

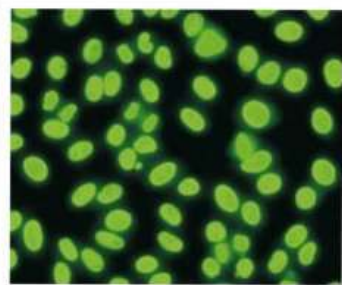


**Clinical Pathology  
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# **Medical Doctorate (M.D.) Degree of Clinical Pathology Logbook (Clinical Immunology Subspecialty)**

**For**

**Candidates of Medical Doctorate (M.D.) Degree of  
of Clinical Pathology  
2022-2023**





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**Personal Data :-**

Name.....  
Date of birth.....  
Address.....  
Place of work.....  
Telephones.....Mobile phone(s).....  
E mail.....



Name of hospital	Period of work	Hospital director signature

**Academic Information**

MBBCh...../...../..... University  
Grade .....MSc... University  
Grade .....  
Grade of Internal Medicine course on graduation .....  
Others...../...../..... University  
...../...../..... University



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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 desire 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.
- Cytogenetics.
- Molecular Biology.
- Instrumentation and Equipments.



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

- **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	Public 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

[illegible]



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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

[illegible]



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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		5 hours Ethics in research	50%
	0.5		5 hours Medical ethics in practice.	50%
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Student signature				



## Medicolegal Aspects and Ethics in Medical Practice and Scientific Lectures and tutorials

[illegible]



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# **Course 4**

# **Cytogenetics**

## **Requirements**

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





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**2.0 Credit Points for Cytogenetics Lectures and tutorials**

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
<b>Cytogenetics</b>	2.CP	<b>Clinical pathology</b>	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
<b>Cytogenetics</b>	0.3CP	<b>Clinical pathology</b>	(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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## **2.0 Credit Points for Cytogenetics Lectures and tutorials**

[illegible]



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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
<b>Molecular Biology</b>	<b>(1.5)</b>	<b>Clinical pathology</b>	<b>(15 hours)</b>	100%
	<b>0.1</b>		(1hours) Structure and function of nucleic acid.	6.66%
	<b>0.2</b>		(2 hours) Basic processes involved in gene replication and repair	13.33%
	<b>0.2</b>		(2 hours) Gene expression	13.33%
	<b>0.2</b>		(2 hours) DNA recombination	13.33%
	<b>0.3</b>		(3 hours) <b>Biomolecular tools:</b> - Blotting. - Hybridization. - Transfection and Transformation. - Reporter gene assay.	20%
	<b>0.3</b>		(3 hours) <b>Biomolecular Techniques:</b> - 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
<b>Molecular Biology</b>	<b>0.2CP</b>	<b>Clinical pathology</b>	(2hours) Importance of molecular biology techniques in laboratory diagnosis	13.33%
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[illegible]



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<b>0.5 Credit point for Molecular Biology Clinical training</b>				
Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Molecular Biology	0.5CP	Clinical Pathology	<b>Molecular Biology</b>	100%
	0.1CP		*Attend and practice in PCR lab for at least <b>two hours /day -twice weekly for two week</b> including techniques log as mentioned below; *Perform in PCR lab and practice at least <b>2 times of each, level C, B&amp;A of the following techniques-:</b> - 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>B&amp;A.</b>	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 <b>one hour /day -twice weekly for two weeks</b> 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"> <li>-Southern blotting.</li> <li>- Northern blotting.</li> <li>- Western blotting.</li> <li>- Gel shift assay.</li> <li>- DNA sequencing.</li> <li>- DNA foot printing.</li> </ul>	
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## 0.5 Credit Point for Molecular Biology Practical Training

[illegible]

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



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[illegible]

\* 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-Chemiluminesence, Bioluminesence and electro chemiluminescence.	3.33%
	0.1		8-Nephelometry and turbidimetry.	3.33%
	0.1		9- Microscopy.	3.33%
	0.3CP		(3 hours) <b>Electrophoresis</b>	10%
	0.3CP		(3 hours) <b>Chromatography</b>	10%
	0.5CP		(5 hours) <b>Principles of Immunochemical Techniques:</b> 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) <b>Automation in the Clinical Laboratory:</b> 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) <b>Automation in the Clinical Laboratory:</b> 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) <b>8-Development of standard for automation</b>	3.33%
	0.5CP		(5 hours) <b>9-Other areas of automation:</b> - 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	<b>9-Other areas of automation <i>continued</i>;</b> Nucleic acid analyzers: - Microbiological analyzers - Microtiter plate systems. - Automated pipetting Stations. - POCT analyzers.	
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### 3.0 Credit Points for Instrumentation and Equipments Lectures and

[illegible]





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## Tutorials

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

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أ.د./



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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:

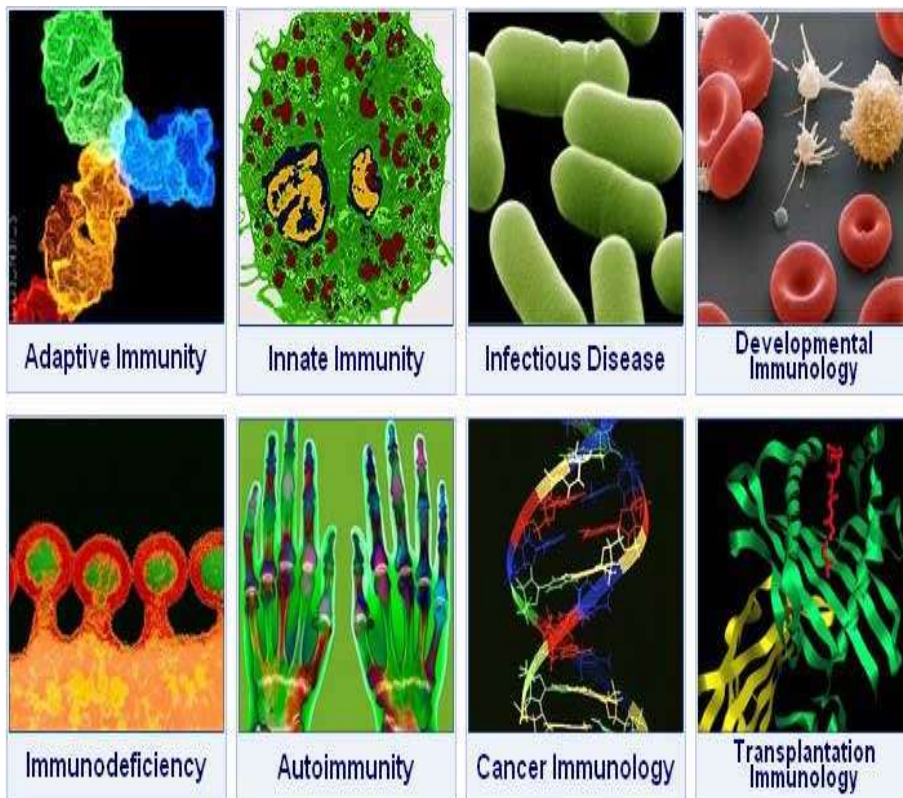
- 1- Module 1 Clinical Immunology (main unit or module )**
- 2- Module 2 Clinical Chemistry (subsidiary unit or module)**
- 3- Module 3 Hematology (subsidiary unit or module)**
- 4- Module 4 Clinical Microbiology (subsidiary unit or module)**

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

\*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.

# Unit 1; Clinical Immunology

## (main unit)





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## Requirements

- **Credit points:** 16.8 credit point for didactic (lectures, seminars, tutorial) and 87 point 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
<b>Main unit (module)</b> <b>Clinical Immunology</b>	<b>70.6</b>	<b>1,2,3,4</b>	<b>16.8</b>	<b>87</b>	<b>103.8</b>
<ul style="list-style-type: none"> <li>● Basic immunology.</li> </ul>	16.57	1	2.2	15	17.2
<ul style="list-style-type: none"> <li>● Basic immunology</li> </ul>	27.55	2	4.6	24	28.6
<ul style="list-style-type: none"> <li>● Immune Response and Disorders and Clinical Immunology</li> </ul>	28.32	3	5.4	24	29.4
<ul style="list-style-type: none"> <li>● Clinical Immunology and methodology.</li> </ul>	27.55	4	4.6	24	28.6



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**(Module) 1**

**Clinical Immunology main unit**

***Rotation / attendance proof***

**الأماكن التي تدرب بها**

أسم المستشفى التي تدرب بها	توقيع رئيس القسم	توقيع مدير المستشفى



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**2.2 Credit points Clinical Immunology Lectures and tutorials Main unit**

**Year 1**

Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
<b>Clinical Immunology</b>	(2.2)CP	<b>Clinical Pathology</b>	Basic immunology	100%
	(0.1)CP		<b>(one hour)</b> <b>The lymphoid system; i.e;</b> - Anatomy: tissues and organs of immune system - Cells of the immune system - Function of lymphoid tissues	4.55% of didactics unit in this year
	(0.2)CP		<b>(2 hours)</b> <b>Antigen</b> - Feature of biologic Ag - Structure and chemical basis of antigenic Ag - Antigen recognition	9.09% of didactics unit in this year
	(1)CP		<b>(10 hours)</b> <b>-Innate Immunity</b> Feature of innate immunity - Phagocytes and cells of innate immunity - Circulating pattern recognition molecules and effector protein - Cytokines of innate immunity - Role of innate immunity in stimulating adaptive	45.45% of didactics unit in this year
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Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
<b>Clinical Immunology</b>	(0.8)CP	<b>Clinical Pathology</b>	<b>(8 hours)</b> <b>Complement:</b> <ul style="list-style-type: none"> <li>- Pathways of complement activation</li> <li>- Receptors of complement</li> <li>- Regulation of complement</li> <li>- Function of complement</li> <li>- Evasion of complement by microbes</li> <li>- Complement deficiency</li> </ul>	36.4% of didactics unit in this year
	(0.1)CP		<b>Formative assessment</b>	4.55% of didactics unit in this year
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## 15 Credit points Clinical training in Clinical Immunology

### Year 1

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training Clinical Immunology	15CP	Clinical Pathology	➤ <b>Practice with training for at least 2 months in the clinical immunology unit including performance and interpretation of different laboratory techniques including Log of laboratory skills as mentioned below;</b>	100% of training unit in year 1
	0.5CP		-Attend in lab for at least <b>2 hour / day -twice /weekly for two weeks and practice the following skills;</b> -Perform Clinical Immunology laboratory techniques for at least <b>4 times level A</b> of the following: - Specimen collection and transport, sample handling and storage in laboratory - Disposal of clinical waste and high risk samples.	3.33% of training unit in year 1
	0.5CP		-Attend in lab for at least <b>2 hour / day -twice /weekly for 4 weeks to;</b> -Perform in clinical immunology laboratory at least <b>6-8 times level B&amp; A of the following technique:</b> serological tests: - Widal test - Malta test - RF, ASOT& CRP	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 Immunology	0.5CP	Clinical Pathology	-Attend in lab for at least 3 hours / day -once /weekly for 4 weeks to; -Perform in clinical immunology laboratory at least 4 times level B& A of the following technique: *ANA by indirect immune *fluorescent technique	3.33% of training unit in year 1
	0.5CP		-Attend in lab for at least 2 hour / day -once /weekly for 4 weeks to; Perform in clinical immunology laboratory at least 4 times level B& A of the following technique: -ASMA, AMA & LKMA by indirect immune fluorescent technique	3.33% of training unit in year 1
	0.5CP		-Attend in lab for at least 3 hours / day -once /weekly for 4 weeks to; Perform in clinical immunology laboratory at least 2 times level C&B of the following technique: *Anti-ds DNA, Anti-thyroid antibodies , Anti-cardiolipine and other autoantibodies by immunoassay technique .	3.33% of training unit in year 1
	1CP		-Attend in lab for at least 3 hours / day -once /weekly for 4 weeks to; -Perform clinical immunology laboratory tests at least 4 times level C&B (i.e.analysis of the following serological test by immunoassay Anti-HIV, Anti-HCV, HBsAg , Anti-HBsAg(AUSAB), HBeAg, Anti-HBeAg, Anti-clgM, Anti-clgG ,HAV-IgM and HAV-IgG, Rubella IgM, Rubella IgG, CMV IgM, CMV IgG, Toxoplasma IgM and Toxoplasma IgG) .	6.66% of training unit in year 1
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Clinical training(continued year 1)	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training Clinical Immunology	1CP	Clinical Pathology	Attend in immunology lab for at least 2hours / day -once /weekly for 2 weeks including interpretation of lab results at least 60 -80 results.	6.66 of training unit in year 1
	2CP		➤ Attend Night shift (From 2 pm to 8 am ) 15 night shift one shift/week for 15 weeks	13.33% of training unit in year 1
	2CP		➤ Attendance of at least 3 -4 hours/days for four weeks <b>clinical chemistry</b> laboratory	13.33% of training unit in year 1
	2CP		➤ Attendance of at least 3 -4 hours/days for four weeks in <b>Hematology</b> laboratory	13.33% of training unit in year 1
	2CP		➤ Attendance of at least 3 -4 hours/days for four weeks in <b>Microbiology</b> laboratory	13.33% of training unit in year 1
	2CP		➤ Attendance of at least 3 -4 hours/days for four weeks <b>Blood Bank</b>	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 clinical immunology procedures log Year 1

<b>Procedure</b>	<b>Number</b>
<b>Sample Handling-</b> Specimen collection and transport - Sample handling and storage in laboratory - Disposal of clinical waste- High Risk Samples	<b>4</b>
<b>Serological tests:</b> Widal test, Malta test, RF, ASOT and CRP	<b>6-8</b>
<b>Autoantibodies tests :</b> ANA	<b>4</b>
<b>Autoantibodies:</b> ASMA, AMA and LKMA	<b>4</b>
<b>Autoantibodies tests:</b> Anti-ds DNA, Anti-thyroid antibodies, Anti-sperm antibodies and Anti-cardiolipine	<b>2</b>
<b>Virological tests by Immunoassay:</b> -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	<b>4</b>
<b>C3,C4, IgM,IgG, and IgA tests</b>	<b>4</b>
<b>Interpretation of lab Results</b>	<b>60-80</b>



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## 4.6 Credit point in Clinical Immunology Lectures and tutorials Year 2

Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
<b>Clinical immunology</b>	<b>4.6CP</b>	<b>Clinical Pathology</b>	<b>Basic Immunology</b>	100%
	(0.9)CP		<b>(9 hours)</b> <b>Adaptive Immunity</b> <b>-Subset of Lymphocytes</b> <b>- T- Lymphocytes</b> - Development of lymphocytes morphology and maturation -T cell receptor - CD 4 T lymphocytes - Activation of CD4 Lymphocytes - CD8 T lymphocytes - Frequency and responsive to particular antigen. - Effector function. - Surface protein expression	19.56% of didactics unit in year 2
	(0.8)CP		<b>(8 hours)</b> <b>- B- lymphocytes</b> - Development of lymphocytes, morphology and maturation	17.39% of didactics unit in year 2
	(0.2)CP		<b>2 hours)</b> <b>Natural killer cells</b> -Identification. -Development -functions	4.35% of didactics unit in year 2
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
<b>Clinical immunology</b>	(0.8)CP	<b>Clinical Pathology</b>	<b>(8 hours)</b> <b>Immunoglobulin</b> isotype -Affinity of immunoglobulin production Effector Function <b>Antibodies (Immunoglobulin)</b> - Structure - Types - Immunoglobuline gene rearrangement -Function - Immune response	17.39% of didactics unit in year 2
	(0.5)CP		<b>(5 hours)</b> <b>(Cytokines)</b> -General properties -Cytokines mediate and regulate innate Immunity. -Cytokines mediate and regulate adaptive immunity. -Cytokine stimulate	10.87% of didactics unit in year 2
	(0.5)CP		<b>(5 hours)</b> <b>The major histocompatibility complex</b> -Structure of MHC molecule -Binding of peptide to MHC molecule -Genomic organization of MHC molecules	10.87% of didactics unit in year 2
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Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical immunology	(0.7)CP	Clinical Pathology	(7 hours) <b>Apoptosis</b> - Difference between apoptosis and necrosis - Pathways of apoptosis - Inducer of apoptosis - Inhibitors of apoptosis <b>Immunological Tolerance</b> - T lymphocytes tolerance - B lymphocytes tolerance - Tolerance induced by foreign protein antigen.	15.22% of didactics unit in year 2
	(0.2)CP		<b>Formative assessment</b>	4.35% of didactics unit in year 2
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**24 Credit points Clinical training in Clinical Immunology**

**Year 2**

Clinical training	Credit points	Responsible department	Attendance& Activities	Percentage of Achieved points
Clinical training in clinical immunology	24CP	Clinical Pathology	<ul style="list-style-type: none"> <li>➤ Practice with investigated cases for at least 6 months in the clinical immunology unit including perform and interpretation of different laboratory techniques</li> <li>➤ Log of laboratory skills as mentioned below;</li> </ul>	100% of unit <b>Clinical training</b> in year 2
	2.CP		-Attend and practice in lab for at least <b>3 hour / day -twice /weekly for 5 weeks to;</b> - Perform in clinical immunology laboratory <b>technique</b> at least <b>10 times level A of the following techniques:</b> <i>Serological tests:</i> * Widal test, Malta test RF, ASOT& CRP.	8.33% of unit <b>training</b> in year 2
	2.CP		-Attend and practice in lab for at least <b>3 hour / day -twice /weekly for 8 weeks to;</b> Perform in clinical immunology lab at least <b>16 times level A</b> of the following techniques: *ANA by indirect immune *fluorescent technique	8.33% of unit <b>training</b> in year 2
	2.CP		-Attend and practice in lab for at least <b>3 hour / day -once /weekly for 8 weeks to;</b> Perform in clinical immunology lab at least <b>8 times level A</b> of the following techniques: *ASMA, AMA & LKMA by indirect immune fluorescent technique .	8.33% of unit <b>training</b> in year 2
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Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in clinical immunology	1.CP	Clinical Pathology	-Attend and practice in lab for at least <b>3 hour / day -once /weekly for 8 weeks to</b> ;Perform in clinical immunology lab at least <b>8 times level A</b> of the following techniques: *Anti-ds DNA, Anti-thyroid antibodies , Anti-cardiolipine and other autoantibodies by immunoassay technique .	<b>4.17% of unit training in year 2</b>
	1.CP		-Attend and practice in lab for at least <b>2hours/ day -once /weekly for 10 weeks to</b> ; *Perform in clinical immunology lab at least <b>10 times level A</b> (analysis of the following serological tests by immunoassay; i.e. Anti-HIV, Anti-HCV, HBsAg , Anti-HBsAg(AUSAB), HBeAg, Anti-HBeAg, Anti-clgM, Anti-clgG ,HAV-IgM and HAV-IgG, Rubella IgM, Rubella IgG, CMV IgM, CMV IgG, Toxoplasma IgM and Toxoplasma IgG ).	<b>4.17%of unit training in year 2</b>
	1CP		-Attend and practice in lab for at least <b>2 hours / wk for 8 weeks to</b> ; Perform in clinical immunology lab at least <b>8 times level B&amp;A</b> C3,C4, IgM,IgG, and IgA s.	<b>4.17% of unit training in year 2</b>
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	2CP	Clinical Pathology	-Attend and practice in lab for at least <b>1hour / day</b> for at least 8 weeks; including interpretation of lab results at least 100-120 results.	8.33% of unit training in year 2
	1CP		-Attend and practice in lab for at least <b>3 hour / day -once/weekly for 4 weeks</b> ; as well as Perform in clinical immunology lab at least <b>5 time level C,B&amp;A of techniques</b> ; lymphocytes separation and immunophenotyping.	4.17% of unit training in year 2
	1.CP		-Attend and practice in lab for at least <b>3 hours / day -once/weekly for 5 weeks</b> ; as well as Perform in clinical immunology lab at least <b>5 time level C,B&amp; A of molecular techniques</b> used in diagnosis of viral or bacterial infection.	4.17% of unit training in year 2
	3.CP		➤ Attendance and practice of at least 3-4 hours/days for 4 weeks in emergency laboratory	12.5% of unit training in year 2
	5CP		➤ Attend night shift (From 2 pm to 8 am ) at least 30 night shift, one time/week for 30weeks	20.83%of unit training in year 2
	1CP		➤ Attend Clinical teaching ; 2 hours /week/ for 16 week	4.17% of unit training in year 2
	1CP		➤ Apply lab safety and quality control in clinical immunology laboratory of at least <b>2 hours/weeks for 10 weeks</b>	4.17% of unit training in year 2
	1CP		➤ Formative assessment	4.17%of unit 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  
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**Management plan of the following clinical immunology Procedures log  
Year 2**

<b>Procedure</b>	<b>Number</b>
Serological tests: Widal test, Malta test, RF, ASOT and CRP	10
Autoantibodies tests : ANA	16
Autoantibodies: ASMA, AMA and LKMA	8
Autoantibodies tests: Anti-ds DNA, Anti-thyroid antibodies, Anti-sperm antibodies and Anti-cardiolipine	4
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	10
C3, C4, IgM, IgG, and IgA tests	8
Interpretation of lab Results	100-120
lymphocytes separation and immunophenotyping	5
diagnosis of HCV and HBV by molecular techniques	5



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**5.4 Credit point in Clinical Immunology Lectures and tutorials Year 3**

Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
<b>Clinical immunology</b>	5.4CP	<b>Clinical Pathology</b>	<b>Immune Response and Disorders(54h)</b>	100% of unit 1 in year3
	(0.7)CP		<b>(7 hours)</b> <b>Hypersensitivity Types</b> -Type I immediate hypersensitivity - Type II antibody mediated hypersensitivity - Type III immune complex mediated Hypersensitivity - Type IV cell mediated hypersensitivity	12.96% of didactics unit 1 in year3
	(0.7)CP		<b>(7 hours)</b> <b>Immune response</b> to viral, Bacterial, fungal and parasitic infections and Virus of Immune system	12.96% of didactics unit 1 in year3
	(0.8)CP		<b>(8 hours)</b> <b>Primary immunodeficiency diseases</b> - T-cell - B-cell - combined - complement - phagocytes	14.81% of didactics unit 1 in year3
	(0.7)CP		<b>(7 hours)</b> <b><u>Acquired immunodeficiency diseases</u></b> A- Molecular and biologic features	12.96% of didactics unit 1 in year3
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Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
<b>Clinical immunology</b>		Clinical pathology	<b>Clinical immunology continued</b>	
			<b>B-Pathogenesis</b> - Clinical features - Immune response - Diagnosis - treatment and prevention	12.96% of didactics unit 1 in year3
	0.5CP		<b>(5 hours) Tumor immunology</b>	9.26% of didactics unit 1 in year3
	0.5CP		<b>5 hours) Clinical Transplantation</b>	9.26% of didactics unit 1 in year3
	(0.7)CP		<b>Clinical Immunology (7 hours) Rheumatic Diseases -</b> Systemic lupus erythematosus -Rheumatoid arthritis -Ankylosing spondylitis - SjÖgren's syndrome - Systemic sclerosis	12.96 % of didactics unit 1 in year3
	(0.6)CP		<b>(6 hours) Endocrine Diseases</b> -Type 1 (Insulin-dependent) Diabetes mellitus -Autoimmune thyroid disease.	11.1% of didactics unit 1 in year3
	(0.2)CP		<b>Formative assessment</b>	3.7%
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## 24 Credit points Clinical training in Clinical Immunology

### Year 3

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training Clinical Immunology	24CP	Clinical Pathology	<ul style="list-style-type: none"> <li>➤ Practice with for at least 6 months in the clinical immunology unit including;</li> <li>* performance and interpretation of different laboratory techniques</li> <li>*Log of laboratory skills as mentioned below;</li> </ul>	100% of unit training in year 3
	2 CP		-Attend in lab for at least <b>3 hour / day - twice /weekly for 8weeks.</b> i.e.to; Perform in clinical immunology lab at least <b>16 times level A of the following techniques:</b> serological tests: - Widal test, Malta test RF, ASOT& CRP	8.33% of unit training in year 3
	2CP		-Attend in lab for at least <b>3 hours / day - twice /weekly for 8 weeks</b> and Perform in clinical immunology lab at least <b>16 times level A</b> of the following techniques: ANA by indirect immune fluorescent technique	8.33% of unit training in year 3
	2CP		-Attend in lab for at least <b>3 hours / day - once /weekly for 8 weeks</b> and Perform in clinical immunology lab at least <b>8 times level A</b> of the following techniques: ASMA, AMA & LKMA by indirect immune fluorescent technique	4.17% of unit training in year 3
Student signature			Principle coordinator Signature	Head of the department signature



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Clinical training(continued)	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training Clinical Immunology	1CP	<b>Clinical Pathology</b>	-Attend in lab for at least <b>3hours / day -once /weekly for 4 weeks</b> and Perform in clinical immunology lab at least <b>4 times level A</b> of the following techniques: Anti-ds DNA, Anti-thyroid antibodies , Anti-cardiolipine and other auto antibodies by immunoassay technique.	4.17% of unit training in year 3
	1.CP		-Attend in lab for at least <b>2 hours / day -once /weekly for 10 weeks</b> and Perform in clinical immunology laboratory at least <b>10 times level A</b> (i.e. analysis of the following serological test by immunoassay <b>Anti-HIV, Anti-HCV, HBsAg , Anti-HBsAg(AUSAB), HBeAg, Anti-HBeAg, Anti-clgM, Anti-clgG ,HAV-IgM and HAV-IgG, Rubella IgM, Rubella IgG, CMV IgM, CMV IgG, Toxoplasma IgM and Toxoplasma IgG ).</b>	4.17% of unit training in year 3
	1CP		-Attend in lab for at least <b>2 hours / wk for 8 weeks</b> and Perform in clinical immunology lab at least <b>8 times level A</b> of C3,C4, IgM, IgG, and IgA.	4.17% of unit training in year 3
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 Clinical Immunology	2 CP	Clinical Pathology	Practice interpretation of lab results at least 100-120 results one hours/day for eight weeks.	8.33% of unit training in year 3
	1CP		Perform in clinical immunology <b>laboratory at least four time level A</b> lymphocytes separation and immunophenotyping <b>three hours/day -once/ week for four weeks</b>	4.17% of unit training in year 3
	1CP		Perform in clinical immunology <b>laboratory at least 5 time level A</b> of molecular techniques <b>for at least three hours /day once/week for 5weeks</b>	4.17% of unit training in year 3
	3CP		➤ Attendance of at least three to four hours/days for four weeks in outpatient clinic lab.	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 week	4.17% of unit raining in year 3
	1CP		➤ Apply lab safety and quality control in clinical immunology laboratory <b>for at least 2 hours/weeks for 10 weeks</b>	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.



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**Management plan of the following clinical immunology Procedures log Year 3**

<b>Procedure</b>	<b>Number</b>
<b>Serological tests:</b> Widal test, Malta test, RF, ASOT and CRP	<b>16</b>
<b>Autoantibodies tests :</b> ANA	<b>16</b>
<b>Autoantibodies:</b> ASMA, AMA and LKMA	<b>8</b>
<b>Autoantibodies tests:</b> Anti-ds DNA, Anti-thyroid antibodies, Anti-sperm antibodies and Anti-cardiolipine	<b>4</b>
<b>Virological tests by Immunoassay:</b> -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	<b>10</b>
<b>C3,C4, IgM,IgG, and IgA tests</b>	<b>8</b>
<b>Interpretation of lab Results</b>	<b>100-120</b>
<b>lymphocytes separation and immunophenotyping</b>	<b>4</b>
<b>Diagnosis of HCV and HBV by molecular techniques</b>	<b>5</b>





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### Autoimmunity cases log (Year 3)

Log of:

Case	Number
Systemic lupus erythematosus	2 cases
Rheumatoid arthritis	2 cases
Systemic sclerosis	2 cases
Type 1 (Insulin- dependent) Diabetes mellitus	2 cases
Autoimmune thyroid disease	2 cases
Autoimmune hepatitis.	2 cases
Primary biliary cirrhosis	2 cases
HCV infection	2 cases
HBV infection	2 cases
Glomerulonephritis	2 cases
Autoimmune hemolytic anemia	2 cases
Acute Leukemia	2 cases
CLL	2 cases
Lymphoma	2 cases
<b>Level B&amp; A for all</b>	

\* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision



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## 4.6 Credit point in Clinical Immunology Lectures and tutorials

### Year 4

Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical immunology	0.7CP	Clinical pathology	<b>Clinical Immunology(7h)</b> <b>Liver Diseases</b> -autoimmune hepatitis. -Primary biliary cirrhosis. - Hepatotropic virus.	15.21% of didactics unit in year 4
	0.6CP		<b>(6 hours)</b> <b>- Renal Diseases.</b> - Antibody mediated nephritis - Glomerulonephritis associated with immune complex - Renal disease associated with vasculitis	13.04% of didactics unit in year 4
	0.6CP		<b>6 hours)</b> <b>Hematological diseases.-Autoimmune hemolytic anemia.</b> -Drug induce hemolysis - autoimmune disease of the blood- Neoplastic disease of B lymphocytes -Immunophenotyping.	13.04% of didactics unit in year 4
	0.6CP		<b>(6 hours)</b> <b>Immunologic therapy</b> - Immunization	13.04% of didactics unit in year 4
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
			<ul style="list-style-type: none"> <li>- Allergy and desensitization</li> <li>- Immune suppressive</li> <li>- Immunomodulators</li> <li>- Anti-inflammatory drugs</li> <li>- Vaccination</li> </ul>	
	1.9CP		<p style="text-align: center;"><b>Methodology (19 hours)</b></p> <p><b>Principles and methodology of:</b></p> <ul style="list-style-type: none"> <li>-Detection of antigens and antibodies</li> <li>-Methods of cell mediated immunity</li> <li>-Histocompatibility test</li> <li>-Laboratory evaluation of immune competence.</li> </ul> <p>Molecular genetic techniques of clinical analysis of immune system</p> <ul style="list-style-type: none"> <li>- Quality assurance</li> <li>-Laboratory safety</li> <li>-Laboratory management</li> </ul>	41.13% of didactics unit in year 4
	(0.2)CP		<b>Formative assessment</b>	4.35% of didactics unit in year 4
Student signature			Principle coordinator signature	Head of the department signature



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## 24 Credit points Clinical training in Clinical Immunology

### Year 4

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training hematology and Blood Bank	24CP	Clinical Pathology	<ul style="list-style-type: none"> <li>➤ Attend in lab and Practice with investigated cases for at least 6 months in the clinical immunology unit including;</li> <li>* performance and interpretation of different laboratory techniques</li> <li>*Log of laboratory skills as mentioned below;</li> </ul>	100% of unit training in year4
	2 CP		-Attend in lab for at least 3h/day –twice weekly for 8wks and Perform in clinical immunology lab at least <b>16 times level A of the following techniques:</b> serological tests: - Widal test, Malta test RF, ASOT& CRP	8.33% of unit training in year 4
	2 CP		-Attend in lab for at least 3h/day –twice weekly for 8wks and Perform in clinical immunology lab at least <b>16 times level A of the following techniques:</b> ANA by indirect immune fluorescent technique.	8.33% of unit training in year 4
	2CP		-Attend in lab for at least 3h/day –once weekly for 8wks and Perform in clinical immunology lab at least <b>8times level A</b> of the following techniques: ASMA, AMA & LKMA by indirect immune fluorescent technique.	8.33% of unit training in year 4
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
	1CP		-Attend in lab for at least 3h/day –once weekly for 4wks and Perform in clinical immunology lab at least <b>4 times level A</b> of the following techniques: Anti-ds DNA, Anti-thyroid antibodies , Anti-cardiolipine and other autoantibodies by immunoassay	8.33% of unit training in year 4
	1CP		-Attend in lab for at least 2h/day –once weekly for 10wks and Perform in clinical immunology laboratory at least 10 times level A (analysis of the following serological test by immunoassay Anti-HIV, Anti-HCV, HBsAg , Anti-HBsAg(AUSAB), HBeAg, Anti-HBeAg, Anti-clgM, Anti-clgG ,HAV-IgM and HAV-IgG, Rubella IgM, Rubella IgG, CMV IgM, CMV IgG, Toxoplasma IgM and Toxoplasma IgG )	4.17% of unit training in year 4
	1CP		-Attend in lab for at least 1h/wk– for 8wks and Perform in clinical immunology laby at least <b>8 times level A</b> C3,C4, IgM,IgG, and IgA .	4.17% of unit training in year 4
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
	2CP		-Attend and practice in lab for at least 2h/day for 2wks including Interpretation of lab results at least 100-120 results.	8.33% of unit training in year 4
	1CP		<b>-Attend in lab and Perform in clinical immunology laboratory at least four times level A lymphocytes separation and immunophenotyping for at least once/ week for 4 weeks</b>	4.17% of unit training in year 4
	1CP		<b>-Attend in lab and Perform in clinical immunology lab at least at least 5 time level diagnosis of HCV and HBV by molecular techniques for at least once/ week for 5 weeks</b>	4.17% of unit training in year 4
	3CP		➤ Attendance of at least 3-4 hours/days for four weeks in hematology lab.	12.5% of unit training in year 4
	5CP		➤ Attend Night shift (From 2 pm to 8 am ) for at least one night shift/week for 30 weeks	20.83% of unit training in year 4
	1CP		➤ Attend Clinical teaching for at least 2 hours /week/ for 16 week	4.17% of unit training in year 4
	1CP		➤ Apply lab safety and quality control in clinical immunology laboratory for at least <b>2 h/wk for 10wks</b>	4.17% of unit training in year 4
	1CP		➤ <b>Formative assessment</b>	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  
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## Management plan of the following clinical immunology Procedures log Year 4

Procedure	Number
<b>Serological tests:</b> Widal test, Malta test, RF, ASOT and CRP	16
<b>Autoantibodies tests :</b> ANA	16
<b>Autoantibodies:</b> ASMA, AMA and LKMA	8
<b>Autoantibodies tests:</b> Anti-ds DNA, Anti-thyroid antibodies, Anti-sperm antibodies and Anti-cardiolipine	4
<b>Virological tests by Immunoassay:</b> -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	10
<b>C3,C4, IgM,IgG, and IgA tests</b>	8
<b>Interpretation of lab Results</b>	100-120
<b>lymphocytes separation and immunophenotyping</b>	4
<b>diagnosis of HCV and HBV by molecular techniques</b>	5



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### Autoimmunity cases log (Year 4)

Log of:

Case	Number
Systemic lupus erythematosus	2 cases
Rheumatoid arthritis	2 cases
Systemic sclerosis	2 cases
Type 1 (Insulin- dependent) Diabetes mellitus	2 cases
Autoimmune thyroid disease	2 cases
Autoimmune hepatitis.	2 cases
Primary biliary cirrhosis	2 cases
HCV infection	2 cases
HBV infection	2 cases
Glomerulonephritis	2 cases
Autoimmune hemolytic anemia	2 cases
Acute Leukemia	2 cases
CLL	2 cases
Lymphoma	2 cases
<b>Level A for All</b>	

\* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision





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## Clinical Rotation (Immunology Unit)

[illegible]



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## Clinical Rotation (immunology Unit)

[illegible]



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## Clinical Rotation( Immunology Unit)

[illegible]



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[illegible]



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## Clinical Rotation (Clinical Chemistry Unit)

[illegible]



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## Clinical Rotation ( Microbiology Unit)

[illegible]



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### Clinical Rotation (Emergency laboratory)

[illegible]





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## Clinical Rotation ( Outpatient Clinic)

[illegible]



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## Laboratory skills in Clinical immunology laboratory

[illegible]

\* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision



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[illegible]

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



## Laboratory skills in molecular biology laboratory

[illegible]

## M.D of Clinical Pathology Log Book



## Laboratory skills in autoimmunity laboratory

[illegible]

## M.D of Clinical Pathology Log Book



## Laboratory skills in flow cytometry laboratory

[illegible]

## M.D of Clinical Pathology Log Book



## Laboratory skills in lab safety and quality control

[illegible]

## M.D of Clinical Pathology Log Book



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## Clinical case log

[illegible]

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





## Clinical case log

[illegible]

## M.D of Clinical Pathology Log Book



## Night Shift

## Year 1

[illegible]



## Night Shift

[illegible]



## Night Shift

[illegible]



## Night Shift

### Year 4

[illegible]



## - Clinical Seminars log

[illegible]



## Clinical Seminars log

[illegible]



# Clinical Seminars log book

[illegible]





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[illegible]



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## Post graduate teaching

[illegible]



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## Post graduate teaching

[illegible]



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[illegible]



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## Post graduate teaching

[illegible]



**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</u> learning.						
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"> <li>• <u>Present</u> a case.</li> <li>• <u>Write</u> a consultation note.</li> <li>• <u>Inform patients</u> of a diagnosis and therapeutic plan</li> <li>Completing and maintaining comprehensive.</li> <li>• Timely and legible <u>medical records</u>.</li> <li>• Teamwork skills.</li> </ul>								






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General skills	could not judge (0)	strongly disagree(1)	(2 ) (3)		(4 ) (5)		(6) (7)		strongly agree (7)
			(2 )	(3)	(4 )	(5)	(6)	(7)	
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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<b>General skills</b>	<b>could not judge (0)</b>	<b>strongly disagree(1)</b>	 <b>(2 )      (3)</b>		 <b>(4 )      (5)</b>		 <b>(6)</b>	<b>strongly agree (7)</b>
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								



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## Unit 2; Clinical Chemistry (subsidiary unit)



### Requirements

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



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(Clinical chemistry subsidiary unit)

**Rotation / attendance proof**

الأماكن التي تدرب بها

أسم المستشفى التي تدرب بها	توقيع رئيس القسم	توقيع مدير المستشفى



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**2.4 CP for Clinical Chemistry (Subsidiary unit) Lectures and tutorials**

**At any time of study Years (1,2,3&4 year) could be achieved**

Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical chemistry	2.4CP	Clinical Pathology	24 hours	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



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Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
	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



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**12 Credit points Clinical training in Clinical Chemistry (subsidiary unit)**

**At any time of study Years (1, 2, 3&4 year) could be achieved**

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training <b>in Clinical Chemistry</b> & emergency units	12CP	Clinical Pathology	➤ Practice with investigated cases for at least 2 months in the clinical chemistry unit including perform and interpretation of different laboratory techniques including fulfilling; *Log of laboratory skills as mentioned below;	100%
	0.5CP		- Attend in unit for at least <b>1hour / day for 2 weeks</b> and Perform in Clinical Chemistry lab <b>at least 10 times level A of</b> 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 hour / 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 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  
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Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical chemistry (continued)	0.5CP	Clinical pathology	-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 <b>1h</b> / day -twice /weekly for 4 weeks to; Practice and Perform complete urine analysis 8 times level C,B& A	4.16% of unit training
	0.5CP		-Attend in lab for at least <b>1h / day -once /weekly for 4 weeks</b> to; Practice and Perform in clinical chemistry laboratory of the following;,, 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 <b>2 hour / day -twice /weekly for 4 weeks</b> to; Practice and Perform in hormonal assay and tumor markers laboratories hormones and the following tumor markers ;(CEA , FreePSA, $\alpha$ -fetoprotein, CA125, CA19.9, CA15.3 and Free $\beta$ subunit )at least at least 4 times level <b>C&amp;B</b> .	8.44% of unit training
	2CP		Attend in lab for at least 2h/day for 2 wk 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 wk 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		➤ Attend for 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  
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**Management plan of the following Clinical chemistry Procedures log**

<b>Procedure</b>	<b>Number</b>
<b>Basic Laboratory Techniques:-</b> Specimen collection , Pipettes Centrifuges , Balances, pH meter, Spectrophotometry.	10
<b>chemical analysis of :</b> 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 <sub>1c</sub> ) 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, $\alpha$ -fetoprotein, CA125, CA19.9, CA15.3 and Free $\beta$ subunit	4
Interpretation of lab results	60-80
Electrophoresis	2

**\* Level of competency**

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



## Clinical Rotation (Clinical chemistry laboratory)

[illegible]



## Clinical Rotation hormonal assay and tumour marker lab.

[illegible]



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## Clinical Rotation electrophoresis laboratory.

[illegible]



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## Clinical Rotation Emergency Laboratory

[illegible]



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[illegible]



## Laboratory skills in clinical chemistry

[illegible]

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## Laboratory skills in body fluid and urine analysis

[illegible]

\* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision





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## Laboratory skills in automation in clinical chemistry

[illegible]

\* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision



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[illegible]



**Clinical Pathology  
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[illegible]



## Clinical Seminars log

[illegible]



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[illegible]



## Post graduate teaching

[illegible]



**Clinical Pathology  
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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</u> learning.						
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"> <li>• <u>Present</u> a case.</li> <li>• <u>Write</u> a consultation note.</li> <li>• <u>Inform patients</u> of a diagnosis and therapeutic plan</li> <li>Completing and maintaining comprehensive.</li> <li>• Timely and legible <u>medical records</u>.</li> <li>• Teamwork skills.</li> </ul>								








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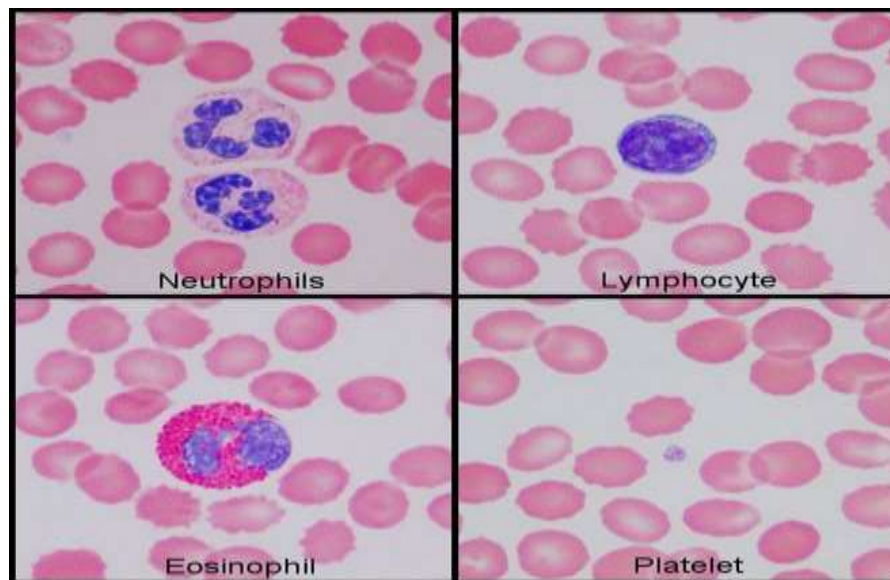
General skills	could not judge (0)	strongly disagree(1)	(2 ) (3)		(4 ) (5)		(6) (7)		strongly agree (7)
			(2 )	(3)	(4 )	(5)	(6)	(7)	
Create and sustain a therapeutic and ethically sound relationship with patients.									
Elicit and provide information using effective nonverbal, explanatory, questioning, 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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<b>General skills</b>	<b>could not judge (0)</b>	<b>strongly disagree(1)</b>	 <b>(2 ) (3)</b>		 <b>(4 ) (5)</b>		 <b>(6)</b>	<b>strongly agree (7)</b>
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 credit points for training; total 14.4CP..
- Minimal rate of attendance 80% of training and didactic



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**Unit (Module)3**

**Hematology Subsidiary Unit)**

**Rotation / attendance proof**

**الأماكن التي تدرب بها**

توقيع مدير المستشفى	توقيع رئيس القسم	أسم المستشفى التي تدرب بها



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**2.4Credit Point for Hematology (subsidiary unit) Lectures and tutorials;  
could be achieved at any time of study (year 1,2,3,4)collectively or  
separately**

Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Hematology	<u>(0.2)CP</u> 0.1 0.1	Clinical pathology	(2 hours) General Hematology 1- Hematologic aspects of 1h systemic diseases 2- General aspects of hematologic malignancy1h.	8.33% of didactics unit 4.17% 4.17%
	<u>(0.7)CP</u> 0.2  0.2 0.1 0.1 0.1		(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%
	<u>(0.6)CP</u> 0.1		(6 hours) Leukocytes and Their Disorders 1- Non-malignant Disorders of Leukocytes and the spleen	25% of didactics unit 4.17%
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
<b>Hematology</b>	<b>0.1</b>	<b>Clinical pathology</b>	-Hematologic Malignancies	4.17%
	<b>0.1</b>		* Acute Leukemias	4.17%
	<b>0.1</b>		* Myelodysplastic Syndromes	4.17%
	<b>0.1</b>		* Myeloproliferative Disorders	4.17%
	<b>0.1</b>		* Lymphoproliferative Disorders	4.17%
	<b>0.1</b>		* Immunoproliferative Disorders	4.17%
	<b><u>(0.6)CP</u></b>		<b>(6 hours)</b>	<b><u>25.1% of</u></b>
	<b>0.1</b>		<b>Disorders of Hemostasis</b>	<b>didactics unit</b>
	<b>0.1</b>		<b>1- Diagnostic Approach to the Bleeding Disorders</b>	
	<b>0.1</b>		<b>2- Bleeding Disorders Caused by Vascular Abnormalities</b>	4.17%
	<b>0.1</b>		<b>3- Bleeding Disorders Caused by Platelet Abnormalities</b>	4.17%
	<b>0.1</b>		<b>4- Inherited and Acquired Coagulation Disorders</b>	4.17%
	<b>0.1</b>		<b>5- Fibrinolysis and its disorders</b>	4.17%
	<b>0.1</b>		<b>6- Antithrombotic Therapy</b>	4.17%
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
<b>Clinical Hematology</b>	<b><u>(0.3)CP</u></b>	<b>Clinical pathology</b>	<b><u>-3 hours</u></b>	<b><u>12.5% of didactics unit</u></b>
	<b>0.1CP</b>		<b>Transfusion Therapy</b>	<b>4.17%</b>
	<b>0.1CP</b>		<b>1- Blood Donation and Collection</b>	<b>4.17%</b>
	<b>0.1CP</b>		<b>2- Use of Blood Components</b>	<b>4.17%</b>
Student signature			<b>3- Adverse Effects of Blood Transfusion</b>	
			Principle coordinator signature	Head of the department signature



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

Clinical training	Credit points	Responsible department	Attendance& activities	Percentage of Achieved points
Clinical hematology (continued)	(12)CP	Clinical Pathology	-Attend and practice in department (hematology unit and blood bank ) of the following activities mentioned below;	100% of unit training
	1.5CP		<ul style="list-style-type: none"> <li>➤ 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;</li> <li>➤ Log of laboratory skills as mentioned below;</li> </ul> -Perform the following laboratory technique related to Disorders of Red Cells in hematology unit including: 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 two hours /day one time/week for 4 weeks for each). 5)Hb F & A2 estimation 6)Hb electrophoresis for at least 2 times ( Level B & A one two hours/day two time/week for 2weeks). During the shift time. 7)Erythropoietin assay.	12.5% 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 hematology (continued)	1CP	Clinical pathology	-Study the principal and interpretation the of reported data Erythropoietin levels at least 4 times one time/week for 4 weeks).During the shift time Including Interpretation of the result related to red cell disorders 80-100, 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 including : - -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 2 times ( Level C, B & A; onetime/week for 2weeks). - Perform the following test: platelet function tests, investigations of thrombophilia. 2 times ( Level C, B & A; two hours/day one time/week for 2weeks). - Interpretation of the results related to Hemostasis 20 times two hours/days for 4 wk	12.5% of unit training
Student signature			Principle coordinator Signature	Head of the department signature
Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical hematology(continued)	1.CP		<b>-Attend and practice in lab for at least 1h/day- 3times/wk for 2wk. As well as Perform in blood banking unit</b>	8.33% of unit training



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			at least <b>6 times level A</b> of the following techniques: - ABO grouping , RH typing, - Cross matching and Coomb's test	
	1CP		-Attend and practice in lab for at least <b>3h/day- twice/wk for 2wk.</b> <b>as well as</b> Perform in transfusion therapy and blood banking units at least 2 times C&B of the following techniques: <b>Ab screening &amp; Identification</b> - 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 <b>2h/day- once/wk for 2.</b> <b>as well as</b> Perform Myeloperoxidase, Sudan black, PAS ,NAP ,Acid Phosphatase of Level C& B , 2 times; tow hours/day for of each (i.e. onetime/week for 2weeks).  -Practice for at least once/wk for 2wk and Perform immunophenotyping of leukemia and lymphoproliferative disorders in flow cytometry laboratory 2 times ( Level C& B; onetime/week for 2weeks). - 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.	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 hematology(continued)	4CP		➤ Attendance of at least 5hours/day for 4 weeks in Blood Bank	33.33% of unit training
	0.5CP		➤ Apply quality control and laboratory safety for at least 1-2 hours /week/ for 15 week	4.17% of unit training
	0.5CP		➤ Formative assessment for at least two times/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

<b>Procedure</b>	<b>Number</b>
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



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[illegible]



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[illegible]



## Laboratory skills in Blood Bank and transfusion medicine

[illegible]

## M.D of Clinical Pathology Log Book



## Laboratory skills in anemia laboratory

[illegible]

## M.D of Clinical Pathology Log Book





## Laboratory skills in Hemostasis laboratory

[illegible]

## M.D of Clinical Pathology Log Book



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## Laboratory skills in cytochemistry laboratory

[illegible]

\* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision



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## Laboratory skills in flow cytometry laboratory

[illegible]

\* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision



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## Laboratory skills in lab safety and quality control

[illegible]

\* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision



## - Clinical Seminars log

[illegible]



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[illegible]



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[illegible]



## Post graduate teaching

[illegible]





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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</u> learning.						
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"> <li>• <u>Present</u> a case.</li> <li>• <u>Write</u> a consultation note.</li> <li>• <u>Inform patients</u> of a diagnosis and therapeutic plan Completing and maintaining comprehensive.</li> <li>• Timely and legible <u>medical records</u>.</li> <li>• Teamwork skills.</li> </ul>								






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General skills	could not judge (0)	strongly disagree(1)	(2 ) (3)		(4 ) (5)		(6)		strongly agree (7)
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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<b>General skills</b>	<b>could not judge (0)</b>	<b>strongly disagree(1)</b>	 <b>(2 ) (3)</b>		 <b>(4 ) (5)</b>		 <b>(6)</b>	<b>strongly agree (7)</b>
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 Microbiology/ subsidiary unit



## Requirements

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



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**Unit (Module)4**

**(Clinical Microbiology Subsidiary unit)**

***Rotation / attendance proof***

**الأماكن التي تدرب بها**

أسم المستشفى التي تدرب بها	توقيع رئيس القسم	توقيع مدير المستشفى



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## 2.4 Credit Point Microbiology Lectures and tutorials Subsidiary unit

Year 1,2,3&4 or collectively according to rotation( at any time)

Name of the unit	Credit points	Responsible department	Attendance	Percentage of Achieved points
<b>Clinical microbiology</b>	<b><u>0.4CP</u></b> (0.2)	<b>Clinical Pathology</b>	<b>General microbiology:4h</b> - Processing of samples & Rejection of samples -Antibiotic groups & drug resistant	16.66% of didactics unit
	(0.2)			8.3%
				8.3%
	<b><u>0.5CP</u></b> (0.25)		<b>Medical mycology:5h</b> -Superficial , cutaneous Mycosis & Subcutaneous mycosis -Systemic mycosis	<u>20.83% of didactics unit</u> 10.41%
	(0.25)			10.41%
	<b><u>0.5CP</u></b> (0.25)		<b>Medical virology:5h</b> -Respiratory viruses -Hepatitis viruses	<u>20.83% of didactics unit</u> 10.41%
	(0.25)			10.41%
	<b><u>1.0CP</u></b>		<b>Clinical microbiology:10h</b>  -Pyrexia of unknown origin -Septicemia and bacteremia -Upper and lower resp. tract infections -Ear and eye infections -GIT infections -Genitourinary tract infections - Sexually transmitted dis. -Nosocomial infection and infection	<u>41.66% of didactics unit</u>
	0.125			5.2%
	0.125			5.2%
	0.125			5.2%
	0.125			5.2%
	0.125			5.2%
	0.125			5.2%
<b>Student signature</b>				<b>Principle coordinator signature</b>



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**12Credit points Clinical training in Clinical Microbiology (subsidiary unit) at any time**

Clinical training	Credit points	Responsible department	Attendance	
<b>Clinical Microbiology</b>	12CP	Clinical Pathology	<ul style="list-style-type: none"> <li>➤ Practice with at least 2 months in the clinical microbiology unit including training of the following skills ;</li> <li>➤ perform and interpretation of different laboratory techniques</li> <li>➤ Log of laboratory skills as mentioned below;</li> </ul>	100% of training unit
	0.5CP		- Attend in lab for at least <b>1 hour / day -twice /weekly for 4 weeks</b> as well as Practice and Perform in clinical microbiology lab for at least 8 times level A of the following techniques; - Sampling and Specimen: Collection of: Blood, Urine, Pus, Sputum, Stool and biological fluid including; -Techniques -Precautions - Container	4.16% of training unit
	1CP		Attend in lab for at least 2 hour / day - once /week for 3 weeks as well as Practice and Prepare in clinical microbiology laboratory at least 3 times level C,B& A preparation of the following types of media: -Neutrient -Blood -Chocolate -MacConkey -Manitol- salt -Eosin Methylene Blue	8.33% of training unit
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 microbiology(continued)	1CP	Clinical pathology	-Attend in lab for at least <b>2 hour / day -once /week for 4 weeks</b> as well as Practice and Perform in clinical microbiology laboratory at least 4 times level B& A Staining procedures: -Gram stain -Ziehl-Neelsen stain	8.33% of training unit
	0.5CP		Attend in lab for at least <b>2 hour / day -once /week for 4 weeks</b> and Perform in clinical microbiology laboratory at least 4times of the following; - Transportation and Processing of Specimens and culture of Blood, Urine, Pus, Sputum, Stool and biological fluids Stool and Biological fluid	4.16% of training unit
	0.5CP		Attend in lab for at least <b>2 hour / day -once /week for 2weeks</b> and Perform in clinical microbiology laboratory at least 2 times level B& A ,Culture of anaerobes; i.e. -Techniques -Precautions - Containers	4.16% of training unit
	1CP		- Attend in lab for at least <b>3hours / day for 4 weeks</b> and Perform in clinical microbiology laboratory at least 4 times level C&B microbiological techniques in tuberculosis: - Direct smear microscopy -Z-N preparation -Culture on L-J -Identification of strains -Interpretation -Drug susceptibility	8.33% of training unit
Student signature			Principle coordinatorSignature	Head of the department signature



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Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
clinical microbiology(continued)	0.5CP	Clinical pathology	-Attend in lab for at least 1h/day for 4wks and Practice in clinical microbiology laboratory for at least 4times level C&B with different microbiological analyzer Microscan Bactic blood culture .	4.16% of training unit
	0.5CP		- Attend in lab for at least 2hours / day- weekly for 4 weeks and Perform in clinical microbiology laboratory at least 4 times level C,B&A; Antibiogram test .	4.16% of training unit
	0.5CP		-Attend in lab for at least <b>2hours / day- weekly for 4 weeks</b> and Perform in clinical microbiology laboratory at least 4 times level C,B&A; complete urine and stool.	4.17% of training unit
	1CP		Attend in lab for at least <b>2hours / day- weekly for 2 weeks and practice Interpretation of lab results at least 60 -80 results</b>	8.33% of training unit
	4CP		➤ Attendance of at least 4h/day for 2weeks(14days) in the Outpatient clinic lab	33.33% of training unit
	0.5CP		➤ Attend for at least 2 hours /week/ for 15 week and Apply quality control and laboratory safety	4.17% of training unit
	0.5CP		➤ Formative assessment	4.17% of training unit
Student signature			Principle coordinator Signature	Head of the department signature



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**Management plan of the following Microbiological Procedures log  
At any time (year 1,2,3,4)**

<b>Procedure</b>	<b>Number</b>
<b>Sampling and specimen collection of:</b> Blood, Urine, Pus, Sputum, Stool and biological fluid –Techniques -Precautions - Container	10
<b>Preparation of the following types of media:</b> Neutrient, Blood,- Chocolate, MacConkey, Manittol- salt-Eosin Methylene Blue	3
<b>Staining procedures:-</b> Gram stain and Ziehl-Neelsen stain	4
<b>Culture of anaerobes</b> -Techniques, Precautions and Containers	4
<b>Transportation and Processing of Specimens:</b> Blood, Urine, Pus, Sputum, Stool and biological fluids, Stool and Biological fluid	4
<b>microbiological techniques in tuberculosis:</b> - Direct smear microscopy, Z-N preparation, Culture on L-J, Identification of strains Interpretation and Drug susceptibility	2
<b>Microbiological analyzer</b> Microscan and Bactic blood culture	4
Antibiogram test	4
complete urine and stool analysis	4
Interpretation of lab results at leas	60-80

**Level of competency**

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



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[illegible]



## Clinical Rotation Tuberculosis laboratory

[illegible]



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## Clinical Rotation in Emergency Laboratory

[illegible]



## Outpatient clinic lab

[illegible]



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[illegible]





## Clinical Seminars log

[illegible]



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## Post graduate teaching

[illegible]



## Laboratory skills in Clinical Microbiology Laboratory

[illegible]

## M.D of Clinical Pathology Log Book



## Laboratory skills in Tuberculosis Laboratory

[illegible]

## M.D of Clinical Pathology Log Book





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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</u> learning.						
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"> <li>• <u>Present</u> a case.</li> <li>• <u>Write</u> a consultation note.</li> <li>• <u>Inform patients</u> of a diagnosis and therapeutic plan</li> <li>Completing and maintaining comprehensive.</li> <li>• Timely and legible <u>medical records</u>.</li> <li>• Teamwork skills.</li> </ul>								






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General skills	could not judge (0)	strongly disagree(1)	 (2 ) (3)		 (4 ) (5)		 (6)		strongly agree (7)
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)	 (2 )      (3)		 (4 )      (5)		 (6)		strongly agree (7)
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									



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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



**Name of the elective course: -----**

[illegible]



## Elective Course    Practical skills

[illegible]



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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



**Name of the elective course: -----**

## Elective Course Lectures

[illegible]



## Elective Course Practical skills

[illegible]



## Other scientific activities

[illegible]

A- Attendance  
B- Organization  
C- Presentation





## Other scientific activities

[illegible]

A- Attendance  
B- Organization  
C- Presentation



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## Formative assessment and MCQ

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



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## Formative assessment and MCQ

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



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## Formative assessment and MCQ

[illegible]

\*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
<b>First Part</b>			
-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.			
<b>Second Part</b>			
<b>Course 7: Clinical Pathology</b>			
<b>Module 1 clinical Immunology.</b>			
<b>Module 2 Clinical Chemistry.</b>			
<b>Module 3 clinical Hematology.</b>			
<b>Module 4 Clinical Microbiology.</b>			
- Elective Course (1) Certificate Dates:			
- Elective Course (2) Certificate Dates:			
- M. D. Thesis Acceptance Date:			
- Fulfillment of required credit points prior to final examination			
<b>Clinical Pathology M.D. Degree Principle Coordinator:</b>			
<b>Date approved by Clinical Pathology Department Council:</b>			

يعتمد ،  
رئيس القسم

أ.د./



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Faculty of Medicine

كراسة الأنشطة  
اللازمة لحصول الطالب علي درجة الدكتوراة في  
الباثولوجيا الأكلينيكية (التخصص الدقيق المناعة الاكلينيكية)  
2017-2016

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