasitology	321 MLT	The course prepare the students for clinical laboratory testing necessary for accurate diagnosis of parasitic diseases including; diagnostic morphology of different parasitic stages, diagnostic stages of each parasite in particular and the biological, clinical aspects of human parasites and their vectors, the geographical distribution, the concepts of epidemiology, prevention and control of parasitic diseases.

	Basic Immunology	360 MLT	The course is interested in the immune system and its functions. It covers the activation, regulation of innate, adaptive immunity and the principles governing vaccination, antibody structure, interaction with antigens, disorders of the immune system, application of immunological reactions for the diagnosis and monitoring of disease and the use of immunological techniques as analytical tools in the clinical laboratory.
	Clinical Virology	322 MLT	This course extends the coverage of microorganisms to include viruses, its structure, classification, pathogenesis, laboratory diagnosis, prevention and therapy. In addition to the pathogenesis of viral infection and principles of diagnosis by Rapid test involving Kit method and ELISA.
	Diagnostic Bacteriology	323 MLT	A specific course covering the principles used in the laboratory to diagnose the different types of bacteria from different samples. It includes; isolation techniques, bacterial culture techniques, staining and identification, the classification and characteristic features of bacteria, confirmation of bacteria causing infection by various biochemical, morphological, cultural and serological methods.
	Diagnostic Immunology	361 MLT	The course covers the modern molecular and cellular mechanisms involved in the development and regulation of the immune response, the way in which the immune system can be manipulated in the treatment of disease, in particular transplantation and cancer and the diseases result from the defects in the immune system such as allergy and auto-immunity.
	Clinical Practice in Microbiology	420 MLT	This course extends the coverage of pathogenic microorganisms including viruses, fungi and bacteria. It includes clinical practice and significance of Microbiology. The main objective is to provide the students with clinical background of the disease including symptoms and diagnosis of the disease

PART III: MLT PROGRAM IDENTIFICATION

Unit	Course Name	Course Code	Description
Genetics	Genetics and Molecular Biology	240 MLT	Covers the basic understandings of continuity and fidelity of human genome and the cell. Indicate the role of inheritance in the transmission of genetic disorders, the vital role of genetics and molecular biology in the field of medicine and diagnosis.
	Applied Molecular Biology	440 MLT	Discusses the application of applied molecular biology as a diagnostic tool for the detection and identification of diseases for the welfare of humanity.
	Advanced Topics in Medical Technology	400 MLT	Covers the role of modern diagnostic techniques in clinical diagnostic domain, the vital role of modern molecular, immunological and biochemical and microbiological techniques in modern diagnostic.

Unit	Course Name	Course Code	Description
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Anatomy & Statistics	Anatomy and Physiology	201 MLT	Gives an introduction to the major component of human body and body fluids. Conclude a survey of the anatomy and functions of all body systems (digestive, cardiovascular, respiratory...etc). Blood circulation, electrical and mechanical properties of cardiac muscle, mechanism of respiration, endocrine function and reproductive glands in addition to the skeletal and muscular structure
	Medical Statics and Epidemiology	200 MLT	Deals with Biostatistics to medicine and the health sciences including epidemiology. Illustrate the collection, organization, presentation, analysis and interpretation of biological/epidemiological information that can be stated numerically. Henceforth, it revolves on the application of measures of demography, morbidity as well as descriptive and inferential statistics.

PART III: MLT PROGRAM IDENTIFICATION

Unit	Course Name	Course Code	Description
Miscellaneous	Professional Ethics	300 MLT	Indicates the main concepts of professional ethics, types of professional ethics, ethical principles, rules, morality and ethics. Cover the values and confidentiality in medical ethics and ways to minimize confidentiality risks. Sources and the different categories of Islamic law and the judgment in the different acts: required, recommended, indifferent, reprehensible and forbidden.
	Lab Administration and Quality Control	401 MLT	Covers the principles of clinical laboratory quality management, the global concept of organizational structure followed by discussions of laboratory leadership, management functions, managerial problem solving, decision making strategies, and process improvement. It also covers the importance of statistical quality control and how to analyze the control charts.

	Seminar I, II	471, 473 MLT	This course (471) was designed to teach the student how to prepare and present a scientific presentation under selected topic and how to improve the communication and language skills. In 473, the student will present a seminar about the work conducted in the research project 472 and submit a short report to the course coordinator.
	Project I, II	470, 472 MLT	These courses cover the main information needed to conduct and finalize a research project. It includes; the different methods for searching about information, how to select a topic of interest, how to design the research, collect the data, calculate the specificity and sensitivity of a diagnostic test, integrate information gained from literature search to provide the basis for final paper, present and interpret the results and write a full thesis.

PART III: MLT PROGRAM IDENTIFICATION

Unit	Course Name	Course Code	Description
English	Basic English Communication Skills	203 ENG	The course introduces a range of academic topics, using authentic materials, with video, audio and text. The course uses a critical thinking approach, based on Bloom's Taxonomy, and builds learner skills in this area, giving students the tools needed to formulate and express opinions in an academic context. (Part 1)
	Intermediate English Communication Skills	204 ENG	The course introduces a range of academic topics, using authentic materials, with video, audio and text. It uses a critical thinking approach, based on Bloom's Taxonomy, and builds learner skills in this area, giving students the tools needed to formulate and express opinions in an academic context. (Part 2)

	English for Medical Laboratory	380 MLT	This course is a prelude to English 400 (Research Paper Writing), which is comprised of two phases of training which is intended to develop the student's comprehension skill and English communication proficiency in writing by producing relatively error-free simple sentences in Phase I and writing paragraphs in Phase II. The emphasis is the development of vocabulary and grammar skills in writing as applied to the varied topics along students' field of study.
	English for Medical Laboratory II	381 MLT	This course is a prelude and a preparatory study to English 480 (Advanced English). The study covers speech and conversational English that will prepare students to speak clearly, fluently articulately and spontaneously, at any given situation. It includes topics in speaking and listening, conversational exercises and techniques that will give opportunity to the students making speeches, and presentations in front of any audience using the English language proficiently.
	Research Paper Writing	400 ENG	This course covers what research writing is and its importance to their field of study which include the step by step preparation and writing of different parts of a research work. They are also trained on how they can design their outline before coming up with their individual or group research paper for academic purposes. The training process involves: reading, understanding and analyzing the research work of other authors.

	Advanced English for Medical Laboratory	480 MLT	This course is designed to cater the students develop their skills on how to get up in front of an audience/group of people and make an oral presentation. It also aims to develop the oral presentation skills needed to present scientific and technical research findings in their specialist field to any formal conference audience. This course specifically deals with: the guidelines in preparing presentation, the criteria in choosing topic, organization of materials, effective use of visual aids, presentation skills and includes facility in answering questions.
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PART III: MLT PROGRAM IDENTIFICATION

3.3.3. Curriculum Study Plan

Level	Course Code	Course Title	* Pre-Requisite Courses	Credit Hours	University, College or Department
I	101ARB	Arabic Language Skills	0	2	University

	101CSC	Introduction to Computer		0	3	University
	163PRE	English Language I		0	3	University
	161PRE	Medical Physics I		0	3	University
	108PRE	Medical Chemistry I		0	3	University
	102PRE	Medical Biology I		0	3	University
	Total Credit Hours				17	
Level 2	105PRE	Study Skills		0	1	University
	106 PRE	Medical Biology II		102PRE	4	University
	109 PRE	Medical Chemistry II		108PRE	3	University
	162PRE	Medical Physics II		161PRE	3	University
	164PRE	English Language II		163PRE	3	University
	101ISLM	Islamic Culture I		0	2	University
	Total Credit Hours				16	
Level 3	200MLT	Medical Statics and Epidemiology			2	MLT
	201MLT	Anatomy and Physiology			4	MLT
	210MLT	Basic Biochemistry		109PRE	3	MLT
	230MLT	Pathology			3	MLT
	231MLT	Histology		164PRE	2	MLT
	203ENG	Basic English Communication Skills			164PRE 3	
	102 ISLM	Islamic Culture II		109PRE	2	MLT
	102ARB	Arabic Writing			2	University
	Total Credit Hours				19	
Level	Course Code	Course Title		* Pre-Requisite Courses	Credit Hours	University, College or Department
Level 4	211MLT	Clinical Biochemistry		210MLT	3	MLT
	220MLT	Basic Microbiology			3	MLT
	232MLT	Histotechnology			2	MLT
	240MLT	Genetics and Molecular Biology			3	MLT

	250MLT	Hematology I			3	MLT
	103ISLM	Islamic Culture III			2	University
	204ENG	Intermediate English Communication Skills		203ENGL	1	
	Total Credit Hours			17		
Level 5	300MLT	Professional Ethics			2	MLT
	310MLT	Diagnostic Clinical Chemistry I		211MLT	3	MLT
	320MLT	Clinical Mycology			2	MLT
	321MLT	Diagnostic Parasitology		220MLT	4	MLT
	360MLT	Basic Immunology		220MLT	3	MLT
	380 MLT	English for Medical Laboratory I		204ENGL	1	MLT
	104ISLM	Islamic Culture IV			2	University
	Total Credit Hours				17	
Level 6	311MLT	Diagnostic Clinical Chemistry 2		310MLT	3	MLT
	322MLT	Clinical Virology		360MLT	3	MLT
	323MLT	Diagnostic Bacteriology		220MLT	4	MLT
	350MLT	Hematology II		250MLT	3	MLT
	361MLT	Diagnostic Immunology		360MLT	2	MLT
	381MLT	English for Medical Laboratory II		380MLT	1	MLT
	Total Credit Hours				16	
Level	Course Code	Course Title		* Pre-Requisite Courses	Credit Hours	University, College or Department
Level 7	400ENG	Research Paper Writing		381MLT	1	MLT
	410MLT	Clinical Practice in Clinical Chemistry		311MLT	3	MLT
	411MLT	Endocrinology			2	MLT
	412MLT	Urinalysis and Body			3	MLT

		Fluids				
	450MLT	Clinical Practice in Hematology		350MLT	3	MLT
	451 MLT	Blood Bank		350MLT	3	MLT
	470MLT	Students Project and Research Methodology, I			2	MLT
	471MLT	Seminar I			1	MLT
	Total Credit Hours				18	
Level 8	400MLT	Advanced Topics in Medical Technology		0	3	MLT
	401MLT	Laboratory Administration and Quality Control			2	MLT
	420MLT	Clinical Practice in Microbiology		220MLT	3	MLT
	440MLT	Applied Molecular Biology		240MLT	3	MLT
	472MLT	Student Project and Research Methodology2		470MLT	2	CAMS
	473MLT	Seminar II		471MLT	2	CAMS
	480MLT	Advanced English for Medical Laboratory		381MLT	1	MLT
	Total Credit Hours				16	

* *Prerequisite – course that is required to be studied prior to taking this course.*

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3.3.4. Curriculum Chart

Level	Course Code							
L1	101CSC	161PRE	108PRE	102PRE			101ARB	163PRE
L2	105PRE	106PRE	109PRE	162PRE		101ISLM		164PRE

L3	200MLT	201MLT	210MLT	230MLT	231MLT	102ISLM		203ENG
L4	250MLT	211MLT	220MLT	232MLT	240MLT	103ISLM	102ARB	204ENG
L5	300MLT	310MLT	320MLT	321MLT	360MLT	104ISLM		380MLT
L6	311MLT	322MLT	323MLT	350MLT	361MLT			381MLT
L7	410MLT	411MLT	412MLT	450MLT	451MLT	470MLT	471MLT	400ENG
L8	400MLT	401MLT	420MLT	440MLT	472MLT	473MLT		480MLT
Internship	Field Application							

General Subjects	English Courses	Preparatory Courses	Basic & Introductory Courses	Specific Courses	Advanced & Applied Courses	Research & Seminar Courses	Internship (Training)

3.4. Field experience activity (Clinical Rotation):

3.4.1. Clinical Rotation Courses:

- Clinical Practice in Clinical Chemistry (410 MLT)
- Clinical Practice in Haematology (450 MLT)
- Clinical Practice in Microbiology (420 MLT)
- ♦ Lectures and practical sessions of these respective courses will be held in the college campus, followed by the visit to KFCH and the Clinical Laboratory (CL) in the college campus.
- ♦ Concerned staff members lead each group of students to their respective labs in the hospital. Staff members explain different aspects of each lab which includes sampling, separation of samples, processing, analyzing the results and automated diagnostic methods.

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3.4.2. Time Allocation/Scheduling Arrangement

Academic Year	Semester	Level	Hours/Week		
			Theory	Practical	Clinical Rotation
Fourth	1st	7th	2 hours	6 hours	6 hours Two visiting days in the

					first 4-5 weeks of each semester (depends on the number of students). One visit to the King Fahd Hospital and the second to the Clinical Lab of the College. The remaining weeks are conducted as case studies in the labs of the department.
	2 nd	8 th	1 hours	3 hours	

3.4.3. Number of Credit Hours:

Year	Level	Course Code	Course Description	Credit Hours	Hours/Week
Fourth	7 th	410ML	Clinical Practice in Clinical Chemistry	3	7
		450MLT	Clinical Practice in Hematology	3	7
	8 th	420MLT	Clinical Practice in Microbiology	3	7
Total				9	21

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3.5. Project/ Research Requirements

- Student Project and Research Methodology course I & II (470 MLT- 472 MLT) is conducted in the 4th academic year of the program.

- This course is a group work research in which the students are divided into groups and each group carry out their research on an assigned topic under the supervision of a faculty member.
- The students are required to first write and submit a proposal in the 7th level and then perform research on the assigned problem. Then, the results and analyses are incorporated in to a written project then final thesis are submitted in the 8th level then evaluated by internal evaluators in addition to the viva voce discussion.
- The purpose of the course is to familiarize students with the methods of literature search, research proposal writing, experimental work, data collection and analysis, and presentation of results and conclusions of the research in a project form.
- Students are also encouraged to write research papers for publication in scientific journals and participating in the scientific conferences, forums and in the funded projects enforced by Jazan University (Scientific Research Deanship).

3.5.1. Academic Support to Complete the Research Project

- ◆ Each staff will be assigned to supervise a group of students for their ongoing research project to follow them up and help in planning the practical work.
- ◆ A consultant will be available for each research group in addition to the general supervision of course coordinator, all of them are assigned to help and guide the student in the research.
- ◆ A practical course plan is designed to be followed to manage the time.
- ◆ A course report is submitted weekly to ensure the attendance of the students in the practical work and to ensure the commitment with the course plan as well.

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- ◆ The lab management and safety committee (LMSC) help the students in booking the laboratory for their researches according to the availability after fill standard forms and take the approval.

3.5.2. Research assessment

Assessment tasks	Proportion of Final Assessment
Midterm Theory	20 %
Supervisor Evaluation ¹	20 %
Viva Voce Exam ²	20 %
Internal examiners evaluation ³	40 %
Total	100

By the guide:

1. Evaluation of the students' performance in the research during the whole semester.
2. Student will have to face a research panel and defend his research or project and provide findings and justifications for the same through the viva voce exam at the end of the semester.
3. Supervisor and departmental committee will evaluate the submitted thesis and write their feedback.

3.6. MLT Program Assessment

3.6.1. Assessment methods:

(i): Direct Method: The students submit their own work to the reviewers who can assess how well the students meet expectations and based on sample of actual student work including:

- ✓ Midterm/ Final Exam (Multiple-Choice-Question & Short Answer Question)
- ✓ Quizzes
- ✓ Homework assignment
- ✓ Continuous evaluation in practical sessions
- ✓ Case Studies
- ✓ Class Seminar/Discussion
- ✓ Internship and Clinical rotation evaluation

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(ii): Indirect Method: This method based on a report of perceived student learning. It gives the students the chance to report their opinion and to reflect on their learning outcomes and experience. It is including:

- ✓ Student feedback
- ✓ Surveys: (Current, graduated, internship students and supervisors).
- ✓ Graduation/ Retention rates (University Portal System)
- ✓ Percentage of graduated students who joining scholarship programs.

3.6.2. Student Assessment Strategy:

(i): Preparation of Examination Questions:

All the examinations are prepared by the participation of both instructors in male/female campus in which each one put half of the questions and submit the agreement final form in addition to the answer key. All question should cover whole the course and constructed from the curriculum contents.

(ii): Quality/Validity of Examination Paper:

A departmental Examination Reviewing Committee (ERC) constructed to revise and ensure the quality/validity of the exam paper. It consists of the head of the department (HOD), unit heads (UH), course coordinator (CC) and the quality assurance committee member (QACM). The committee gives the approval to print and photocopying the exam papers after revising the type, quality, validity and weight of questions in addition to the spelling mistakes and the distribution of marks.

(iii): Student's marking Guidelines:

These guidelines including the rules followed in marking the students, distribution of marks (in details) for each question. It can be verified by checking/revising the marks/grades of students' random samples.

3.6.3. Feedback Analysis:

- ✓ Select random sample of final test
- ✓ Factor analysis for each course exam
- ✓ Sample of high, low and average marks
- ✓ Assessment students benchmark
- ✓ Peer-review of assessments

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- ✓ Review of the assessments by the exam committee formulated through faculty council

- ✓ Quality verification of exams results by the **ACRAD** committee and quality assurance unit.

3.7. MLT Program Evaluation and Improvement Processes

The program develops evaluation questions and collects data to inform the annual work-plan for the coming year. Evaluation data are used to monitor how the five-year strategic plan is progressing. The products of the Evaluate step are evaluation findings, summaries of how the strategic plan is progressing, and description of changes to program activities based on evaluation findings.

(i) Current students and graduates of the program

- Students Survey about courses
- Course reports which reflect the performance variations
- Reports of Midterm and Final Exams
- Quality of Graduation Projects as per the approval from the research committee.

(ii) Independent advisors and/or evaluator

- Percentage of students passing the licensure exam, benchmark with the graduates of another similar program.
- Assessment of overall impact technologist's intern on the training institutes.
- Analysis and advise of the visiting advisors and faculty

(iii) Employers and other stakeholders

- Annual feedback from employing agencies with benchmark with similar graduates of another similar program.
- Feedback from relevant stake holders after the graduation of Students (Performance report conducted by Stake Holders).
- Internship evaluation from the listed sites submitted by the site supervisors.

3.8. MLT Program Outcomes

Program Learning Outcomes, Assessment Methods, and Teaching Strategy according to the five *National Qualification Framework* (NQF) learning domains:

	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge A successful learner from Medical Laboratory Program will be able to ;		
1.1	Recognize the basic principles and the main concepts applied in the clinical diagnosis practice field.	<ul style="list-style-type: none">- Lectures- Seminars- Conduct scientific research- Group discussion- Field visits	- Direct Assessment: 1. Pre and post-tests: a) Multiple- choice test question b) Essay test question 2. Course –embedded assessment: a) Homework assignment b) Essay Comprehensive exam 4. Case study Class Project - Indirect Assessment: Departmental Survey
1.2	Define the relationship between the theoretical concepts of the medical laboratory sciences and conducting MLT investigations		
1.3	Record patient data according to the medical terminology outlines with allocation of accurate codes		
1.4	Recall the clinical laboratory quality management.		
2.0	Cognitive Skills At the end of the program , graduates should be able to		
2.1	Plan the test methods followed by procedure application	<ul style="list-style-type: none">- Laboratory assignment- Problem- based learning- Student- centred instruction- Competency- based instruction- Pre- assignments- Critical Thinking	- Direct Assessment: 1. Oral presentation. 2. Reflective journals 3. Internship and clinical evaluation. 4. Capstone projects 5. Focus Groups Discussion. 6. Brain Storming - Indirect Assessment: 1. Graduate Survey
2.2	Interpret analytical data according to the basic Standard Operations Procedures (SOPs).		
2.3	Evaluate the validity/ accuracy/ errors of the laboratory examination test used for diagnosis.		
2.4	Apply systemized problem solving techniques of lab result obtained.		
3.0	Interpersonal Skills & Responsibility At the end of the program , graduates should be able to		

3.1	Demonstrate effective decision making, leadership, public speaking skills.	<ul style="list-style-type: none">- Creating working groups.- Students Tasks	<ul style="list-style-type: none">- Direct assessment:<ol style="list-style-type: none">1. Poster presentation2. Class project (individual or group)3. Viva4. Class and out class assignment.- Indirect Assessment<ol style="list-style-type: none">1. Employers surveys
3.2	Show the ability to be an influential team player for effective interaction with the peers and health personals.		
3.3	Participate actively in community service by contributing towards the emerging issues in clinical diagnostic field.		
3.4	Appraise Life-long learning for personal development.		
4.0	Communication, Information Technology, Numerical At the end of the program , graduates should be able to		
4.1	Ensure effective communications skills for accurate and appropriate information transfer	<ul style="list-style-type: none">- Journal Reflection- E- lectures- Electronic references and materials- Virtual Classes	<ul style="list-style-type: none">- Direct Assessment<ol style="list-style-type: none">1. Research2. Observation checklist to evaluate each student presentation.3. E- quizzes4. E-homework- Indirect Assessment: Exit interview
4.2	Assess latest technology for data analysis to rejuvenate academic development.		
4.3	Evaluate statistical data for epidemiological outbursts.		
5.0	Psychomotor At the end of the program , graduates should be able to		
5.1	Analyze a final result based on series of observations while processing laboratory samples.	<ul style="list-style-type: none">- Small Group Monitoring- Practical Assignment- Gradual implementation- boosting self-confident- Evaluation	<ul style="list-style-type: none">- Checklist demonstration.- Evaluation laboratory report.
5.2	Employ innovation when necessary while processing laboratory samples.		
5.3	Manipulate the final results according to the test procedure performed.		

3.9. Learning Resources/ Facilities

Access to Saudi digital library is provided to the students and faculty members for online resources, in addition to the application of blackboard system for effective teaching strategy*.

*deanships.jazanu.edu.sa/lib/Pages/lib142.aspx

<https://lms.jazanu.edu.sa/webapps>

PART IV: GENERAL PROGRAM REQUIREMENTS

4.1. Admission requirements

4.1.1. Admission of Newcomer Students according to the university policies

In order to identify the administrative rules, conditions and admission requirements of Jazan University in details, please visit www.jazanu.edu.sa. Admission and registration deanship, article 2, 3 and 4.

4.1.2. Based on Ministry of High Education regulations and Acceptance

1. Obtain a high school diploma in natural sciences or equivalent at a rate of at least 90%.
2. The date of graduation from the secondary school should not exceed two years from the date of submission for admission to the college.
3. Original secondary certificate with two copies of the original.
4. Original certificate of good conduct with a copy of the original.
5. Modern color photographs measuring 4 x 6.
6. Copy of the civil status card (national identity) with the original to be submitted for verification.
7. Capacity testing of the National Center for Measurement.
8. The achievement test of the National Center for Measurement.
9. Personal interview test of the college.

No	Test Type	%
1	Secondary School Certificate Rate.	30
2	Capacity test (National Center for Measurement	30
3	Achievement test (National Center for Measurement).	30
4	Personal Interview test.	10
Total		100

4.2. Standard Essential/Physical Requirements

The MLT Program of CAMS follows the same standard non-academic essential requirements which are obligatory for every student to meet in order to join and go through the program smoothly. These standard essential requirements are divided into:

Functional ability	Standard	Examples of required activities
Visual	Normal or corrected visual ability sufficient for accurate observation and performance of lab testing including color differentiation.	<ul style="list-style-type: none">• Observe laboratory demonstrations in which biologicals are tested for their biochemical, hematological, immunological, microbiological, and histochemical components.• Characterize the color, clarity, and viscosity of biologicals, reagents, or chemical reaction products.• Employ a clinical binocular microscope to differentiate among specimens.• Read and comprehend text, numbers, and graphs displayed in projectors and white board.
Hearing	Auditory ability sufficient for physical monitoring of alarms, equipment, timers and dealing with clients	<ul style="list-style-type: none">• Hear normal speaking level sounds• Hear instrument alarms and normal function sounds• Hear auditory signals (timers, fire alarms, <i>etc.</i>)
Smell	Olfactory ability sufficient to detect significant environmental and laboratory odors	<ul style="list-style-type: none">• Detect odors (burning or smoke)• Detect smell of small amounts of certain chemicals or gases (spill).

<p style="text-align: center;">Movement</p>	<p>To execute the movement and skills required for safe and effective performance of duties even in small spaces; full range of motion to twist/bend, stoop/squat, reach above shoulders and below waist and move quickly; manual and finger dexterity; and hand-eye coordination to perform</p>	<ul style="list-style-type: none"> • Move freely and safely about a laboratory. • Reach laboratory bench tops and shelves, patients seated in specimen collection furniture. • Bear prolonged sitting or standing, over several hours. • Possess finger and manual dexterity necessary to control laboratory equipment (i.e. pipettes, inoculating loops, test tubes), adjust instruments to perform laboratory procedures, such as handling small tools and/or parts to repair and correct equipment malfunctions, and transferring drops into tubes of small diameter.
<p style="text-align: center;">Communication</p>	<p>Professional appearance and communication. Follow instructions and safety protocols. Ability to communicate effectively in English using verbal, non-verbal and written formats with faculty, other students, clients, families, and all members of the healthcare team</p>	<p>Read and comprehend technical and professional materials (i.e. textbooks, magazine and journal articles, handbooks, and instruction manuals).</p> <ul style="list-style-type: none"> • Follow verbal and written instructions in order to correctly and independently perform laboratory procedures. • Clearly instruct patients prior to specimen collection. • Communicate with faculty members, students, and other health professionals verbally and in recorded format. • Independently prepare papers, laboratory reports, and laboratory practical examinations.

<p style="text-align: center;">Intellectual</p>	<p>Ability to collect, interprets, and integrates information and make decisions.</p>	<ul style="list-style-type: none"> • Possess these intellectual skills: comprehension, measurement, mathematical calculation, reasoning, integration, analysis, comparison, self-expression, and criticism. • Be able to exercise sufficient judgment to recognize and correct performance deviations. • Apply knowledge to new situations and to problem solving scenarios.
<p style="text-align: center;">Behavioral</p>	<p>Emotional stability and appropriate behavior sufficient to assume responsibility/ accountability for actions.</p> <p>Must be able to measure, calculate, reason, analyze and synthesize, integrate and apply information.</p>	<ul style="list-style-type: none"> • Manage heavy academic schedules and deadlines. • Be able to manage, complete tasks and respect the deadlines. • Demonstrate appropriate judgment and effectively employ intellect under conditions of stress. • Recognize potentially hazardous materials, equipment, and situations and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals. • Adapt to working with unpleasant biologicals. • Support and promote the activities of fellow students and of healthcare professionals. Promotion of peers helps furnish a team approach to learning, task completion, problem-solving, and patient care. • Be honest, ethical and responsible. The student must be able to critically evaluate her or his own performance, accept constructive criticism, and look for ways to improve. • Show respect for diversity: works well with individuals of different age, ethnic background, religion, sexual orientation and/or educational backgrounds.

4.3. Clinical Eligibility Requirements - Required Immunizations:

All students entering the MLT Program must meet eligibility requirements to attend the clinical laboratory. This is essential for the safety of the clients at the clinical facilities used by the MLT program.

Electronic copies of immunization records and laboratory results of titers must be submitted by the student along with the Health Declaration/ Physical Examination Form.

DO NOT hand in any original paperwork – COPIES ONLY.

1. MMR (measles/ mumps/rubella): Two doses (4 weeks between doses) or students may provide a copy of laboratory results demonstrating immunity for each disease.
2. Hepatitis B series: Three doses or students may provide a copy of laboratory results demonstrating immunity or sign a Hepatitis B waiver form. (Some clinical sites will not accept a waiver.)
3. Tdap (tetanus, diphtheria and pertussis) within the last 10 years, effective through the last day of the semester for which student is currently enrolled.
4. Tuberculosis: **Two Step Negative PPD (TB skin test), with a current negative TB skin test performed within the last year, effective through the last day of the semester for which student is currently enrolled or negative chest x-ray within the last year.**
5. Physician Evaluation

4.4. Infection Control and Standard Safety Regulations

Each student is responsible for personal and others health and safety. The procedures below are generally intended as guidelines to assist students in minimizing risk of infection.

Standard Instructions for Lab Safety*

1. Never eat or drink in the student or clinical laboratory. Keep all objects out of your mouth.
2. Do not touch your face or use electronic devices while wearing gloves, or if your hands are potentially contaminated.

3. Details for disposal of biohazards, sharps, reagents and other materials are present in the MLT LMSC handbook in all Labs.
4. Gloves, closed toed shoes and lab coat are required at all times when performing any lab exercise and if there is a potential for contact with blood or body fluid. Long hair must be tied back.
5. Masks and goggles are required if splash or inhalation hazard exists.
6. Hazardous materials (blood soaked gauze, chemical reagents, *etc.*) will be placed in biohazard containers. Some special circumstances may exist. Follow the disposal instructions in each lab.
7. Needles, hard plastic, wooden applicator sticks, and other sharp objects will be placed in the puncture proof sharps containers.
8. Petri dishes, agar plates, volumetric pipettes and other large objects will have specially designated disposal containers. Follow the instructions for disposal in the laboratory procedure.
9. Hands must be washed with soap and water at the beginning and end of each class, and if visibly soiled. Wash hands after bleaching the bench top.
10. Hand sanitizer should be used frequently throughout the class, and always before putting on, and when removing gloves, after touching counters, before collecting samples, and before eating or drinking.
11. Counter tops and desk areas are cleaned with a 10% bleach solution (prepared daily) before and at the end of each class.
12. MLT equipment and instrumentation should be used per manufacturer specifications and directions. Do not use any equipment unless you have been trained in the proper operation. Keep centrifuge lids closed while spinning, clean spills with bleach solution, label non-functioning equipment with maintenance tags detailing the problem encountered.
13. Use brush and dust pan to collect broken glass. Contact housekeeping for large spills.
14. Wear gloves when using bleach products. Be familiar with SDS for products used in the clinical lab.
15. Notify the instructor immediately of all injuries and potential exposures.

4.5. Dress Code

All students in MLT program must commitment by wearing the uniform (Scrub) during their presence in the department/college. The students who are not wearing the uniform will not allowed to enter the classes while, students will not allowed to enter the laboratories if they are not wearing the uniform and the lab coats (please, refer to the Study and Examination List on www.jazanu.edu.sa).

** For more Lab Safety guidelines and instructions, you must read and refer to the Lab Safety Handbook prepared by Lab Management and Safety Committee (LMSC). You will find a hard copy in each lab.*

PART V: ACADEMIC REGULATIONS

5.1. Academic Advising:

When you enter to the program in the 3rd level, an academic advisor will be assigned to assist advice and follow up your academic performance. You **MUST** meet with your advisor at least twice per semester during his/her office hours or academic advising hours. You could find the name of your assigned academic advisor recorded in your academic page.

When you meet, your advisor will review your progress toward graduation and help you adhere to your academic plan. However, it's your responsibility to be sure you have completed all the courses you need to get your degree*.

Dropping a course can postpone your graduation and impact your financial aid award, so be careful and don't take a decision affect your plan without referring to your advisor.

5.2. Progression in the program

The MLT program follows Jazan University system in which each academic year is divided into two semesters (semester= level) and each semester is consist of fifteen weeks.

MLT Program is a five years Bachelor program which allocated as:

- ◆ One year (2 semesters/levels) in the preparatory year
- ◆ Three years (6 semesters/levels) in the MLT program
- ◆ One year (48 weeks) in the internship
- ◆ **Preparatory Courses:** Must be completed before starting the MLT program
- ◆ **Minimum grade of C:** (GPA not less than 3.5 over 5) is required in all of the following courses: 102 PRE- 105 PRE- 106 PRE- 108 PRE-109 PRE- 163 PRE- 164 PRE
- ◆ The student who fails in one or more courses in one level is obliged to study and pass this course at first before registration any other courses from the higher levels according to the course plan and time table.

* Students enrolled in MLT Program are encouraged to contact their academic advisor and the Academic Advising Unit periodically for solving any academic default and get benefit from the supportive services.

- ◆ Also, the student is obligated to pass the prerequisite courses prior to register the next assigned courses (refer to the curriculum plan).
- ◆ The course load of study for the students has to be in accordance with their accumulative average which must not be less than the minimum limit according to the Jazan University regulations.

5.3. Passing the Examination Grading System:

The examination and grading system of the program are limited by the following regulations:

- ✓ Each course will have a total of 100 marks, and these are distributed as follows:
- ✓ 60% for the course work (quizzes, assignments, homework, midterm exams, practical exam)
- ✓ 40% for the final examination.
- ✓ The passing mark in each course is 60% out of the total.

The program grading system follows the requirements at JU which is based on a maximum of 5 as shown in the following.

Letter Grade	Numerical	Point Average	Meaning
A+	95-100	5.0	Excellent
A	90- less than 95	4.75	
B+	85- less than 90	4.5	Very Good
B	80- less than 85	4.0	
C+	75- less than 80	3.5	Good
C	70- less than 75	3.0	
D+	65- less than 70	2.5	Acceptable
D	60- less than 65	2.0	
F	Below 60	1.0	Failure

5.4. Program completion or graduation requirements.

The Student graduates after successful completion of graduation requirements according to the approved program study plan with cumulative GPA not less than (2.00) out of (5.00) with grade – Acceptable. In order to obtain the degree of Bachelor of Science in MLT, the students should complete the following requirement successfully:

5.4.1. Completion of 136 credit hours according to the study plan of the program:

- ✓ 1st preparatory Year (Level1+ Level2)= 33 credit hours
- ✓ 2nd Year (Level 3 + Level4)= 36 credit hours
- ✓ 3rd Year (Level5+ Level6)= 33 credit hours
- ✓ 4th Year (Level7+ Level8)= 34 credit hours

5.4.2. Internship Program:

- ✓ After the completion of all the 55 courses (including the preparatory courses), the student will start a compulsory internship year (48 weeks/0 credit hrs).
- ✓ Internship program starts by the successful completion of 8th semester in the campus by training students in different labs and hospitals of Jazan Province.
- ✓ Students are divided in 3-5 groups, depending on their strength, each group members are in rotation in various labs in the hospital for a particular time until the completion of their internship program.
- ✓ The internship students are supervised at this stage by the hospital laboratory staff that evaluate their performance, behaviour and monitor their attendance.
- ✓ During the internship, the students are expected to gain all the field experience needed to practice the profession in the future including the communication with heads, colleagues, peers and patients and go through the applying of quality control, lab safety roles, troubleshooting the problems in addition to enhance their laboratory skills.
- ✓ After completing the internship year successfully and obtaining the release from the Admission and Registration Deanship (ARD), the students would be qualified to receive the Bachelor's degree certificate.

5.5. Attendance Regulations

- ❖ All the students are required to attend all the classes regularly during the 15 academic weeks/ semester.
- ❖ Students who their attendance is less than (75%) out of the total hours of any course will be prohibited from entering the final examination and will have an F (Fail) grade in that course.
- ❖ Students who are absent in the Midterm/final examination of a course(s) will not be given a substitute examination, except for a valid reason accepted by the excuse committee and college council (See the following point).
- ❖ The attendance of the students in the class will be taken during the first 15 minutes of the scheduled time.

5.6. Making-Up Missed Examination Regulation

- ❖ There are clear guidelines for students who failed to attend any of their exams due to genuine reasons by asking to apply for a re-sit exam (Theory & Practical- Midterm/Final).

❖ ***There is no retake examination in the courses have more than two quizzes. While, the courses that have just two quizzes the students allowed to submit their excuses which treated as the same manner of the other excuses.***

5.6.1 Re-sit examination is only possible in the following cases:

- ✓ In case of absence due to serious illness (accident/hospitalization), the student is required to submit the following:
 - Medical report of a specialist consultant (not a general practitioner) on his/her printed letterhead duly signed and stamped within 7 days of absence.
 - A discharge letter of hospital (in case the student was admitted in hospital)
- ✓ In the instance of death in immediate family, the student is required to provide proof of death (death certificate).

Absences and Excuses Regulations:

1. *Medical admission in governmental or private hospital*.*
 2. *Chronic diseases: Sick cell anemia, Cancer, Heart, Liver hepatitis, Diabetic, Epileps....)*
 3. *Infectious diseases: Chicken box, pulmonary infection, Measles, Tuberculosis, Epilepsy).*
 4. *Delivery and abortion.*
 5. *Medical bed- sitting to primary dependent relatives.*
 6. *Fainting and dizziness in exams due to chronic diseases; Diabetic, Blood pressure...*
 7. *Official arrested by adjudication authority.*
 8. *Participation in University authorized activities that approved by a document from students' affairs.*
 9. *Participation in Youth Care activities that approved by documents from the hosted authority.*
- Approved documents should be taken from the authorized hospital with official medical report is a must.*

5.6.2. Medical Excuses Submission

- ✓ The student should submit a written formal request in the administration office asking to re-take the missed exam and mention the genuine reason. This request should be provided with an official medical report from a governmental clinical source or any other supporting documents within a maximum of one week (five working days from the exam they failed to attend). No applications will be considered after this period.
- ✓ The student's documents will be submitted and checked by the Excuses Committee of the college to be approved or refused (according to the regulations of the college/University).
- ✓ The students should be announced by the student's affairs in the department.

5.6.3. Make-up Exam Mechanism

- ✓ Make-up midterm examinations should be conducted in the week 12th of the academic calendar according to a schedule monitoring by control committee. While the re-sit for the midterm practical examination should be conducted in the 13th week by direct coordination between the staff member and the student after informing the department.
- ✓ The departments should conduct the make-up final examination within the first week of the next semester (according to the code of conduct of the university).

PART VI: STUDENT SUPPORT

The student is the most important member in this program and his participation in the decision making of all student affairs, evaluation and improvement of the program is his main rights.

A student council is established in the college for this objective, to give the students the full chance to be a positive partner and active member of the institute. Your participation is highly recommended to represent the MLT program in the student college council.

6.1. Rights

- ✓ Receive an orientation regarding the MLT program at the first two weeks of 3rd level.
- ✓ Receive the course description, syllabus, plan and lab manuals at the beginning of the semester.
- ✓ Gain a full knowledge of the course plan and the schedules before the start of the study to enable him to register in the courses during the allowed period of the university.
- ✓ Provide guidance information and to appoint an academic advisor to follow up his/her needs according to the academic guidance adopted at the university or college.
- ✓ Know in advance the dates of the final and midterm examinations to hold it according to the updated university calendar.
- ✓ The exam questions should come from the contents of the course taking into account the balanced and logical distribution of the evaluation scores of the questions.
- ✓ Understand the methods of documentation that guarantee the right of the student in all methods of evaluation approved for the course, whether theoretical tests, activities, participation, training or scientific research in accordance with the regulations and executive rules in force at the university.
- ✓ Get up his/her results and to request a review of his/her answer to the final examination (theoretical or practical) or other approved methods of evaluation, in accordance with the regulations and rules in force at the university.

- ✓ Inform by his/her punishment or prohibition before the start of exams by sufficient time through the official ways used at the university.
- ✓ Commitment of the faculty member by the dates and times of lectures, the completion of scientific and practical hours and not to cancel any of them except in case of necessity after the approval of department.
- ✓ Announce by the office hours of the faculty members which specified to answer the student's academic inquiries.
- ✓ Maintain the confidentiality and privacy of the academic file information of the student.
- ✓ Express his/her opinion freely, discuss and evaluate the educational matters related to the curriculum.

6.2. Duties

- ✓ Respect all the academic and non-academic rules, instructions, guidelines and Islamic Laws as well.
- ✓ Respect the staff members, your colleagues, supervisors, employees and all persons.
- ✓ Commitment to attend the lectures and practical sessions on time and not to delay without an excuse (attendance of the student late more than ten minutes recorded will be recorded as absent).
- ✓ Commitment to the dress code and the instructions specified by the college and university.
- ✓ Accompany the university card (ID) during the whole time inside the campus.
- ✓ Avoid using your mobile in taking photographs, video or recording audio (including lectures) without permission of the administration office of the campus.
- ✓ Make sure that there are no mistakes or conflicts in your schedule and quickly review the college registrar during the period of deletion and addition only to solve.

- ✓ Use the university e-mail for official contacts and follow-up daily the announcements from the university.
- ✓ Compliance with the rules and arrangements related to the preparation of research, reports or tests, avoid plagiarism, cheating or any other violation affect the examinations process.
- ✓ Respect the deadline and submit your work on time to avoid decrease your marks.
- ✓ Learn how to enter to your page to benefit from the available academic facilities.
- ✓ Read all the University polices to be aware of your rights and responsibilities.

6.3. Appeals/ Complains

The student Affairs Committee (SAC) is concerned with the protection of the rights of students in the college. The students start towards claiming his/her right by submitting his/her request in the student affairs office. In turn, it is the committee responsible about student investigations, irregularities and suggest the impose penalties on the offending students in accordance with these regulations.

The Student Affairs Committee is responsible for the following:

1. Consider everything related to student matters.
2. Consider the irregularities that occur from students.
3. Raise exceptional cases to the College Council.
4. Coordinating the work of academic guidance.
5. To consider all academic applications related to the apology and extraordinary postponement, re-registration after exhausting the statutory period, and granting exceptional opportunities in cases that are not accepted through e-student's account.
6. Receiving complaints from the student regarding any academic and non-academic problems that are faced within the college in order to protect the rights of the student.
7. Follow-up of the tasks assigned to follow up the progress of the study and the tests within the college according to the executive rules of the study and testing regulations at the university

6.4. Student excellence/award

First five high grade students will be honored and receive an appreciated certificate from the college dean. In addition to the honor of all the students participated in different activities including; researches, 3- minutes Competition, non-academic and community services activities.

6.5. MLT Student Acknowledgment

MLT Student Acknowledgment

I, _____, have received the Medical Laboratory Technology (MLT) Student Handbook and have read, understand and will adhere by all the regulations and instructions mentioned. I also understand that I am representing the College of Applied Medical Sciences in the Medical Laboratory Technology program during the Clinical rotation and must conduct myself according to the regulations established in the MLT Student and College Handbook.

Student Name: _____

Signature: _____

Date: _____

You need to sign the acknowledgment form and submit it to the student affairs office (1116) t the first week of the semester (3rd level student).

For more information and details, please refer to the student rights and duties list of Jazan University, student affairs deanship.
