



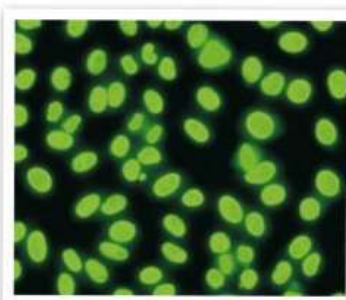
**Clinical Pathology
Department
Faculty of Medicine**

Medical Doctorate (M.D.) Degree of Clinical Pathology Logbook (Clinical Microbiology Subspeciality)

For

**Candidates of Medical Doctorate (M.D.) Degree of
of Clinical Pathology Department**

2022-2023





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*** Aim of the activities book**

To provide one source of evidence for the assessment committee that you attained the desired level of competency required to gain the award.

In this book you will document all clinical, academic and other experiences and skills you attained during your training.

Sections of the book

For each module / course / rotation

You should fill the following sections:-

1- Laboratory skills log

- 1- You will find a list for required laboratory skills and level of desired performance you should achieve at the end of training.
- 2- You should record all laboratory skills in the module and should be signed by you trainer.

3- Procedures laboratory skills log

- 1- You will find a list for required procedure, laboratory skills and level of desired performance you should achieve at the end of training.
- 2- You will find empty tables to write down the procedure, you level of participation and date and signature of supervisor.



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4- Rotation / attendance proof

You should have evidence of achievement the required training hours within each module.

For the whole program fill the following sections

1- Academic activities

A- Document all academic activities e.g. lecture, journal clubs, workshops, conference, services attended. This documentation should include the level of participation " attendance, preparation, presentation,....."

2- Academic achievements

A- Document all outcomes you achieved in the field of:-
- Audit participation
- Research "clinical trial" participation.
- Evidence- based medicine "generation of guidelines" protocols

3- Formative assessment log

This document all types of formative assessment attended e.g.:-
- Mini clinical examination
- Quises



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1- Program aims

1 1- Program aims

I/1. To enable candidates to keep with international standards of patients care by mastering high level of clinical laboratory skills, in addition to update medical knowledge as well as clinical experience and competence in the area of clinical pathology, and enabling the candidates of diagnosing diseases.

1/2. Provide assistant lecturers with fundamental knowledge of interpretation of diagnostic tests ,information about tests and diseases has been extensively updated including newer technologies that have markedly improved our accuracy and diagnostic ability.

1/3 To enable candidates to perform high standard scientific medical research and how to proceed with publication in indexed medical journals.

1/4. To Enable them to have professional careers as a consultant in Egypt.

- Make them recognized as a consultant abroad.
- Enable them to continue self learning in subspecialties.
- Enable them to master different research methodology and do their own.

5- Program Structure

Program Time Table

Duration of program up to 4 years (could be extended to 6 years) divided into

○ Part 1

Program-related basic science courses

- Medical statistics.
- Research methodology.
- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research.
- Molecular Biology.
- Cytogenetics.
- Instrumentation and Equipments.

Students are allowed to sit the exams of these courses after 6 months from applying to the M D degree.



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○ **Thesis and 2 published researches**

For the M D thesis: MD thesis subject should be officially registered within 1 year from application to the MD degree,

Discussion and acceptance of the thesis should not be set before 24 months from registering the M D subject;

It could be discussed and accepted either before or after passing the second part of examination .

○ **Part 2**

Program –related speciality courses and ILOs

Students are not allowed to sit the exams of these courses before 4 years from applying to the MD degree.

- Hematology
- Clinical Chemistry
- Clinical Immunology.
- Clinical Microbiology



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First Part

Basic science Courses

Course	Name of the course
Course 1	Medical Statistics
Course 2	Research methodology
Course 3	Medicolegal Aspects and Ethics in Medical Practice and Scientific Research
Course 4	Cytogenetics
Course 5	Molecular Biology
Course 6	Instrumentation and Equipments



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Medical statistics

Requirements

- **Credit points: 1 credit point**
- Minimal rate of attendance 80%

Name of the course	Credit points	Responsible department	Attendance	Practical	Percentage of Achieved points
Medical statistics	1 credit point	Pubic Health & Community Medicine			100%
	0.1		Introduction 1 hour	SPSS Introduction 2H	10%
	0.1		Tables and graphics 1 Hour	Data entry and cleaning of data 2H	10%
	0.1		Sampling 1 Hour	Transforming of variables 2H	10%
	0.1		Methodology of data collection 1 Hour	Descriptive statistics 2 H	10%
	0.1		Type of variables 1 Hour	Graphic presentation 2 H	10%
	0.1		Proportion test Chi-square test 1 Hour	Chi square and interpretation of results 2 H	10%
	0.1		Student T test Paired T test 1 Hour	Student, Paired and ANOVA tests 2H	10%
	0.1		ANOVA test 1 Hour	Correlation Regression 2 Hour	10%
	0.1		Non parametric tests 1 Hour	Multiple and logistic Regression 2 H	10%
	0.1		Discrimination analysis factor analysis 1 Hour	Non parametric tests 2 H	10%
			Revision 1 H	Revision 2H	
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**Medical Statistics
Lectures and tutorials**

Date	Attendance	Topic	Signature



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Research Methodology

Requirements

- **Credit points: 1 credit point**
- Minimal rate of attendance 80%

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Research Methodology	1 credit point	Pubic Health & Community Medicine		100%
	0.15		4 hours Introduction & proposal writing	15%
	0.15		4 hours Epidemiological study designs	15%
	0.15		4 hours Screening & theoretical background	15%
	0.24		6 hours Screening practical	24%
	0.15		4 hours Sample size calculation	15%
	0.08		2 hours Research bias	8%
	0.08		2 hours Ethics in research	8%
	-		2 hours Revision	-
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Research Methodology Lectures and tutorials

Date	Attendance	Topic	Signature



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Course 3

Medicolegal Aspects and

Ethics in Medical Practice and Scientific Research

Requirements

- **Credit points: 1 credit point**
- Minimal rate of attendance 80%



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**One Credit point for Medicolegal Aspects and Ethics in Medical Practice and Scientific
Lectures and tutorials**

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Medicolegal Aspects and Ethics in Medical Practice and Scientific Research	1 credit point	Forensic Medicine and Clinical Toxicology	10 hours	100%
	0.5		Ethics in research	50%
	0.5		Medical ethics in practice.	50%
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Medicolegal Aspects and Ethics in Medical Practice and Scientific
Lectures and tutorials

Date	Attendance	Topic	Signature



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Course 4

Cytogenetics

Requirements

- **Credit points: 2 credit points for didactics**
- **Minimal rate of attendance 80%**

2.0 Credit Points for Cytogenetics Lectures and tutorials



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Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Cytogenetics	2.CP	Clinical pathology	20 hours	100%
	0.2CP		(2hours) -Outline the principles of the following: cell cycle ,the processes of mitosis and meiosis, the stages of these processes and where common abnormalities can occur.	10%
	0.1CP		(1 hours) -Method for obtaining chromosome preparations from a blood sample.	5%
	0.4CP		(4 hours) -Numerical chromosome abnormalities; Origin of aneuploidy; Mosaicism; Chimaeras; Origin and consequences of structural abnormalities: translocations, inversions, insertions, deletions, rings, markers; Risk assessment for balanced abnormalities; X inactivation, numerical and structural abnormalities of the X and the Y; Mechanism of formation of chromosome abnormalities.	20%
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Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Cytogenetics	0.3CP	Clinical pathology	(3hours) -banding cytogenetic. - (Nomenclature) karyotypes description.	15%
	0.2CP		(2 hours) -Major dysmorphic features related to common chromosome aneuploidies.	10%
	0.3CP		(3 hours) -Fluorescence (FISH), the technical considerations for FISH, and the main service applications of FISH in cytogenetics & identification of FISH probe types appropriate to specific diagnostic situations and interpret FISH results.	15%
	0.3CP		(3 hours) New methods in cytogenetics.	15%
	0.2CP		(2hours) Chromosomal abnormalities related diseases.	10%
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Course 5

Molecular Biology

Requirements

- **Credit points: 2 credit point; 1.5CP for didactic teaching and 0.5CP for training.**
- **Minimal rate of attendance 80% of didactics and training.**



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1.5CP for didactic teaching (lectures and tutorials)

Name of the course	Credit points	Responsible department	Attendance	Percentage of achieved points
Molecular Biology	(1.5)	Clinical pathology	(15 hours)	100%
	0.1		(1hours) Structure and function of nucleic acid.	6.66%
	0.2		(2 hours) Basic processes involved in gene replication and repair	13.33%
	0.2		(2 hours) Gene expression	13.33%
	0.2		(2 hours) DNA recombination	13.33%
	0.3		(3 hours) Biomolecular tools: -Blotting. - Hybridization. -Transfection and Transformation. - Reporter gene assay.	20%
	0.3		(3 hours) Biomolecular Techniques: -PCR -Southern blotting. - Northern blotting. - Western blotting. - Gell shift assay. - DNA sequencing. - DNA foot printing.	20%
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Name of the course	Credit points	Responsible department	Attendance	Percentage of achieved points
Molecular Biology	0.2	Clinical pathology	(2hours) Importance of molecular biology techniques in laboratory diagnosis	13.33%
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0.5 Credit point for Molecular Biology Clinical training

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Molecular Biology	0.5CP	Clinical Pathology	Molecular Biology	100%
	0.1CP		*Attend and practice in PCR lab for at least two hours /day -twice weekly for two week including techniques log as mentioned below; *Perform in PCR lab and practice at least 2 times of each, level C, B&A of the following techniques-: - DNA extraction - RNA extraction By chemical and automated extraction.	20%
	0.2CP		* Attend and practice in PCR lab for 1h/day -twice weekly for two weeks including techniques log as mentioned below; -Perform PCR amplification of specific gene segments in PCR lab and practice at least 2 times for level C, B&A.	40%
	0.1CP		*Attend and practice in PCR lab for 1h/day -twice weekly for two weeks including techniques log as mentioned below; -Prepare agarose gel and perform and interpret of agarose electrophoresis of PCR Products and practice at least 2 times level C, B&A.	20%
	0.1CP		*Attend and practice in PCR lab for at least one hour /day -twice weekly for two weeks including techniques log as mentioned below; *Study the principal,	20%



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			<p>*Interpret and comment on the results of the following laboratory techniques at least 5 times for each:</p> <ul style="list-style-type: none"> -Southern blotting. - Northern blotting. - Western blotting. - Gel shift assay. - DNA sequencing. - DNA foot printing. 	
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0.5 Credit Point Molecular Biology Practical Training

Date	Attendance	Topic	Signature

*** Level of competency**
 A- Independent performance
 B- Performance under supervision
 C- Observed



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Laboratory Skills in Molecular Biology laboratory

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

- * Level of participation
- A- Plan and carry out
- B- Carry out
- C- Carry out under supervision



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Course 6

Instrumentation and Equipments

Requirements

- **Credit points: 3 credit point for didactics**
- Minimal rate of attendance 80%



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3 Credit Points for Instrumentation and Equipments Lectures and Tutorials

name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Instrumentation and Equipments	3 CP	Clinical Pathology	30hours	100%
	0.9CP		(9 hours) <i>Optical Techniques: 1h for each;</i>	(30%)
	0.1		1-Nature of light.	3.33%
	0.1		2-Spectrophotometry.	3.33%
	0.1		3-Reflectance photometry.	3.33%
	0.1		4- Flame emission spectrophotometry	3.33%
	0.1		4- Flame emissio spectrophotometry.	3.33%
	0.1		6-Fluorometry.	3.33%
	0.1		7-Chemiluminescence, Bioluminescence and electro chemiluminescence.	3.33%
	0.1		8-Nephelometry and turbidimetry.	3.33%
	0.1		9- Microscopy.	3.33%
	0.3CP		(3 hours) Electrophoresis	10%
	0.3CP		(3 hours) Chromatography	10%
	0.5CP		(5 hours) Principles of Immunochemical Techniques: 1- Basic concept 2- Antibodies and Immunogen. 3-Antigen antibody binding forces. 4-Qualitative Methods: 5- Quantitative Methods: 6- Interference in Immunoassays. 7- Other immunochemical techniques	16.66%
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Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Instrumentation and Equipments	0.1CP	Clinical Pathology	(1 hours) Automation in the Clinical Laboratory: 1-Processes used in automation. 2-Laboratory information System 3-Robotics. 4-Qualitative Methods: 5- Quantitative Methods: 6- Interference in Immunoassays. 7- Other immunochemical techniques.	3.33%
	0.1CP		(1 hours) Automation in the Clinical Laboratory: 1-Processes used in automation. 2-Laboratory information System 3-Robotics. 4- Types of automation.	3.33%
	0.1CP		(1 hour) processes. 5- Individual steps in analytical	3.33%
	0.1CP		(1 hour) 6-Integrated automation for the clinical laboratory. 7- Practical considerations.	3.33%
	0.1CP		(1 hour) 8-Development of standard for automation	3.33%
	0.5CP		(5 hours) 9-Other areas of automation: - Urine analyzers. - Flow cytometer. - Hematology cell counter. - Coagulometer.	16.66%
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name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Instrumentation and Equipments		Clinical Pathology	9-Other areas of automation <i>continued</i>; Nucleic acid analyzers: - Microbiological analyzers - Microtiter plate systems. - Automated pipetting Stations. - POCT analyzers.	
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3.0 Credit Point Instrumentation and Equipments Lectures and Tutorials

Date	Attendance	Topic	Signature



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COURSE	Signature
COURSE 1	
COURSE2	
COURSE 3	
COURSE 4	
COURSE 5	
COURSE 6	
Coordinators program	
Director of program	

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Course 7 Clinical Pathology

It is divided into four modules; one of them will be chosen by the candidate and is considered as a main specialized module related to subspecialty and the remaining three modules will be considered subsidiary modules. The modules of this course are the following:

- 1- **Module 1 Clinical Microbiology (main unit or module)**
- 2- **Module 2 Clinical Chemistry (subsidiary unit or module)**
- 3- **Module 3 Hematology (subsidiary unit or module)**
- 4- **Module 4 Clinical Hematology (subsidiary unit or module)**

Units' Titles' list	% from total Marks	Level (Year)	Core Credit points		
			Didactic	training	Total
I-Subsidiary units (modules) - Clinical Chemistry, - Hematology, and - Clinical Microbiology	29.4	At any time*(1,2,3,4)	7.2	36	43.2
			2.4	12	14.4
			2.4	12	14.4
			2.4	12	14.4
II-Main unit (module) - Clinical Immunology	70.6	1,2,3,4	16.8	87	103.8
Total No. of Units(4 units)	100	4	24	123	147

*Teaching of these subsidiary units is according to time schedules and rotation of candidates within different units of department will be distributed all over the study years or at any time and the credit points distributed equally between these subsidiary units(3units) either didactics (2.4CP) or training(12CP) for each.



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Unit 1; Clinical Microbiology

(Main Unit)





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Requirements

- **Credit points:** 16.8 credit points for didactics (lectures, seminars, tutorial) and 87 points for training; total; 103.8CP.
- **Minimal rate of attendance 80% of training and didactic.**
- **Time schedule of teaching(didactics and training) is presented in table below.**

Units' Titles' list	% from total Marks	Level (Year)	Core Credit points		
			Didactic	training	Total
✚ Main unit (module) <i>Clinical Microbiology</i>	70.6	1,2,3,4	16.8	87	103.8
<ul style="list-style-type: none"> • General Microbiology. 	16.81	1	2.45	15	17.45
<ul style="list-style-type: none"> • General Microbiology & Medical Mycology 	27.89	2	4.95	24	28.95
<ul style="list-style-type: none"> • Medical Virology 	27.16	3	4.2	24	28.2
<ul style="list-style-type: none"> • Clinical Microbiology 	28.13	4	5.2	24	29.2



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Unit (Module)1

(Clinical Microbiology Main unit)

Rotation / attendance proof

الأماكن التي تدرّب بها

توقيع مدير المستشفى	توقيع رئيس القسم	أسم المستشفى التي تدرّب بها



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**2.45CP for clinical Microbiology (Main unit) Lectures and tutorials
Year 1**

Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Microbiology	2.45CP	Clinical Pathology	(2.5hours) (General microbiology:	100%
	0.25CP		(2.5hours) -Diagnostic techniques in microbiology.	10.2% of didactics unit in this year
	1.0CP		(10 hours) -Collection of samples Transportation of samples Processing of samples Rejection of samples.	40.82% of didactics unit in this year
	0.2CP		(2hours) Virulence and spread of microbes.	8.16% of didactics unit in this year
	0.5CP		(5 hours) - Methods & interpretations.	20.4% of didactics unit in this year
	0.5CP		(5 hours) -Antibiotic groups & drug resistant.	20.4% of didactics unit in this year
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**15 Credit points Clinical training in Clinical Microbiology
Year 1**

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training Clinical Microbiology	15CP	Clinical Pathology	<ul style="list-style-type: none"> ➤ Practice with investigated cases for at least 2 months in the clinical microbiology unit including performance and interpretation of different laboratory techniques ➤ Log of laboratory skills as mentioned below; 	100% of training unit in year 1
	0.5CP		- Attend in lab for at least one hour/day two time/week for 4 weeks to; Perform in clinical microbiology lab. for at least 8 times level A of - Sampling and Specimen: Collection of: Blood, Urine, Pus, Sputum, Stool and biological fluid. -Techniques -Precautions - Container	3.33% of training unit in year 1
	1CP		Attend in lab for at least 2 hours /day -once/week for 4 weeks to Prepare in clinical microbiology laboratory for at least 4 times level C,B& A preparation of the following types of media: -Nutrient -Blood -Chocolate -MacConkey -Manitol- salt -Eosin Methylene Blue	6.66% of training unit in year 1
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Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training Clinical Microbiology	0.5CP	Clinical Pathology	-Attend in lab for at least two hours/day -once /week for four weeks to Perform in clinical microbiology laboratory for at least 4 times level B& A of Staining procedures: -Gram stain & -Ziehl-Neelsen stain	3.33% of training unit in year 1
	1CP		-Attend in lab for at least two hours/day two times/wk for four weeks to Perform in clinical microbiology laboratory for at least 8 times of Transportation and Processing of Specimens and culture of Blood, Urine, Pus, Sputum, Stool and biological fluids Stool and Biological fluid	6.66% of training unit in year 1
	0.5CP		Attend in lab for at least two hours/day once/week for 4 weeks to Perform in clinical microbiology laboratory for at least 4 times level B& A of Culture of anaerobes - Techniques, -Precautions - Containers	3.33% of training unit in year 1
	0.5CP		-Attend in lab for at least two hour/day -twice/week for 4 weeks and Perform in clinical microbiology laboratory for at least 8 times level C&B of microbiological techniques in tuberculosis: - Direct smear microscopy -Z-N preparation -Culture on L-J -Interpretation -Drug susceptibility,	3.33% of training unit in year 1



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Clinical training	Credit points	Responsible department	Attendance	percentage of Achieved points
Clinical training Clinical Microbiology	0.5CP	Clinical Pathology	-Attend in lab for at least one hour /day for four weeks in clinical microbiology laboratory and Perform in clinical microbiology laboratory for at least 4 times level C&B with different microbiological analyzer (Microscan & Bactic blood culture).	3.33% of training unit in year 1
	0.5CP		- Attend in lab for at least two hour /week for four week to Perform in clinical microbiology laboratory at least 4 times level C,B&A of Antibiogram test	3.33% of training unit in year 1
	0.5CP		-Attend in lab for at least two hour /week for four week To Perform in clinical microbiology laboratory at least 4 times level C,B&A of complete urine and stool analysis	3.33% of training unit in year 1
	0.5CP		-Attend in lab for at least two hours /day for two weeks including interpretation of lab results at least 60 -80 results	3.33% of training unit in year 1
	0.5CP		-Perform quality control and laboratory safety for at least 2 hours /week/ for 15 week	3.33% of training unit in year 1
	2CP		➤ Attendance of at least 3 -4 hours/days for four weeks in clinical chemistry laboratory	13.33% of training unit in year 1
	2CP		➤ Attendance of at least 3 -4 hours/days for four weeks in Hematology laboratory	13.33% of training unit in year 1
	2CP		➤ Attendance of at least 3 -4 hours/days for four weeks in	13.33%



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			Immunology laboratory	
	2CP		➤ Attendance of at least 3 -4 hours/days for four weeks in Blood Bank	13.33% of training unit in year 1
	0.5CP		➤ Formative assessment	3.33% of training unit in year 1
Student signature			Principle coordinator Signature	Head of the department signature

Level of competency

- A- Independent performance
- B- Performance under supervision
- C- Observed



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Management plan of the following Microbiological Procedures log Year 1

Procedure	Number
Sampling and specimen collection of: Blood, Urine, Pus, Sputum, Stool and biological fluid –Techniques -Precautions - Container	8
Preparation of the following types of media: Neutrient, Blood,- Chocolate, MacConkey, Manittol- salt-Eosin Methylene Blue	4
Staining procedures:- Gram stain and Ziehl-Neelsen stain	4
Transportation and Processing of Specimens and culture of blood, urine, pus, sputum, stool and biological fluids stool and biological fluid.	8
Culture of anaerobes -Techniques, Precautions and Containers	4
microbiological techniques in tuberculosis: - Direct smear microscopy, Z-N preparation, Culture on L-J, Identification of strains Interpretation and Drug susceptibility	8
Microbiological analyzer Microscan and Bactic blood culture	4
Antibiogram test	4
complete urine and stool analysis	4
Interpretation of lab results at leas	60-80



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**4.95 Credit points in Clinical Microbiology Lectures and tutorials
Year 2**

Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Microbiology	2.75CP	Clinical Pathology	(General microbiology:	
	0.25CP		(2.5hours) -Normal bacterial flora.	5.05% of didactics unit in year 2
	0.25CP		(2.5hours) -Sterilization.	5.05% of didactics unit in year 2
	0.25CP		(10 hours) - Preservation of cultures	5.05% of didactics unit in year 2
	0.25CP		(2.5hours) -Gram positive cocci and bacilli	5.05% of didactics unit in year 2
	0.5CP		(5 hours) -Gram negative cocci, bacilli and coccobacilli	10.10% of didactics unit in year 2
	0.25CP		(2.5hours) --Anaerobic bacteria	5.05% of didactics unit in year 2
	0.5CP		(5 hours) Mycobacteria	10.10% of didactics unit in year 2
	0.25CP		(2.5hours) Fastidious organisms	5.05% of didactics unit in year 2
	0.25CP		(2.5hours) Spirochaetes	5.05% of didactics unit in year 2
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Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Microbiology	2.2CP	Clinical Pathology	(22hours) (Medical Mycology)	
	0.2CP		(2hours) -Basic mycology	4.04% of didactics unit in year 2
	0.5CP		(5hours) -Superficial and cutaneous Mycosis	10.10% of didactics unit in year 2
	0.5CP		(5 hours) -Subcutaneous mycosis	10.10% of didactics unit in year 2
	0.5CP		(5hours) -Systemic mycosis	10.10% of didactics unit in year 2
	0.5CP		(5 hours) -Opportunistic mycosis	10.10% of didactics unit in year 2
	Student signature		Principle coordinator signature	Head of the department signature



**Clinical Pathology
Department
Faculty of Medicine**

24 Credit points Clinical training in Clinical Microbiology

Year 2

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical Microbiology	24CP	Clinical Pathology	<ul style="list-style-type: none"> ➤ Practice with for at least 6 months in the clinical microbiology unit including ; performance and interpretation of different laboratory techniques ➤ Log of laboratory skills as mentioned below; 	100% of unit Clinical training in year 2
	1CP		-Attend and practice in lab for at least 3 hours /day -twice /week for 8 weeks to; -Perform in clinical microbiology laboratory at least 16 times level A of preparation of the following types of media: -Nutrient -Blood -Chocolate -MacConkey -Manitol- salt -Eosin Methylene Blue	4.17% of unit Clinical training in year 2
	1CP		-Attend and practice in lab for at least Two hours/day twice /week for eight weeks to; Perform in clinical microbiology laboratory at least 16 times level A of Staining procedures: -Gram stain -Ziehl-Neelsen stain	4.17% of unit Clinical training in year 2
Student signature			Principle coordinator signature	Head of the department signature



**Clinical Pathology
Department
Faculty of Medicine**

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical Microbiology	2CP	Clinical Pathology	Attend and practice in lab for at least two hours/ day twice/week for 8 weeks to Perform in clinical microbiology laboratory at least 16 times level A of Transportation and Processing of Specimens and culture of Blood, Urine, Pus, Sputum, Stool and biological fluids Stool and Biological fluid	8.33% of Clinical training unit in year 2
	1CP		Attend and practice in lab for at least two hours/day once/week for 8 weeks to Perform in clinical microbiology laboratory at least 8 times level A ,Culture of anaerobes -Techniques -Precautions - Containers	4.17% of unit Clinical training in year 2
	2CP		Attend and practice in lab for at least two hour/day twice/week for 8 weeks to; -Perform in clinical microbiology laboratory at least 16 times level A microbiological techniques in tuberculosis: - Direct smear microscopy -Z-N preparation Culture on L-J -Identification of strains -Interpretation -Drug susceptibility	8.33% of unit Clinical training in year 2
Student signature			Principle coordinator Signature	Head of the department signature
Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points



**Clinical Pathology
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Faculty of Medicine**

Clinical training in Clinical Microbiology		Clinical Pathology		
	1CP		Attend and practice in lab for at least two hour /day- once/week for 8 weeks to -Perform in clinical microbiology laboratory at least 8 times level A with different microbiological analyzer (Microscan and Bactic blood culture)	4.17% of unit Clinical training in year 2
	1CP		Attend and practice in lab for at least two hour/day –twice /week for 8 weeks to; - Perform in clinical microbiology laboratory at least 16 times level A of Antibiogram test	4.17% of unit Clinical training in year 2
	1CP		-Attend and practice in lab for at least two hour / day twice /week for 8 weeks to Perform in clinical microbiology laboratory at least 16 times level C,B&A of complete urine and stool analysis .	4.17% of unit Clinical training in year 2
	2CP		Attend and practice in lab for at least two hours/day twice/weeks /day for 8 weeks –including interpretation of lab results at least 200 -250 results	8.33% of unit Clinical training in year 2
	1CP		Attend and practice in lab for at least two hour / day once week for 4 weeks to Perform in clinical microbiology laboratory at least 4 times level C,B&A; molecular techniques	4.17% of unit Clinical training in year 2
Student signature			Principle coordinator Signature	Head of the department signature



**Clinical Pathology
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Faculty of Medicine**

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical Microbiology		Clinical Pathology		
	1CP		Apply quality control and laboratory safety 2 hours /week/ for 15 week	4.17% of unit Clinical training in year 2
	3CP		- Attend and practice of at least 3-4 hours/days for 4 weeks in emergency laboratory	12.5% of unit Clinical training in year 2
	5CP		Attend night shift (From 2 pm to 8 am) at least 30 night shift, once/week for 30weeks	20.83% of unit Clinical training in year 2
	1CP		Attend Clinical teaching for at least 2 hours /week/ for 16 week	4.17% of unit Clinical training in year 2
	1CP		Formative assessment	4.17% of unit Clinical training in year 2
Student signature			Principle coordinator Signature	Head of the department signature

Level of competency

- A- Independent performance
- B- Performance under supervision
- C- Observed



**Clinical Pathology
Department
Faculty of Medicine**

Management plan of the following Microbiological Procedures log Year 2

Procedure	Number
Preparation of the following types of media: Neutrient, Blood,- Chocolate, MacConkey, Manittol- salt-Eosin Methylene Blue	16
Staining procedures:- Gram stain and Ziehl-Neelsen stain	16
Transportation and Processing of Specimens and culture of blood, urine, pus, sputum, stool and biological fluids stool and biological fluid.	16
Culture of anaerobes -Techniques, Precautions and Containers	8
microbiological techniques in tuberculosis: - Direct smear microscopy, Z-N preparation, Culture on L-J, Identification of strains Interpretation and Drug susceptibility	16
Microbiological analyzer Microscan and Bactic blood culture	8
Antibiogram test	16
complete urine and stool analysis	16
Interpretation of lab results at leas	200- 250
molecular techniques	4



**Clinical Pathology
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Faculty of Medicine**

4.2 Credit point in Clinical Microbiology Lectures and tutorials Year 3

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Microbiology	2.7CP	Clinical Pathology	Medical virology	64.8% didactics unit in year3
	0.2CP		(2.0 hours) -General properties of viruses.	4.76% of didactics unit 1 in year3
	0.25CP		(2.5hours) -DNA viruses	5.95% of didactics unit1 in year3
	0.25CP		(2.5hours) -RNA viruses.	5.95% of didactics unit 1 in year3
	0.25CP		(2.5hours) -Respiratory viruses	5.95% of didactics unit 1 in year3
	0.25CP		(2.5hours) -CNS viruses	5.95% of didactics unit 1 in year3
	0.5CP		(5 hours) -GIT viruses	11.0% of didactics unit 1 in year3
	0.5CP		(5 hours) Hepatitis viruses	11.0% of didactics unit 1 in year3
	0.25CP		(2.5hours) -Cardiac viruses	5.95% of didactics unit 1 in year3
	0.25CP		(2.5hours) -Ocular viruses	5.95% of didactics unit 1 in year3
	Student signature		Principle coordinator signature	Head of the department signature



**Clinical Pathology
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Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Microbiology	1.5CP	Clinical Pathology	Medical virology	31.2% didactics unit in year3
	0.25CP		(2.5 hours) -Arboviruses and viral haemorrhagic fevers	5.95% of didactics unit 1 in year3
	0.5CP		(5hours) - Tumour viruses	5.95% of didactics unit 1 in year3
	0.25CP		(2.5hours) - Immunodeficiency viruses	5.95% of didactics unit 1 in year3
	0.25CP		(2.5hours) - Slow viruses	5.05% of didactics unit 1 in year3
	0.25CP		(2.5hours) Formative assessment	5.05% of didactics unit 1 in year3
	Student signature		Principle coordinator signature	Head of the department signature



**Clinical Pathology
Department
Faculty of Medicine**

24 Credit points Clinical training in Clinical Microbiology

Year 3

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical Microbiology	24CP	Clinical Pathology	<ul style="list-style-type: none"> ➤ Practice with for at least 6 months in the clinical microbiology unit including performance and interpretation of different laboratory techniques ➤ Log of laboratory skills as mentioned below 	100% of unit training in year 3
	1CP		-Attend in lab for at least 3 hours /day twice/week for 8 weeks to Prepare in clinical microbiology laboratory at least 16 times level A in preparation of the following types of media: -Nutrient -Blood -Chocolate -MacConkey -Manitol- salt -Eosin Methylene Blue	4.17% of unit training in year 3
	1CP		-Attend in lab for at least two hours/day-twice /week for eight weeks to Perform in clinical microbiology laboratory at least 16 times level A of Staining procedures: -Gram stain -Ziehl-Neelsen stain	4.17% of unit training in year 3
Student signature			Principle coordinator signature	Head of the department signature



**Clinical Pathology
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Faculty of Medicine**

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical Microbiology	2CP	Clinical Pathology	-Attend in lab for at least two hours/ day -twice/week for 8 weeks to Perform in clinical microbiology laboratory at least 16 times level A in Transportation and Processing of Specimens and culture of Blood, Urine, Pus, Sputum, Stool and biological fluids Stool and Biological fluid.	8.33% of unit training in year 3
	1CP		-Attend in lab for at least two hours/day- once /week for 8 weeks to Perform in clinical microbiology laboratory at least 8 times level A of Culture of anaerobes including; - Technique , precautions and Containers.	4.17% of unit training in year 3
	2CP		-Attend in lab for at least 2 hours/day twice/week for 8 weeks to Perform in clinical microbiology laboratory at least 16 times level A of microbiological techniques in tuberculosis: - Direct smear microscopy -Z-N preparation -Culture on L-J -Identification of strains. -Interpretation -Drug susceptibility	8.33 of unit training in year 3
Student signature			Principle coordinator Signature	Head of the department signature



**Clinical Pathology
Department
Faculty of Medicine**

Clinical training	Credit points	Responsible department	Attendance & Activities	Percentage of Achieved points
Clinical training in Clinical Microbiology	1CP	Clinical Pathology	-Attend in lab for at least 2 hour /day once/week for 8 weeks to Perform in clinical microbiology laboratory at least 8 times level A with different microbiological analyzer (Microscan and Bactic blood culture).	4.17% of unit training in year 3
	1CP		-Attend in lab for at least two hours/day -twice/week for 8 weeks and perform in clinical microbiology laboratory at least 16 times level A of Antibigram test	4.17% of unit training in year 3
	1CP		-Attend in lab for at least two hour / day -twice /week for 8 weeks and perform in clinical microbiology laboratory at least 16 times level C,B&A of complete urine and stool analysis	4.17% of unit training in year 3
	2CP		-Attend in lab for at least two hours/day -twice/weeks /day for 8 weeks including interpretation of lab results at least 200 -250 results	8.33% of unit training in year 3
	1CP		-Attend in lab for at least two hour / day once /week for 4 week to Perform in clinical microbiology laboratory at least 4 times level A of complete molecular techniques.	4.17% of unit training in year 3
Student signature			Principle coordinator Signature	Head of the department signature



**Clinical Pathology
Department
Faculty of Medicine**

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical Microbiology	1CP	Clinical Pathology	Apply quality control and laboratory safety at least 2 hours /week/ for 15 week	4.17% of unit training in year 3
	3CP		- Attendance of at least three to four hours/days for four weeks in Blood Bank laboratory	12.5% of unit training in year 3
	5CP		Attend night shift (From 2 pm to 8 am) at least 30 night shift, once/week for 30weeks	20.83% of unit training in year 3
	1CP		Attend Clinical teaching for at least 2 hours /week/ for 16 weeks	4.17% of unit training in year 3
	1CP		Formative assessment	4.17% of unit training in year 3
Student signature			Principle coordinator Signature	Head of the department signature

***Level of competency**

- A- Independent performance.
- B- Performance under supervision.
- C- Observed.



**Clinical Pathology
Department
Faculty of Medicine**

**Management plan of the following Microbiological Procedures log
Year 4**

Procedure	Number
Preparation of the following types of media: Neutrient, Blood,- Chocolate, MacConkey, Manittol- salt-Eosin Methylene Blue	16
Staining procedures:- Gram stain and Ziehl-Neelsen stain	16
Transportation and Processing of Specimens and culture of blood, urine, pus, sputum, stool and biological fluids stool and biological fluid.	16
Culture of anaerobes -Techniques, Precautions and Containers	8
microbiological techniques in tuberculosis: - Direct smear microscopy, Z-N preparation, Culture on L-J, Identification of strains Interpretation and Drug susceptibility	16
Microbiological analyzer Microscan and Bactic blood culture	8
Antibiogram test	16
complete urine and stool analysis	16
Interpretation of lab results at leas	200- 250
molecular techniques	4



**Clinical Pathology
Department
Faculty of Medicine**

5.2 Credit points for Clinical Microbiology Lectures and tutorials Year 4

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Microbiology	5.2CP	Clinical Pathology	Clinical microbiology	100% of didactics unit in year4
	0.5CP		(5.0 hours) -Pyrexia of unknown origin	9.62% of didactics unit in year 4
	0.25CP		(2.5hours) -Septicemia and bacteremia	4.1% of didactics unit in year 4
	0.25CP		(2.5hours) -Opportunistic infections	4.1% of didactics unit in year 4
	0.25CP		(2.5hours) -Obstetric, perinatal and neonatal infections	4.1% of didactics unit in year 4
	0.25CP		(2.5hours) -Children infections	4.1% of didactics unit in year 4
	0.25CP		(2.5 hours) -CNS infections	4.1% of didactics unit in year 4
	0.5CP		(5 hours) -Upper and lower resp. tract infections ,Ear and eye infections.	9.62% of didactics unit in year 4
	0.25CP		(2.5hours) -GIT infections	4.1% of didactics unit in year 4
Student signature			Principle coordinator signature	Head of the department signature



**Clinical Pathology
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Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Microbiology		Clinical Pathology	Clinical microbiology <i>continued</i>	
	0.25CP		(2.5hours) -Hepatic infections	4.1% of didactics unit in year 4
	0.25CP		(2.5hours) - Heart infections	4.1% of didactics unit in year 4
	0.25CP		(2.5hours) - Urinary tract infections	4.1% of didactics unit in year 4
	0.2CP		(2.0 hours) - Genital tract infections	3.85% of didactics unit in year 4
	0.25CP		(2.5hours) - Sexually transmitted dis.	4.1% of didactics unit in year 4
	0.25CP		(2.5hours) - Bone and joint infections	4.1% of didactics unit in year 4
	0.2CP		(2.0 hours) - Skin infections	3.85% of didactics unit in year 4
	0.2CP		(2.0 hours) - Zoonosis	3.85% of didactics unit in year 4
	0.45CP		(2.0 hours) - Nosocomial infection and infection control	8.65% of didactics unit in year 4
	0.2CP		(2.0hours) - Bioterrorism	3.85% of didactics unit in year 4
	0.2CP		Formative assessment	3.85%
Student signature			Principle coordinator signature	Head of the department signature



**Clinical Pathology
Department
Faculty of Medicine**

24 Credit points Clinical training in Clinical Microbiology

Year 4

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical Microbiology	24CP	Clinical Pathology	Attend in lab and Practice with investigated cases for at least 6 months in the clinical microbiology unit including <ul style="list-style-type: none"> ➤ performance and interpretation of different laboratory techniques ➤ Log of laboratory skills as mentioned below 	100% of unit training in year4
	1CP		Attend in lab for at least 3 hours /day twice/week for 8 weeks.to ; Prepare in clinical microbiology laboratory at least 16 times level A in preparation of the following types of media: -Neutrient -Blood -Chocolate -MacConkey -Manittol- salt -Eosin Methylene Blue	4.17% of unit training in year4
	1CP		Attend in lab for at least two hours/day- twice/week for eight weeks to; Perform in clinical microbiology laboratory at least 16 times level A of Staining procedures: -Gram stain -Ziehl-Neelsen stain	4.17% of unit training in year4
Student signature			Principle coordinator signature	Head of the department signature



**Clinical Pathology
Department
Faculty of Medicine**

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical Microbiology	2CP	Clinical Pathology	Attend in lab for at least two hours/ day- twice /week for 8 weeks to; Perform in clinical microbiology laboratory at least 16 times level A in Transportation and Processing of Specimens and culture of Blood, Urine, Pus, Sputum, Stool and biological fluids Stool and Biological fluid	8.33% of unit training in year 4
	1CP		Attend in lab for at least two hours/day once /week for 8 weeks to Perform in clinical microbiology laboratory at least 8 times level A in Culture of anaerobes -Techniques -Precautions - Containers	4.17% of unit training in year 4
	2CP		Attend in lab for at least two hour/day- twice/week for 8 weeks to Perform in clinical microbiology laboratory at least 16 times level A of microbiological techniques in tuberculosis: - Direct smear microscopy -Z-N preparation- Culture on L-J -Identification of strains -Interpretation -Drug susceptibility	8.33% of unit training in year 4
Student signature			Principle coordinator Signature	Head of the department signature



**Clinical Pathology
Department
Faculty of Medicine**

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical Microbiology	1CP	Clinical Pathology	-Attend and practice in clinical microbiology laboratory two hour /day once /week for 8 weeks to Perform at least8 times level A with different microbiological analyzer (Microscan and Bactic blood culture)	4.17% of unit training in year 4
	1CP		-Attend and perform in clinical microbiology laboratory for at least two hour/day twice /week for 8 weeks for at least 16 times level A of Antibiogram test	4.17% of unit training in year 4
	1CP		Attend in lab for at least two hours / day -twice /week for 8 weeks to Perform in clinical microbiology laboratory at least 16 times level C,B&A of complete urine and stool analysis	4.17% of unit training in year 4
	2CP		-Attend and practice in clinical microbiology laboratory for at least two hours/day twice/week for 8 weeks including interpretation of lab results at least 200 -250 times.	8.33% of unit training in year 4
Student signature			Principle coordinator Signature	Head of the department signature



**Clinical Pathology
Department
Faculty of Medicine**

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical Microbiology	1CP	Clinical Pathology	-Attend in lab for at least two hours / day once /week for 4 weeks to Perform in clinical microbiology laboratory for at least 4 times level A of complete molecular techniques.	4.17% of unit training in year 4
	1CP		Apply quality control and laboratory safety for at least 2 hours /week/ for 10 weeks	4.17% of unit training in year 4
	3CP		- Attendance of at least three to four hours/days for four weeks in outpatient clinic laboratory	12.5% of unit training in year 4
	5CP		➤ Attend Night shift (From 2 pm to 8 am) for at least 30 night ;one shift time/week for 30 weeks	20.83% of unit training in year 4
	1CP		Attend Clinical teaching for at least 2 hours /week/ for 16 weeks	4.17% of unit training in year 4
	1CP		Formative assessment	4.17% of unit training in year 4
Student signature			Principle coordinator Signature	Head of the department signature

Level of competency

- A- Independent performance
- B- Performance under supervision
- C- Observed



**Clinical Pathology
Department
Faculty of Medicine**

**Management plan of the following Microbiological Procedures log
Year 4**

Procedure	Number
Preparation of the following types of media: Neutrient, Blood,- Chocolate, MacConkey, Manittol- salt-Eosin Methylene Blue	16
Staining procedures:- Gram stain and Ziehl-Neelsen stain	16
Transportation and Processing of Specimens and culture of blood, urine, pus, sputum, stool and biological fluids stool and biological fluid.	16
Culture of anaerobes -Techniques, Precautions and Containers	8
microbiological techniques in tuberculosis: - Direct smear microscopy, Z-N preparation, Culture on L-J, Identification of strains Interpretation and Drug susceptibility	16
Microbiological analyzer Microscan and Bactic blood culture	8
Antibiogram test	16
complete urine and stool analysis	16
Interpretation of lab results at leas	200- 250
molecular techniques	4



**Clinical Pathology
Department
Faculty of Medicine**

Clinical Microbiology cases log (Year 4)

Log of:

Case	Number
-Pyrexia of unknown origin	2 cases
-Urinary tract infections	2 cases
-GIT infections	2 cases
-CNS infections	2 cases
-Upper and lower resp. tract infections	2 cases
-Septicemia and bacteremia	2 cases
-Obstetric, perinatal and neonatal infections	2 cases
-Genital tract infections	2 cases
-Sexually transmitted diseases-	2 cases
-Skin infections	2 cases
-Nosocomial infection	2 cases
-Ear and eye infections	2 cases

* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision



**Clinical Pathology
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Clinical Rotation in clinical Microbiology Laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



**Clinical Pathology
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Faculty of Medicine**

Clinical Rotation in clinical Microbiology Laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



Clinical Pathology
Department
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Clinical Rotation in clinical Microbiology Laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



**Clinical Pathology
Department
Faculty of Medicine**

Clinical Rotation in clinical Microbiology Laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



**Clinical Pathology
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Clinical Rotation Tuberculosis laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



Clinical Pathology
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Clinical Rotation Tuberculosis laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



**Clinical Pathology
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Clinical Rotation Tuberculosis laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



**Clinical Pathology
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Clinical Rotation in Blood Bank Laboratory

Date/ Duration from -to	Signature of supervisor	Date/ Duration from -to	Signature of supervisor



**Clinical Pathology
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Clinical Rotation in Hematology Laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



**Clinical Pathology
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Clinical Rotation in Clinical Chemistry Laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



**Clinical Pathology
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Clinical Rotation in Clinical Emergency Laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



Clinical Pathology
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Clinical Rotation in Clinical Immunology Laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



**Clinical Pathology
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Clinical Rotation Outpatient Clinic laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



**Clinical Pathology
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Laboratory skills in Microbiology Laboratory

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision



**Clinical Pathology
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Faculty of Medicine**

Laboratory skills in Tuberculosis Laboratory

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

- * Level of participation
- A- Plan and carry out
- B- Carry out
- C- Carry out under supervision



**Clinical Pathology
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Faculty of Medicine**

Laboratory skills in molecular biology laboratory

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision



Clinical Pathology
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Laboratory skills in Quality control and laboratory Safety

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision



**Clinical Pathology
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Faculty of Medicine**

Laboratory skills in Clinical Hematology

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision



Clinical Pathology
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Faculty of Medicine

Laboratory skills in Clinical Blood Bank

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision



**Clinical Pathology
Department
Faculty of Medicine**

Laboratory skills in Clinical Chemistry

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision



**Clinical Pathology
Department
Faculty of Medicine**

Laboratory skills in Clinical Immunology

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
 A- Plan and carry out
 B- Carry out
 C- Carry out under supervision



**Clinical Pathology
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Faculty of Medicine**

Night Shift

Date	Signature of supervisor	Date	Signature of supervisor



**Clinical Pathology
Department
Faculty of Medicine**

Night Shift

Date	Signature of supervisor		Date	Signature of supervisor



**Clinical Pathology
Department
Faculty of Medicine**

Night Shift

Date	Signature of supervisor	Date	Signature of supervisor



**Clinical Pathology
Department
Faculty of Medicine**

Night Shift

Date	Signature of supervisor	Date	Signature of supervisor



**Clinical Pathology
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Clinical Seminars log

Date	Attendance	Topic	Signature



**Clinical Pathology
Department
Faculty of Medicine**

Clinical Seminars log

Date	Attendance	Topic	Signature



**Clinical Pathology
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Clinical Seminars log

Date	Attendance	Topic	Signature



**Clinical Pathology
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Post graduate teaching

Date	Title of lecture	Signature of Staff member



**Clinical Pathology
Department
Faculty of Medicine**

Post graduate teaching

Date	Title of lecture	Signature of Staff member



**Clinical Pathology
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Post graduate teaching

Date	Title of lecture	Signature of Staff member



**Clinical Pathology
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Post graduate teaching

Date	Title of lecture	Signature of Staff member



**Clinical Pathology
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Clinical Case log

Date	Attendance	Topic	Signature



**Clinical Pathology
Department
Faculty of Medicine**

Postgraduate student's program Rotation in training assessment

* **Name:**

* **Period of training From:**

To:

* **Site:**

*Rotation

General skills	could not judge (0)	strongly disagree(1)	(2) (3)	(4) (5)	(6)	strongly agree (7)
Demonstrate the competency of continuous evaluation of different types of care provision to patients in the different area of his field.						
Appraise scientific evidence.						
Continuously improve patient care based on constant self-evaluation and <u>life long learning</u> .						
Participate in clinical audit and research projects.						



**Clinical Pathology
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General skills	could not judge (0)	strongly disagree(1)	(2) (3)		(4) (5)		(6)	strongly agree (7)
Practice skills of evidence-based Medicine (EBM).								
Educate and evaluate students, residents and other health professionals.								
Design logbooks.								
Design clinical guidelines and standard protocols of management.								
Appraise evidence from scientific studies related to the patients' health problems.								
Apply knowledge of study designs and statistical methods to the appraisal of clinical studies.								
Use information technology to manage information, access on-line medical information; for the important topics.								
Master interpersonal and communication skills that result in the effective <u>exchange of information and collaboration</u> with patients, their families, and health professionals, including:- <ul style="list-style-type: none"> • <u>Present</u> a case. • <u>Write</u> a consultation note. • <u>Inform patients</u> of a diagnosis and therapeutic plan Completing and maintaining comprehensive. • Timely and legible <u>medical records</u>. • Teamwork skills. 								



**Clinical Pathology
Department
Faculty of Medicine**

General skills	could not judge (0)	strongly disagree(1)	↔		↔		(6)	strongly agree (7)
			(2)	(3)	(4)	(5)		
Create and sustain a therapeutic and ethically sound relationship with patients.								
Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.								
Work effectively with others as a member or leader of a health care team or other professional group.								
Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.								
Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.								
Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.								
Work effectively in health care delivery settings and systems related to specialty including good administrative and time management.								
Practice cost-effective healthcare and resource allocation that does not compromise quality of care.								



**Clinical Pathology
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Faculty of Medicine**

General skills	could not judge (0)	strongly disagree(1)	↔		↔		(6)	strongly agree (7)
			(2)	(3)	(4)	(5)		
Advocate for quality patient care and assist patients in dealing with system complexities.								
Design, monitor and evaluate specification of under and post graduate courses and programs.								
Act as a chair man for scientific meetings including time management								



Clinical Pathology
Department
Faculty of Medicine

Unit 2; Clinical Chemistry (subsidiary unit)



Requirements

- **Credit points:** 2.4 credit point for didactic (lectures, seminars, tutorial) and 12 point for training; total:14.4CP.
- Minimal rate of attendance 80% of training and didactics.



Clinical Pathology
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Faculty of Medicine

(Clinical chemistry subsidiary unit)

Rotation / attendance proof

الأماكن التي تدرّب بها

توقيع مدير المستشفى	توقيع رئيس القسم	أسم المستشفى التي تدرّب بها



**Clinical Pathology
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**2.4 CP for Clinical Chemistry(Subsidiary unit) Lectures and tutorials
could be achieved at any time Year (1,2,3&4)**

Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical chemistry	2.4CP		24hours	100%
Clinical chemistry	0.2CP	Clinical Pathology	(2hours) 1- Carbohydrates	8.3% of didactics unit
	0.2CP		(2hours) 2- Lipids, Lipoproteins, Apolipoproteins, and Other Cardiovascular Risk Factors: Management of Lipoprotein Disorders	8.3% of didactics unit
	0.2CP		(2hours) 3-Amino Acids, Peptides And Proteins	8.3 of didactics unit %
	0.2CP		(2hours) 4-The Kidney And Non-Protein Nitrogenous Compounds	8.3% of didactics unit
	0.2CP		(2hours) 5- Physiology and Disorders of Water, Electrolyte, and Acid-Base Metabolism	8.3% of didactics unit
	0.2CP		(2hours) 6- Enzymes	8.3% of didactics unit
	0.2CP		(2hours) 7- Liver Disease	8.3% of didactics unit
	0.2CP		(2hours) 8-Cardiac Biomarkers	8.3% of didactics unit
	Student signature		Principle coordinator signature	Head of the department signature



**Clinical Pathology
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Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical chemistry	0.2CP		(2hours) 9-Mineral and Bone Metabolism	8.3% of didactics unit
	0.2CP		(2hours) 10- Endocrinology	8.3% of didactics unit
	0.2CP		(2hours) 11-Body fluid analysis	8.3% of didactics unit
	0.2CP		(2hours) 12-Tumor Markers	8.3% of didactics unit
	Student signature		Principle coordinator signature	Head of the department signature



**Clinical Pathology
Department
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12 Credit points for Clinical training in Clinical Chemistry (subsidiary unit)could be achieved at any time; Year 1 or 2or 3or4

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Clinical Chemistry	12CP	Clinical Pathology	➤ Practice with investigated cases for at least 2 months in the clinical chemistry unit including performance and interpretation of different laboratory techniques including fulfilling Log of laboratory skills as mentioned below;	100% of didactics unit
	0.5CP		- Attend in unit for at least 1hour / day for 2 weeks and Perform in Clinical Chemistry lab for at least 10 times level A of Basic Laboratory Techniques: 1- Specimen collection 2- Pipettes 3- Centrifuges 4- Balances 5- pH meter 6- Spectrophotometry	4.16% of unit training
	1CP		-Attend in lab for at least 2 hours / day -once /week for 4 weeks to Practice and Perform in clinical chemistry and emergency laboratory for at least 4 times level B& A of the following technique: chemical analysis of the following tests :glucose, Urea, Creatinine , Creatinine clearance, microalbumin, Uric acid, Bilirubin (total and direct),Total proteins, Albumin , ALT, AST, ALP, GGT ,Cardiac markers, CK, and CK-MB , LDH, Troponin, Cholesterol, HDL-c, LDL-c, Triglycerides, Na, K, Ca& Ph	8.44% of unit training
Student signature			Principle coordinator signature	Head of the department signature



**Clinical Pathology
Department
Faculty of Medicine**

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical chemistry (continued)	0.5CP		-Attend in lab for at least 1hour / day -once /week for 4 weeks to Practice and Perform in clinical chemistry units at least 4 times level C,B& A of the following techniques: Glycated Hb(Hb A1c) & Microalbumin	4.16% of unit training
	0.5CP		-Attend in lab for at least 2h / day -twice /weekly for 4 weeks to Practice and Perform in clinical chemistry units at least 8 times level C,B in different automated chemistry analyzer	4.16% of unit training
	0.5CP		-Attend in lab for at least 1h / day -twice /weekly for 4 weeks to Practice and Perform complete urine analysis for at least 8 times level C,B& A	4.16% of unit training
	0.5CP		-Attend in lab for at least 1h / day -once /weekly for 4 weeks to Practice and Perform in clinical chemistry laboratory, for analysis of biological fluids : Ascetic fluid, Pleural, CSF, Synovial fluids and Unknown body fluids for at least 4 times level C,B& A.	4.16% of unit training
Student signature			Principle coordinator Signature	Head of the department signature



**Clinical Pathology
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Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical chemistry (continued)	1CP		-Attend in lab for at least 2 hours / day -twice /weekly for 4 weeks to Practice and Perform in hormonal assay and tumor markers laboratories hormones and the following tumor markers ;(CEA , Free PSA, α -fetoprotein, CA125, CA19.9, CA15.3 and Free β subunit)for at least 4 times level C&B .	8.44% of unit training
	2CP		Attend in lab for at least 2h/day for 2 wks including interpretation of lab results at least 60 -80 results	16.66% of unit training
	0.5CP		Attend in lab for at least once/wk for 2 wks to Practice and Perform in electrophoresis laboratory electrophoresis 2 times level B &C.	4.16% of unit training
	0.5CP		Practice in lab for at least 1-2hour/day - once/week for 8 weeks and Apply quality control and laboratory safety for at least 4 times	4.16% of unit training
	4CP		Attendance of at least 4h/day for 4weeks in the Outpatient clinic.	33.33% of unit training
	0.5CP		Formative assessment	3.33%
Student signature			Principle coordinator Signature	Head of the department signature

*** Level of competency**

- A- Independent performance
- B- Performance under supervision
- C- Observed



**Clinical Pathology
Department
Faculty of Medicine**

Management plan of the following Clinical chemistry Procedures log

Procedure	Number
Basic Laboratory Techniques:- Specimen collection , Pipettes Centrifuges , Balances, pH meter, Spectrophotometry.	10
chemical analysis of : glucose, Urea, Creatinine , Creatinine clearance, microalbumin, Uric acid, Bilirubin (total and direct),Total proteins,Albumin , ALT, AST, ALP, GGT.,Cardiac markers, CK, and CK-MB , LDH, Troponin, Cholesterol, HDL-c, LDL-c, Triglycerides, Na, K, Ca& Ph.	4
Glycated Hb(Hb A _{1c}) and Microalbumin	4
Automation in clinical chemistry	8
Urine analysis	8
Analysis of biological fluids : Ascetic fluid, Pleural, CSF, Synovial fluids and Unknown body fluids	4
Tumor markers : CEA , FreePSA, α -fetoprotein, CA125, CA19.9, CA15.3 and Free β subunit	4
Interpretation of lab results	60-80
Electrophoresis	2



**Clinical Pathology
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Clinical Rotation (Clinical chemistry laboratory)

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



Clinical Pathology
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Clinical Rotation hormonal assay and tumour marker lab.

Date/ Duration from -to	Signature of supervisor	Date/ Duration from -to	Signature of supervisor



**Clinical Pathology
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Faculty of Medicine**

Clinical Rotation electrophoresis laboratory.

Date/ Duration from -to	Signature of supervisor	Date/ Duration from -to	Signature of supervisor



**Clinical Pathology
Department
Faculty of Medicine**

Clinical Rotation Emergency Laboratory

Date/ Duration from -to	Signature of supervisor	Date/ Duration from -to	Signature of supervisor



**Clinical Pathology
Department
Faculty of Medicine**

Quality control and laboratory safety

Date/ Duration from -to	Signature of supervisor	Date/ Duration from -to	Signature of supervisor



Clinical Pathology
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Outpatient clinic

Date/ Duration from -to	Signature of supervisor	Date/ Duration from -to	Signature of supervisor



**Clinical Pathology
Department
Faculty of Medicine**

Outpatient clinic

Date/ Duration from -to	Signature of supervisor	Date/ Duration from -to	Signature of supervisor



**Clinical Pathology
Department
Faculty of Medicine**

Laboratory skills in clinical chemistry

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision



Clinical Pathology
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Laboratory skills in body fluid and urine analysis

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
 A- Plan and carry out
 B- Carry out
 C- Carry out under supervision



**Clinical Pathology
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Faculty of Medicine**

Laboratory skills in automation in clinical chemistry

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

- * Level of participation
- A- Plan and carry out
- B- Carry out
- C- Carry out under supervision



Clinical Pathology
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Faculty of Medicine

Laboratory skills in electrophoresis and immunoelectrophoresis

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision



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Clinical Seminars log

Date	Attendance	Topic	Signature



**Clinical Pathology
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Faculty of Medicine**

Post graduate teaching

Date	Title of lecture	Signature of Staff member



**Clinical Pathology
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Faculty of Medicine**

**Postgraduate student's program
Rotation in training assessment**

*** Name:**

*** Period of training From:**

To:

*** Site:**

***Rotation**

General skills	could not judge (0)	strongly disagree(1)	↔		↔		(6)	strongly agree (7)
			(2)	(3)	(4)	(5)		
Demonstrate the competency of continuous evaluation of different types of care provision to patients in the different area of his field.								
Appraise scientific evidence.								
Continuously improve patient care based on constant self-evaluation and <u>life long learning</u> .								
Participate in clinical audit and research projects.								



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General skills	could not judge (0)	strongly disagree(1)	(2) (3)		(4) (5)		(6)	strongly agree (7)
Practice skills of evidence-based Medicine (EBM).								
Educate and evaluate students, residents and other health professionals.								
Design logbooks.								
Design clinical guidelines and standard protocols of management.								
Appraise evidence from scientific studies related to the patients' health problems.								
Apply knowledge of study designs and statistical methods to the appraisal of clinical studies.								
Use information technology to manage information, access on-line medical information; for the important topics.								
Master interpersonal and communication skills that result in the effective <u>exchange of information and collaboration</u> with patients, their families, and health professionals, including:- <ul style="list-style-type: none"> • <u>Present</u> a case. • <u>Write</u> a consultation note. • <u>Inform patients</u> of a diagnosis and therapeutic plan Completing and maintaining comprehensive. • Timely and legible <u>medical records</u>. • Teamwork skills. 								



**Clinical Pathology
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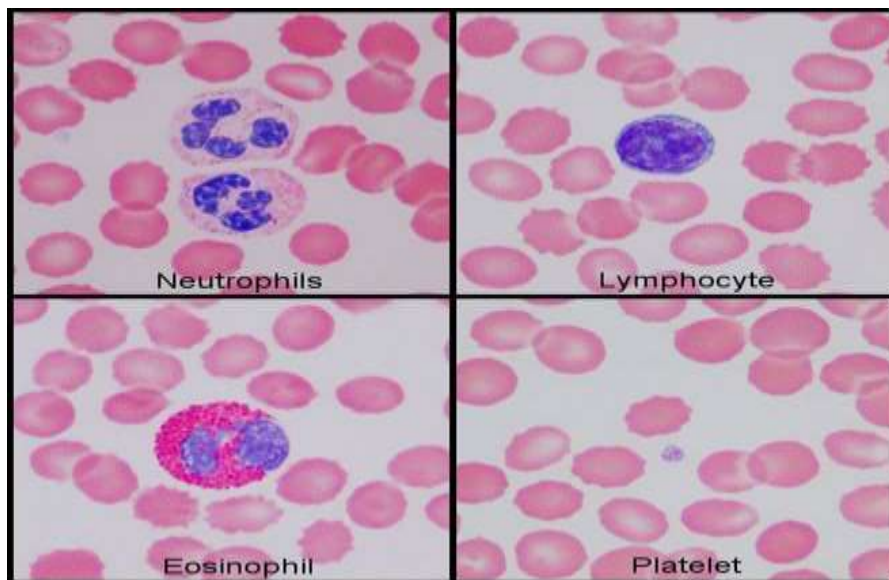
General skills	could not judge (0)	strongly disagree(1)	↔		↔		(6)	strongly agree (7)
			(2)	(3)	(4)	(5)		
Create and sustain a therapeutic and ethically sound relationship with patients.								
Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.								
Work effectively with others as a member or leader of a health care team or other professional group.								
Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.								
Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.								
Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.								
Work effectively in health care delivery settings and systems related to specialty including good administrative and time management.								
Practice cost-effective healthcare and resource allocation that does not compromise quality of care.								



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Faculty of Medicine**

General skills	could not judge (0)	strongly disagree(1)	↔		↔		(6)	strongly agree (7)
			(2)	(3)	(4)	(5)		
Advocate for quality patient care and assist patients in dealing with system complexities.								
Design, monitor and evaluate specification of under and post graduate courses and programs.								
Act as a chair man for scientific meetings including time management								

Unit 3: Clinical Hematology (Subsidiary unit)



Requirements

- **Credit points:** 2.4 credit point for didactic (lectures, seminars, tutorial) and 12 point for training; total: 14.4CP.
- Minimal rate of attendance 80% of training and didactics.



**Clinical Pathology
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Faculty of Medicine**

Unit (Module)3

Hematology Subsidiary Unit)

Rotation / attendance proof

الأماكن التي تدرّب بها

توقيع مدير المستشفى	توقيع رئيس القسم	أسم المستشفى التي تدرّب بها



**Clinical Pathology
Department
Faculty of Medicine**

**2.4 Credit Points for Hematology (subsidiary unit) Lectures and tutorials
could be achieved at any time (year 1 or 2 or 3 or 4)**

Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Hematology	<u>(0.2)CP</u>	Clinical pathology	(2 hours) General Hematology 1- Hematologic aspects of systemic diseases 2- General aspects of hematologic malignancy	8.33% of didactics unit 4.17% 4.17%
	0.1 0.1			
	<u>(0.7)CP</u>		(7 hours) Disorders of Red Cells 1- Evaluation and Classification of Anemia ** Macrocytic anemia ** Microcytic anemia ** Normocytic Anemia 2- Pathogenesis and Classification of Hemolytic anemias 3- Inherited and Acquired Aplastic Anemia Syndromes 4- Pure Red Cell Aplasia 5- Erythrocytosis	29.1% of didactics unit 8.33% 8.33% 4.17% 4.17% 4.17%
	0.2			
	0.2			
	0.1			
	0.1			
	<u>(0.6)CP</u>		(6 hours) Leukocytes and Their Disorders 1- Non-malignant Disorders of Leukocytes and the spleen	25% of didactics unit 4.17%
	0.1			
Student signature				Principle coordinator signature



**Clinical Pathology
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Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Hematology	0.1	Clinical pathology	-Hematologic Malignancies	4.17%
	0.1		* Acute Leukemias	4.17%
	0.1		* Myelodysplastic Syndromes	4.17%
	0.1		* Myeloproliferative Disorders	4.17%
	0.1		* Lymphoproliferative Disorders	4.17%
	0.1		* Immunoproliferative Disorders	4.17%
	<u>(0.6)CP</u>		((6 hours)	<u>25.1% of</u>
	0.1		Disorders of Hemostasis	didactics unit
	0.1		1- Diagnostic Approach to the Bleeding Disorders	
	0.1		2- Bleeding Disorders Caused by Vascular Abnormalities	4.17%
	0.1		3- Bleeding Disorders Caused by Platelet Abnormalities	4.17%
	0.1		4- Inherited and Acquired Coagulation Disorders	4.17%
	0.1		5- Fibrinolysis and its disorders	4.17%
	0.1		6- Antithrombotic Therapy	4.17%
Student signature			Principle coordinator signature	Head of the department signature



**Clinical Pathology
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Name of the unit	Credit points	Responsible department	Attendance	percentage of Achieved points
Clinical Hematology	<u>(0.3)CP</u>	Clinical pathology	-3 hours) Transfusion Therapy 1- Blood Donation and Collection 2- Use of Blood Components 3- Adverse Effects of Blood Transfusion	<u>12.5% of</u> didactics unit
	0.1			4.17%
	0.1			4.17%
Student signature			Principle coordinator signature	Head of the department signature



**Clinical Pathology
Department
Faculty of Medicine**

**12 Credit points for Clinical training in clinical Hematology could be achieved at
any time (year 1,2,3,4)**

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical hematology(continued)	(12)CP	Clinical Pathology	Training in hematology unit and blood bank.	100% of unit training
	1.5CP		<ul style="list-style-type: none"> ➤ Practice with clinical cases for at least 2h/day – twice /weekly/2 months in the hematology unit including perform and interpretation of different laboratory techniques especially related to red cell disorders including fulfilling; ➤ Log of laboratory skills as mentioned below; -Perform the following laboratory technique related to Disorders of Red Cells in hematology unit including: <ol style="list-style-type: none"> 1) Serum iron and TIBC. 2) Osmotic fragility test. 3) Screening test for G6PD deficiency. 4) Sickling test. For at least 4 times (Level B & A with attendance of at least two hours /day - once /week for 4 weeks). <ol style="list-style-type: none"> 5)Hb F &A2 estimation 6)Hb electrophoresis for at least 2 times of (Level B & A for at least at least attendance in lab one - two hours/day-twice/week for 2weeks). During the shift time 	12.5% of unit training
Student signature			Principle coordinator Signature	Head of the department signature



**Clinical Pathology
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Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical hematology (continued)	1CP	Clinical pathology	7)Erythropoietin assay. -Study the principal and interpretation of the reported data related to Erythropoietin levels for at least 4 times with attendance once/week for 4 weeks). During the shift time including Interpretation of the result related to red cell disorders 80-100, with attendance at least in lab 2hours/days for four weeks daily.	8.33% of unit training
	1.5CP		-Attend in lab and Perform the following laboratory techniques related to Disorders of Hemostasis in hemostasis lab <i>:i.e.</i> screening tests of hemostasis: (Bleeding time, PT& INR,- PTT and thrombin Time) level two hours /day 8 times two time B&A s /week for four weeks. - Perform the following laboratory techniques: Fibrinogen assay,- FDA, coagulation factors and vWF assay two hours /day – once/wk for 2 weeks for at least 2 times (Level C, B & A . - Perform the following test: platelet function tests; investigations of thrombophilia for at least 2 times of Level C, B & A with attendance two hours/day once/week for 2weeks). - Interpretation of the result related to Hemostasis for at least 20 times with attendance in lab for at least two hours/days for 4 wks daily.	12.5% of unit training



**Clinical Pathology
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Student signature			Principle coordinator Signature	Head of the department Signature
Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical hematology(continued)	1CP		-Attend and practice in lab for at least 1h/day- 3times/wk for 2wk As well as Perform in blood banking unit of at least 6 times level A of the following techniques: - ABO grouping , RH typing, - Cross matching and Coomb's test	8.33% of unit training
	1CP		-Attend and practice in lab for at least 3h/day- twice/wk for 2wk as well as Perform in transfusion therapy and blood banking units at least 2 times C&B of the following techniques: Ab screening & Identification - Storage of blood blood transfusion 1- Red cell wash 2- Separation of components Manual and automated	8.33% of unit training
	1CP		-Attend and practice in lab for at least 2h/day- once/wk for 2 wks as well as Perform of at least 2 times Level C& B of each (Myeloperoxidase, Sudan black, PAS ,NAP ,Acid Phosphatase , -Practice for at least once/wk for 2wk and Perform immunophenotyping of leukemia and lymphoproliferative disorders in flow cytometry laboratory of at least 2 times ; Level	8.33% of unit training



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			C& B. - Attend and practice in lab for at least 3h/day- once/wk for 4wk including Interpretation 60-80 of the result Disorders of Leukocytes and the spleen.	
Student signature			Principle coordinator signature	Head of the department signature

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical hematology(continued)	4CP		➤ Attendance of at least 4 hours/day for 4 weeks in Blood Bank	33.33% of unit training
	0.5CP		➤ Apply quality control and laboratory safety for at least 2 hours /week/ for 15 week	4.17% of unit training
	0.5CP		➤ Formative assessment for at least two time/year	4.17% of unit training
Student signature				Head of the department signature

Level of competency

- A- Independent performance
- B- Performance under supervision
- C- Observed.



**Clinical Pathology
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**Management plan of the following hematological Procedures log
Year 1or2,3&4**

Procedure	Number
Serum iron and TIBC.	4
Osmotic fragility test.	4
Screening test for G6PD deficiency.	4
Sickling test.	4
Hb F &A2 estimation	2
Hb electrophoresis	2
interpretation the result of Erythropoietin	4
Interpretation of the result related to red cell disorders	80-100
screening tests of hemostasis: - Bleeding time, PT& INR,- PTT and thrombin Time	8
Fibrinogen assay,- FDA, coagulation factors and vWF assay	2
investigations of thrombophilia	2
Interpretation of the result of the disorders of hemostasis	20
Cytochemical staining : Myeloperoxidase, Sudan black, PAS ,NAP ,Acid Phosphatase	2
immunophenotyping of leukemia and lymphoproliferative	2
Interpretation of the result disorders of Leukocytes and the spleen	60
ABO grouping: RH typing , cross matching and Comb's test	6
Ab screening & Identification: -Storage of blood, blood transfusion, Red cell wash and Separation of components Manual and auomated	2



**Clinical Pathology
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Clinical Rotation in Hematology laboratory

Duration from -to	Location	Signature of supervisor	Duration from –to	Location	Signature of supervisor



**Clinical Pathology
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Faculty of Medicine**

Clinical Rotation in Blood Bank

Date/ Duration from -to	Signature of supervisor	Date/ Duration from -to	Signature of supervisor



**Clinical Pathology
Department
Faculty of Medicine**

Laboratory skills in Blood Bank and transfusion medicine

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
 A- Plan and carry out
 B- Carry out
 C- Carry out under supervision



**Clinical Pathology
Department
Faculty of Medicine**

Laboratory skills in anemia laboratory

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision



**Clinical Pathology
Department
Faculty of Medicine**

Laboratory skills in Hemostasis laboratory

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision



**Clinical Pathology
Department
Faculty of Medicine**

Laboratory skills in cytochemistry laboratory

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
 A- Plan and carry out
 B- Carry out
 C- Carry out under supervision



**Clinical Pathology
Department
Faculty of Medicine**

Laboratory skills in flow cytometry laboratory

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision



**Clinical Pathology
Department
Faculty of Medicine**

Laboratory skills in lab safety and quality control

H.N	Laboratory procedures and Techniques	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision



**Clinical Pathology
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Faculty of Medicine**

Post graduate teaching

Date	Title of lecture	Signature of Staff member



**Clinical Pathology
Department
Faculty of Medicine**

Postgraduate student's program Rotation in training assessment

* *Name:*

* *Period of training From:*

To:

* *Site:*

**Rotation*

General skills	could not judge (0)	strongly disagree(1)	↔		↔		strongly agree (7)
			(2)	(3)	(4)	(5)	
Demonstrate the competency of continuous evaluation of different types of care provision to patients in the different area of his field.							
Appraise scientific evidence.							
Continuously improve patient care based on constant self-evaluation and <u>life long learning</u> .							
Participate in clinical audit and research projects.							



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General skills	could not judge (0)	strongly disagree(1)	↔		↔		↔	strongly agree (7)
			(2)	(3)	(4)	(5)		
Practice skills of evidence-based Medicine (EBM).								
Educate and evaluate students, residents and other health professionals.								
Design logbooks.								
Design clinical guidelines and standard protocols of management.								
Appraise evidence from scientific studies related to the patients' health problems.								
Apply knowledge of study designs and statistical methods to the appraisal of clinical studies.								
Use information technology to manage information, access on-line medical information; for the important topics.								
Master interpersonal and communication skills that result in the effective <u>exchange of information and collaboration</u> with patients, their families, and health professionals, including:- <ul style="list-style-type: none"> • <u>Present</u> a case. • <u>Write</u> a consultation note. • <u>Inform patients</u> of a diagnosis and therapeutic plan Completing and maintaining comprehensive. • Timely and legible <u>medical records</u>. • Teamwork skills. 								



**Clinical Pathology
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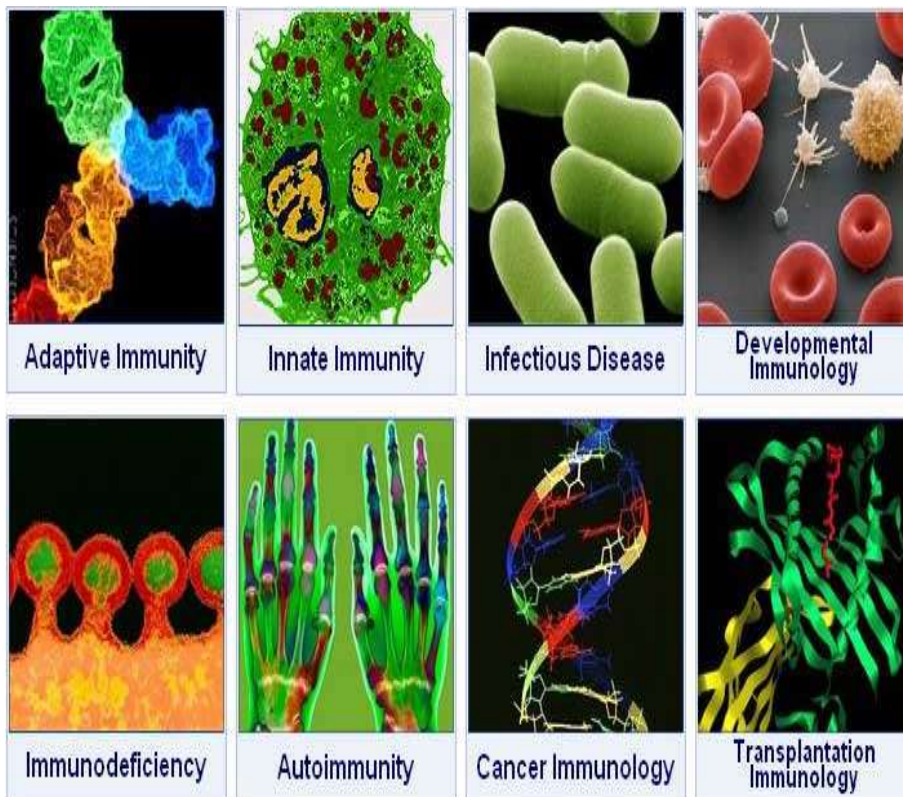
General skills	could not judge (0)	strongly disagree(1)	↔		↔		strongly agree (7)
			(2)	(3)	(4)	(5)	
Create and sustain a therapeutic and ethically sound relationship with patients.							
Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.							
Work effectively with others as a member or leader of a health care team or other professional group.							
Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.							
Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.							
Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.							
Work effectively in health care delivery settings and systems related to specialty including good administrative and time management.							
Practice cost-effective healthcare and resource allocation that does not compromise quality of care.							



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General skills	could not judge (0)	strongly disagree(1)	↔		↔		(6)	strongly agree (7)
			(2)	(3)	(4)	(5)		
Advocate for quality patient care and assist patients in dealing with system complexities.								
Design, monitor and evaluate specification of under and post graduate courses and programs.								
Act as a chair man for scientific meetings including time management								

Unit 4 Clinical Immunology Unit (Subsidiary unit)



Requirements

- **Credit points:** 2.4 credit point for didactic (lectures, seminars, tutorial) and 12 point for training; total: 14.4CP.
- Minimal rate of attendance 80% of training and didactics.



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Unit (Module)4

(Clinical Microbiology Subsidiary unit)

Rotation / attendance proof

الأماكن التي تدرّب بها

توقيع مدير المستشفى	توقيع رئيس القسم	أسم المستشفى التي تدرّب بها



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2.4 Clinical Immunology Lectures and tutorials subsidiary unit

Could be achieved at any time; Year 1,2,3&4

Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical immunology	(1.5)CP	Clinical Pathology	Basic Immunology	62.5% of didactics unit
	(0.05)		(0.5 hour) Antigen - Feature of biologic Ag - Structure and chemical basis of antigenic Ag - Antigen recognition	2.1% of didactics unit
	(0.2)		(2 hours) -Innate Immunity Feature of innate immunity - Phagocytes and cells of innate immunity - Circulating pattern recognition molecules and effector protein - Cytokines of innate immunity	8.33% of didactics unit
	0.2		(2 hours) Complement: - Pathways of complement activation - Receptors of complement - Regulation of complement - Function of complement	8.33% of didactics unit
Student signature			Principle coordinator signature	Head of the department signature



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Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical immunology	(0.2)	Clinical Pathology	(2 hours) Adaptive Immunity -Subset of Lymphocytes - T- Lymphocytes - Development of lymphocytes morphology and maturation -T cell receptor - CD 4 T lymphocytes - Activation of CD4 Lymphocytes - CD8 T lymphocytes	8.33% of didactics unit
	0.2		(2 hours) - B- lymphocytes - Development of lymphocytes, morphology and maturation	8.33% of didactics unit
	0.05		0.5 hour) Natural killer cells -Identification. -Development -functions	2.1% of didactics unit
	0.2		(2 hours) Antibodies (Immunoglobulin) - Structure - Types -Function - Immune response	8.33% of didactics unit
Student signature			Principle coordinator signature	Head of the department signature



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Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical immunology	(0.2)	Clinical Pathology	(2 hours) (Cytokines) -General properties -Cytokines mediate and regulate innate Immunity. -Cytokines mediate and regulate adaptive immunity. -Cytokine stimulate Hematopoiesis.	8.33% of didactics unit
	(0.1)		(1 hour) The major histocompatibility complex -Structure of MHC molecule -Binding of peptide to MHC molecule -Genomic organization of MHC molecules	4.17% of didactics unit
	(0.1)		(1 hour) The major Immunological Tolerance - T lymphocytes tolerance - B lymphocytes tolerance - Tolerance induced by foreign protein antigen	4.17% of didactics unit
	0.4CP		Immune response and disorders	16.6% of didactics unit
	0.2		(2 hours) Clinical Immunology 1-Hypersensitvity Types -Type I immediate hypersensitivity - Type II antibody mediated hypersensitivity - Type III immune complex mediated Hypersensitivity - Type IV cell mediated hypersensitivity	8.33% of didactics unit
Student signature			Principle coordinator signature	Head of the department signature



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Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical immunology	(0.1)	Clinical Pathology	(1 hour) Immune response to viral, Bacterial, fungal and parasitic infections	4.17% of didactics unit
	0.1		(1 hour) Acquired immunodeficiency diseases - Molecular and biologic features - Pathogenesis - Clinical features - Immune response - Diagnosis	4.17% of didactics unit
	0.4CP		Clinical Immunology	16.6% of didactics unit
	0.1		(1 hour) Rheumatic Diseases -Systemic lupus erythematosus -Rheumatoid arthritis	4.17% of didactics unit
Student signature			Principle coordinator signature	Head of the department signature



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Name of the Unit		Responsible department	Attendance	Percentage of Achieved points
Clinical immunology		Clinical Pathology		
	0.1		(1 hour) Endocrine Diseases -Type 1 (Insulin-dependent) Diabetes mellitus -Autoimmune thyroid disease	4.17% of didactics unit
	0.1		(1hour) Liver Diseases -autoimmune hepatitis. -Primary biliary cirrhosis.	4.17% of didactics unit
	0.1		(1 hour) Hematological diseases. -Autoimmune hemolytic anemia	4.17% of didactics unit
	0.1		Formative assessment	4.17% of didactics unit
			Principle coordinator signature	Head of the department signature



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**12 Credit points Clinical training in Clinical Immunology (subsidiary course)
At any time; Year 1 or 2or 3or4**

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in clinical Immunology	12CP	Clinical Pathology	<ul style="list-style-type: none"> ➤ Practice with Cases for at least 2 months in the clinical immunology unit including performance and interpretation of different laboratory techniques ➤ Log of laboratory skills as mentioned below 	100% of unit training
	0.5CP		<ul style="list-style-type: none"> - Attend in unit for at least one hours/day 2 times/week for two weeks)to; -Perform in Clinical Immunology lab. at least 10 times level A of ; - Specimen collection and transport, sample handling and storage in laboratory - Disposal of clinical waste and high risk s Samples 	1.66% of unit training
	1.0CP		Attend in unit for at least Three hours/day twice/week for four weeks to Perform in clinical immunology laboratory at least 8 times level B& A of the following techniques: serological tests: <ul style="list-style-type: none"> - Widal test - Malta test - RF, ASOT& CRP 	8.33% of unit training
signature			Principle coordinator signature	Head of the departments signature



**Clinical Pathology
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Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in clinical Immunology	1CP	Clinical Pathology	- Attend in unit for at least three hours /day once/week for four weeks to -Perform in clinical immunology laboratory at least 4 times level B& A of the following techniques: ANA by indirect immune fluorescent technique	8.33% of unit training
	1CP		- Attend in unit for at least three hour /day once/week for two weeks to Perform in clinical immunology laboratory at least 2 times level B& A of the following techniques: ASMA, AMA & LKMA by indirect immune fluorescent technique	8.33% of unit training
	0.5CP		- Attend in unit for at least three hours/day once time/week for two weeks to Perform in clinical immunology laboratory at least 2 times level C&B of the following techniques: Anti-ds DNA, Anti-thyroid antibodies , Anti-cardiolipine and other autoantibodies by immunoassay technique at least	1.66% of unit training
	1CP		Perform in clinical immunology laboratory at least 4 times level C&B (analysis of the following serological test by immunoassay	8.33% of unit training
Student signature			Principle coordinator Signature	Head of the department signature



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Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in clinical Immunology		Clinical Pathology	Anti-HIV, Anti-HCV, HBsAg , Anti-HBsAg(AUSAB), HBeAg, Anti-HBeAg, Anti-cIgM, Anti-cIgG ,HAV-IgM and HAV-IgG, Rubella IgM, Rubella IgG, CMV IgM, CMV IgG, oxoplasma IgM and Toxoplasma IgG) with attendance in lab at least three hours/day once /week for four weeks	
	0.5CP		Attend in lab for at least one hour /week for four weeks to Practice in principal of different methods for assay and interpretation the results of C3,C4, IgM,IgG, and IgA at least 4 times and interpretation of results.	1.66% of unit training
	2CP		Attend in lab for at least two hours/day for two weeks including interpretation of lab results at least 60 -80 results	16.66% of unit training
	2CP		➤ Attend for at least 3 weeks in the Outpatient clinic at least four hours daily	16.66% of unit training
	2CP		➤ Attend for at least 3 weeks in the emergency laboratory at least four hours daily	16.66% of unit training
	0.5CP		➤ Formative assessment	1.66% of unit training
Student signature			Principle coordinator Signature	Head of the department signature

*** Level of competency**

- A- Independent performance
- B- Performance under supervision
- C- Observed



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Management plan of the following clinical immunology Procedures log

Procedure	Number
Sample Handling- Specimen collection and transport - Sample handling and storage in laboratory - Disposal of clinical waste- High Risk Samples	10
Serological tests: Widal test, Malta test, RF, ASOT and CRP	8
Autoantibodies tests : ANA	4
Autoantibodies: ASMA, AMA and LKMA	2
Autoantibodies tests: Anti-ds DNA, Anti-thyroid antibodies, Anti-sperm antibodies and Anti-cardiolipine	2
Virological tests by Immunoassay: -Anti-HIV, Anti-HCV, HBsAg Anti-HBsAg(AUSAB), HBeAg, Anti-HBeAg, Anti-cIgM, Anti-cIgG ,HAV-IgM , HAV-IgG, Rubella IgM, Rubella IgG, CMV IgM, CMV IgG, toxoplasma IgM and Toxoplasma IgG	4
C3,C4, IgM,IgG, and IgA tests	4
Interpretation of lab Results	60-80

*** Level of competency**

- A- Independent performance
- B- Performance under supervision
- C- Observed



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Clinical Rotation, Immunology laboratory rotation

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



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Clinical Rotation Immunology laboratory

Duration from -to	Location	Signature of supervisor	Duration from -to	Location	Signature of supervisor



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Emergency laboratory

Date/ Duration from -to	Signature of supervisor		Date/ Duration from -to	Signature of supervisor



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Quality control and Laboratory Safety

Date	Signature of supervisor	Date	Signature of supervisor



**Clinical Pathology
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Night Shift

Date	Signature of supervisor	Date	Signature of supervisor



**Clinical Pathology
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Night Shift

Date	Signature of supervisor	Date	Signature of supervisor



**Clinical Pathology
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Outpatient clinic

Date	Signature of supervisor	Date	Signature of supervisor



**Clinical Pathology
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Outpatient clinic

Date	Signature of supervisor	Date	Signature of supervisor



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Clinical Seminars log

Date	Attendance	Topic	Signature



**Clinical Pathology
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Clinical Seminars log

Date	Attendance	Topic	Signature



**Clinical Pathology
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Clinical Seminars log book

Date	Attendance	Topic	Signature



**Clinical Pathology
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Post graduate teaching

Date	Title of lecture	Signature of Staff member



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Post graduate teaching

Date	Title of lecture	Signature of Staff member



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Postgraduate student's program Rotation in training assessment

*** Name:**

*** Period of training From:**

To:

*** Site:**

*Rotation

General skills	could not judge (0)	strongly disagree(1)	(2)	(3)	(4)	(5)	(6)	strongly agree (7)
Demonstrate the competency of continuous evaluation of different types of care provision to patients in the different area of his field.								
Appraise scientific evidence.								
Continuously improve patient care based on constant self-evaluation and <u>life long learning</u> .								
Participate in clinical audit and research projects.								



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General skills	could not judge (0)	strongly disagree(1)	↩ ↪		↩ ↪		↩ ↪	strongly agree (7)
			(2)	(3)	(4)	(5)		
Practice skills of evidence-based Medicine (EBM).								
Educate and evaluate students, residents and other health professionals.								
Design logbooks.								
Design clinical guidelines and standard protocols of management.								
Appraise evidence from scientific studies related to the patients' health problems.								
Apply knowledge of study designs and statistical methods to the appraisal of clinical studies.								
Use information technology to manage information, access on-line medical information; for the important topics.								
Master interpersonal and communication skills that result in the effective <u>exchange of information and collaboration</u> with patients, their families, and health professionals, including:- <ul style="list-style-type: none"> • <u>Present</u> a case. • <u>Write</u> a consultation note. • <u>Inform patients</u> of a diagnosis and therapeutic plan Completing and maintaining comprehensive. • Timely and legible <u>medical records</u>. • Teamwork skills. 								



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General skills	could not judge (0)	strongly disagree(1)	↔		↔		(6)	strongly agree (7)
			(2)	(3)	(4)	(5)		
Create and sustain a therapeutic and ethically sound relationship with patients.								
Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.								
Work effectively with others as a member or leader of a health care team or other professional group.								
Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.								
Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.								
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Work effectively in health care delivery settings and systems related to specialty including good administrative and time management.								
Practice cost-effective healthcare and resource allocation that does not compromise quality of care.								



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General skills	could not judge (0)	strongly disagree(1)	↔		↔		(6)	strongly agree (7)
			(2)	(3)	(4)	(5)		
Advocate for quality patient care and assist patients in dealing with system complexities.								
Design, monitor and evaluate specification of under and post graduate courses and programs.								
Act as a chair man for scientific meetings including time management								



**Clinical Pathology
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Elective Course 1

Requirements

- **Credit points:** 1.5 credit point.
- Minimal rate of attendance 80% of lectures and 80% of training

One of these courses will be chosen

- Advanced medical statistics.
- Evidence based medicine.
- Advanced infection control.
- Quality assurance of medical education.
- Quality assurance of clinical practice.
- -Hospital management



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Name of the elective course: -----

Elective Course Lectures

Date	Attendance	Topic	Signature



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Elective Course Practical skills

Date	Attendance	Topic	Signature



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Elective Course 2

Requirements

- **Credit points:** 1.5 credit point.
- Minimal rate of attendance 80% of lectures and 80% of training

One of these courses will be chosen

- Advanced medical statistics.
- Evidence based medicine.
- Advanced infection control.
- Quality assurance of medical education.
- Quality assurance of clinical practice.
- -Hospital management



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Name of the elective course: -----

Elective Course Lectures

Date	Attendance	Topic	Signature



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Elective Course Practical skills

Date	Attendance	Topic	Signature



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Other scientific activities

Lecture, journal club, conference, workshop

Activity	Your role **	Date	Signature of supervisor

** Your role:-
A- Attendance
B- Organization
C- Presentation



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Other scientific activities

Lecture, journal club, conference, workshop

Activity	Your role **	Date	Signature of supervisor

** Your role:-
A- Attendance
B- Organization
C- Presentation



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Formative assessment and MCQ

Exam	Score	Grade*	Date	Signature

*Degree
A- Excellent
B- Very good
C- Good
D- Pass



**Clinical Pathology
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Formative assessment and MCQ

Exam	Score	Grade*	Date	Signature

*Degree
A- Excellent
B- Very good
C- Good
D- Pass



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Formative assessment and MCQ

Exam	Score	Grade*	Date	Signature

*Degree
A- Excellent
B- Very good
C- Good
D- Pass



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الرسائل العلمية

عنوان الرسالة

عربي: _____

انجليزي: _____

المشرفون: _____

1- _____

2- _____

3- _____

4- _____

تاريخ القيد لدرجة: _____ / /

تاريخ التسجيل الموضوع: _____

المتابعة الدورية: _____

التاريخ	ما تم انجازه من بروتوكول البحث	المتبقي	توقيع المشرفين



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Declaration

Course Structure Mirror	Responsible (Course) Coordinator Name:	Signature	Date
First Part			
-Course 1: Medical statistics.			
-Course 2: Research methodology.			
-Course 3: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research.			
-Course 4: Cytogenetics ..			
-Course 5: Molecular Biology			
-Course 6: Instrumentation and Equipments.			
Second Part			
Course 7: Clinical Pathology			
Module 1 clinical Microbiology.			
Module 2 Clinical Chemistry.			
Module 3 clinical Hematology..			
Module 4 Clinical Immunology.			
- Elective Course (1) Certificate Dates:			
- Elective Course (2) Certificate Dates:			
- M. D. Thesis Acceptance Date:			
- Fulfillment of required credit points prior to final examination			
Clinical Pathology M.D. Degree Principle Coordinator:			
Date approved by Clinical Pathology Department Council:			

يعتمد ،
رئيس القسم

أ.د.



Clinical Pathology
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Faculty of Medicine

كراسة الأنشطة

اللازمة لحصول الطالب علي درجة الدكتوراة في

الباثولوجيا الأكلينيكية (التخصص الدقيق الميكروبيولوجيا الاكلينيكية)

2016-2017