



## Program specifications for: master's degree (MSc) of Clinical Hematology

### [1] Basic Information

1. **Program title:** master's degree (MSc) of Clinical hematology (**CODE: CHe200**)
2. **Final award:** master's degree (MSc) in Clinical hematology.
3. **Program type:** single.
4. **Responsible department:** Internal Medicine (clinical hematology unit)
5. **Departments involved in the program:** Internal Medicine, Physiology, Pathology, Community health, Anatomy, Histology and Cell Biology, Biochemistry, Pharmacology, Forensic Medicine and Toxicology, Microbiology and Immunology, Clinical Pathology.
6. **Program duration:** 24 months (6 months for the first part and 18 months for the second part).
7. **Number of program courses:** 8
8. **Coordinator:** Ass. Prof. Alyaa Sayed
9. **External evaluators:**
10. **Program management team:** All staff members of Clinical hematology department.

### [2] Professional Information: Program Aims

**Graduate of master's degree in clinical hematology, the candidate should be able to:**

- 1.1 Understand and apply the basics of research tools and methods in the field of Clinical hematology.
- 1.2 Able to critically analyse and evaluate different findings and methods used in the clinical hematology specialty and related internal medicine specialities.
- 1.3 Apply Clinical hematology knowledge in clinical practice, diagnose and treat common Clinical hematology diseases (Including related internal medicine conditions).
- 1.4 Demonstrate awareness of common Hematological diseases in the community.
- 1.5 Become a professional and competent hematologist and shows the ability to diagnose and treat complex hematological diseases.
- 1.6 Master the usage of basic clinical skills and different diagnostic tools in different clinical hematology subspecialties.
- 1.7 Gain leadership skills and communicate efficiency with other colleagues in the speciality of clinical haematology and Other related specialities.
- 1.8 Practice with sound professional ethical attitude to interact with community problems.
- 1.9 Demonstrate the ability to self-improvement and continuous professional growth in Clinical hematology specialty.

### **[3] Intended Learning Outcomes (ILOs):**

**(a) Knowledge and understanding:**

***By the end of the study of MSc degree of Clinical haematology the candidate should be able to:***

- a.1 Mention essential facts of clinically supportive sciences of the internal medicine including cardiology, Gastroenterology and hepatology, connective tissue diseases, pulmonary diseases, Nephrology, neurology, and medical emergencies related to Clinical Hematology.
- a.2 Recognize the normal and abnormal laboratory investigations related to the field of clinical hematology (**clinical pathology**).
- a.3 demonstrate the normal **physiology** and functions of different human organs.
- a.4 Identify the **biochemical** basis of health and disease in the human body.
- a.5 Describe various **pharmacological** and non-pharmacological therapeutic options of different disease
- a.6 Identify the **microbiological** and immunological basis of health and disease

related to clinical hematology.

- a.7 Recognize the essential **pathological** changes of different medical diseases related to the practice of clinical hematology.
- a.8 Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment the common diseases and situations related to Clinical Hematology.
- a.9 Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to Clinical Hematology.
- a.10 Identify the mutual influence between professional practice of clinical hematology and its impacts on the environment.
- a.11 Identify scientific development in the field of Clinical hematology.
- a.12 List the ethical and legal principles of professional practice in the field of Clinical hematology.
- a.13 List the principles of quality in professional practice in the field of clinical hematology.
- a.14 Define the basics and ethics of scientific research.

**(b) Intellectual skills**

By the end of the MSc of Clinical hematology, the candidate should be able to:

- b.1 Develop critical and analytical skills to solve different problems related to Clinical hematology.
- b.2 Combine basic knowledge and clinical skills to diagnose and treat different clinical hematology diseases.
- b.3 Interpret clinical history, examination, imaging, and laboratory studies for different clinical hematology diseases.
- b.4 Effectively apply research methods to carry out a thesis in one of the clinical hematology fields.
- b.5 Construct good understanding to common risks and patient safety issues related to clinical hematology patients.
- b.6 Plan for the development of performance in the field of Clinical hematology.
- b.7 Design diagnostic and therapeutic plans to Clinical hematology patients and report them to colleagues and managerial authorities.

### **3. Skills:**

#### **(c) Professional and practical skills**

By the end of the study of MSc of Clinical hematology, the candidate should be able to:

- c.1 Assess clinical history and symptoms of clinical hematology.
- c.2 Examine and perform clinical evaluation of different body systems.
- c.3 Analyze different laboratory and imaging studies (x-rays, CT, MRIs), etc.
- c.4 Assess complete blood count, blood film, and Bone Marrow Aspiration results.
- c.5 Perform some interventional procedures such as BM aspiration, BM biopsy, and use systemic therapies through all routes.
- c.6 Write and evaluate medical reports for clinical hematology patients.
- c.7 Compare different clinical pictures, diagnostic procedures, and treatments of clinical hematology diseases.

#### **(d) General and transferable skills**

By the end of the study of MSc of Clinical hematology, the candidate should be able to:

- d.1 Communicate effectively with Clinical hematology patients, colleagues, and other managerial authorities.
- d.2 Use online databases to collect materials needed for research and thesis.
- d.3 Manage and organize materials from various sources from the internet, libraries, etc.
- d.4 Able to express a research assignment orally and electronically.
- d.5 Develop a life-long attitude of continuous self-improvement and continuous medical education.
- d.6 Manage and organize materials from various sources from the internet, libraries, etc.
- d.7 Able to put and use indicators for evaluating the performance of others.
- d.8 Able to be a team worker and leader while working with other colleagues.
- d.9 Manage time effectively during clinical and academic work.
- d.10 Develop a life-long attitude of continuous self-improvement and continuous medical education.

#### **[4] Program Academic Reference Standards:**

- Minia faculty of Medicine adopted the general national academic reference standards provided by the national authority for quality assurance and accreditation of education (NAQAAE) for all postgraduate programs. (Faculty council Degree No.6854, in its session No.177 Dated :18\5\2009) (see Annex I)
- Minia faculty of medicine has developed the academic standards (ARS) for Master of Science (Msc) program and was approved in faculty Council decree No.7528, in its session No.191, dated: 15-3-2010), last update: 20-2-2023. {Annex I}.
- Then, Internal Medicine department (clinical hematology unit) has developed the intended learning outcomes (ILOs) for Master of Science (MSc) program in Clinical hematology and the Date of program specifications first approval was by department council: 13-5-2013, last update: 6-3-2023{Annex 2}.

#### **[5] Program structure:**

**Program duration: 2 Years (24 Months).**

Topic	Lecture hours/week	Practical/Clinical hours/week	Total No. of hours hours/week
<b>First part (6 months)</b>			
<b><u>Physiology</u></b>	<b>2</b>	<b>1</b>	<b>3</b>
<b><u>biochemistry</u></b>	<b>2</b>	<b>2</b>	<b>4</b>
<b><u>Pharmacology</u></b>	<b>2</b>	<b>-</b>	<b>2</b>
<b><u>Pathology</u></b>	<b>2</b>	<b>2</b>	<b>4</b>
<b><u>Microbiology, Immunology, and Clinical Pathology</u></b>	<b>2</b>	<b>8</b>	<b>10</b>
<b><u>Medical Ethics.</u></b>	<b>2</b>	<b>-</b>	<b>2</b>
<b>Total</b>	<b>12/w</b>	<b>13/w</b>	<b>25/w</b>
<b>Second part (18 months)</b>			
<b>Internal Medicine Specialities &amp; Medical Emergencies</b>	<b>4</b>	<b>8</b>	<b>12</b>
<b>Clinical Hematology</b>	<b>6</b>	<b>12</b>	<b>18</b>
<b>Total</b>	<b>10/w</b>	<b>20/w</b>	<b>30/w</b>

## Program courses (curriculum)

Course Title	Total No. of hours/w	No. of hours /week		
		Lect.	Practical	Tutorial
<b>First Part (Level of the course)</b>				
1. <u>Physiology</u>	3	2	1	
2. <u>Biochemistry</u>	4	2	2	
3. <u>Pharmacology</u>	2	2	-	
4. <u>Pathology</u>	4	2	2	
5. <u>Microbiology, Immunology, and clinical pathology</u>	10	2	8	
6. <u>Medical Ethics.</u>	2	2	-	-
Training programs and workshops, field visits, seminars& other scientific activities	continuous			
<b>Second Part (Level of the Course)</b>				
1. <u>Internal Medicine Specialities &amp; Medical Emergencies.</u>	12	4	8	
2. <u>Clinical hematology</u>	18	6	12	
Training programs and workshops, field visits, seminars& other scientific activities	continuous			

## **[6] program admission requirements:**

### **Conditions should be fulfilled for registration:**

- 1- Candidates graduated from Egyptian Universities should have at least “Good Rank” in their final year examination/ cumulative years, and grade “Good Rank” in internal medicine course too.
- 2- He should pass one year as a house officer in a university hospital or equivalent teaching hospital.
- 3- All candidates should have MBBCH with GOOD rank at least from Egyptian university or fellowship of clinical hematology from Egyptian ministry of health.
- 4- The candidates who are working in Ministry of health hospital must stay one year (full time) as visitor doctor for training in the university hospital after acceptance of registration.

### **Specific Requirements:**

- 1- Candidate should know how to speak & write English well (TOEFL certificate).
- 2- Candidate should have computer skills and ICDL certificate.

## **[7] Regulations for progression and program completion**

### **First part**

- Registration for the study in October every year.
- Start of the study in October.
- Registration of the scientific research after acceptance of internal medicine department and faculty councils and the vice dean of post graduate studies of the university.
- Examination of the first part starts after 6 months from registration of master’s degree.
- the student has to pass the first part exam.
- Those who fail in one curriculum need to re-exam it only.

- Medical Ethics course is a pass or fail exam and not added to the Total grades of the MSc Degree.

**B) Second Part (≥18 months)**

• Program related specialized science of clinical hematology courses and ILOs. At least 18 months after passing the 1<sup>st</sup> part should pass before the student can take permission for examination in the 2nd part.

• Fulfillment of the requirements in each course as described in the template and registered in the log book is a prerequisite for candidates to be assessed and undertake part 1 and part 2 examinations; as following:

Grand rounds اجتماع علمى موسع

Training courses دورات تدريبية

Conference attendance حضور مؤتمرات علمية

Thesis discussion حضور مناقشات رسائل

Workshops حضور ورش عمل

Journal club ندوة الدوريات الحديثة

Case presentation تقييم حالة مرضية

Seminars لقاء علمى موسع

Morbidity and Mortality conference ندوة تحليل المخاطر المرضية أو الوفاة

Self education program برنامج التعليم الذاتى

- Examination of the second part after passing first part examination and finishing clinical studies and training (not less than 18 months).

-The candidate should pass the written, clinical and oral exams ..

-If the candidate failed to achieve  $\geq 60$  % of total ,he should repeat the full exam with 4 trial maximum.

**Scientific research (Thesis)**

- Discussion of the research done and accepted one month at least before the exam of the second part . The thesis should be accepted from the discussion committee, clinical hematology department and faculty councils and vice dean of postgraduate studies of the university. One literature at least should be edited from the research in a documented scientific journal documented from the high council of the Egyptian universities.



**[8] Evaluation of program intended learning outcomes:**

Evaluator (By whom)	Method/tool	Sample
1. Senior students (Students of last year)	Questionnaires	All the students
2. Graduates (Alumni)	Questionnaires	10 at least
3. Stakeholders	Meeting Questionnaires	10 at least
4. External & Internal evaluators and external examiners	Reports	1 at least
5. Quality Assurance Unit	Reports Questionnaires Site visits	
6. Exams results	Results analysis Report	All the students

[9] Teaching and learning methods	[10] <u>Methods of assessment.:</u>
Lectures (PowerPoint, chalk, and talk)	<b>WRITTEN EXAM</b> - Short essay - MCQs - Complete - True or false and correct the wrong - Commentary - Problem solving
Clinical and practical (Including grand rounds)	<b>CLINICAL EXAM:</b> - Long case history and examination. - Short case history and examination. - Commentary cases. - ECG Quizzes. - Radiology Quizzes.
Presentation/seminar	<b>ORAL EXAM</b>
Journal club	<b>LOG BOOK</b>
Thesis discussion	

Date of last department approval: 6-3-2023

Head of the Internal Medicine department Signature:

Prof. Dr. Youssef Ismail Moussa

## ANNEX [I]

### **Matrix Between National Academic Quality Assurance & Accreditation (NAQAAE) General Academic Reference Standards (GARS) and Faculty Academic Reference Standards (ARS) (Including graduate Attributes)**

<b>NAQAAE</b> برامج الماجستير	<b>Faculty</b> <b>Master (MSC) Program</b>
١. مواصفات الخريج: خريج برنامج الماجستير في أي تخصص يجب أن يكون قادرا على	<b>1. Graduate Attributes:</b> Graduate of master (MSC) program should be able to:
1.1. إجادة تطبيق أساسيات ومنهجيات البحث العلمي وإستخدام أدواته المختلفة.	1.1. understanding and applying of basics of research method and research tools
2.1. تطبيق المنهج التحليلي وإستخدامه في مجال التخصص	2.1. Critically analyze, evaluate, and effectively communicate findings, theories, and methods
3.1. تطبيق المعارف المتخصصة ودمجها مع المعارف ذات العلاقة في ممارسته المهنية.	3.1. Apply integrated professional and general knowledge in his scholarly field and at the interface between different fields.
4.1. إظهار وعيا بالمشاكل الجارية والرؤى الحديثة في مجال التخصص.	4.1. Demonstrate awareness of community health needs related to the field of specialization by understanding the beneficial interaction with the society to improve quality of life
5.1. تحديد المشكلات المهنية وإيجاد حلول لها.	5.1. Demonstrating proficiency, required to solve current complex problems in his scholarly field.
6.1. إتقان نطاق مناسب من المهارات المهنية المخصصة وإستخدام الوسائل التكنولوجية المناسبة بما	6.1. Master a variety of technical skills in his scholarly field and expert relevant equipment,

يخدم ممارسته المهنية.	technology, and software.
7.1. لتواصل بفاعلية والقدرة على قيادة فرق العمل.	7.1. Gain leadership skills and be able to communicate efficiently with colleagues and get the best results.
8.1. اتخاذ القرار في سياقات مهنية مختلفة.	8.1. Take professional situational decisions and logically support them.
9.1. توظيف الموارد المتاحة بما يحقق أعلى استفادة والحفاظ عليها	9.1. Optimal use of available resources to achieve research or best patient health care and ensure its maintenance.
10.1. إظهار الوعي بدوره في تنمية المجتمع والحفاظ على البيئة في ضوء المتغيرات.	10.1. Demonstrate awareness of its role in community health development and
11.1. التصرف بما يعكس الالتزام بالنزاهة والمصداقية والالتزام بقواعد المهنة.	11.1. Exhibit ethical behavior that reflect commitment to the code of practice
12.1. تنمية ذاته أكاديميا ومهنيا وقادرا علي التعلم المستمر.	12.1. demonstrate the ability to sustain a lifelong personal and professional growth.
٢. المعايير القياسية العامة: <b>NAQAAE General Academic Reference Standards “GARS” for Master Programs</b>	<b>2. Faculty Academic Reference Standards (ARS) for Master Program</b>
٢, ١. المعرفة والفهم: بانتهاج دراسة برنامج الماجستير يجب أن يكون الخريج قادرا علي الفهم والدراسة بكل من:	<b>2.1. Knowledge &amp; Understanding:</b> Upon completion of <b>the Master Program</b> in Clinical hematology, the graduate should have sufficient knowledge and understanding of:
٢, ١, ١. النظريات والأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة	2.1.1. Understand the scientific basis and modern knowledge in the field of specialization and related medical sciences
٢, ١, ٢. التأثير المتبادل بين الممارسة المهنية	2.1.2. The mutual influence of professional practice on work environment, working conditions, and job characteristics.

وانعكاسها علي البيئة	
٢, ١, ٣. التطورات العلمية في مجال التخصص	2.1.3. Scientific developments in the field of specialization
٢, ١, ٤. المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التخصص	2.1.4. Recognize basics of medico-legal aspects of practice, malpractice and avoid common medical errors
٢, ١, ٥. مبادئ وأساسيات الجودة في الممارسة المهنية في مجال التخصص	2.1.5. Quality principles in the scholarly field
٢, ١, ٦. أساسيات وأخلاقيات البحث العلمي	2.1.6. Basis of research methodology and medical ethics.
<b>2.2. المهارات الذهنية:</b> بانتهاء دراسة برنامج الماجستير يجب أن يكون الخريج قادرا على:	<b>2.2. Intellectual Skills:</b> Upon completion of the master program of Clinical hematology, the graduate should be able to:
2.2.1. تحليل وتقييم المعلومات في مجال التخصص والقياس عليها لحل المشاكل	2.2.1. Use judgment skills for analytical and critical problem solving
2.2.2. حل المشاكل المتخصصة مع عدم توافر بعض المعطيات	2.2.2. Capable of integrating knowledge and dealing with complex subjects to solve problems
2.2.3. الربط بين المعارف المختلفة لحل المشاكل المهنية	2.2.3. Be capable of integrating research results and/or results of history, physical and laboratory test findings to solve a research or a clinical problem.
2.2.4. إجراء دراسة بحثية و/أو كتابة دراسة علمية منهجية حول مشكلة بحثية	2.2.4. Effectively apply research methods and carrying out a medical research thesis
2.2.5. تقييم المخاطر في الممارسات المهنية في مجال التخصص	2.2.5. Be aware of risk management principles, and patient safety.
2.2.6. التخطيط لتطوير الأداء في مجال التخصص	2.2.6. Establish goals, commitments, and strategies for improved professional performance in the field of specialty
2.2.7. اتخاذ القرارات المهنية في سياقات مهنية متنوعة.	2.2.7. Take professional situational decisions and logically support them.

<p><b>3.2.المهارات المهنية:</b></p> <p>بانتهاء دراسة برنامج الماجستير يجب أن يكون الخريج قادرا على:</p>	<p><b>3.2. Professional Skills:</b></p> <p>Upon completion of the master program of Clinical hematology, the graduate must be able to:</p>
<p>3.2.1. إتقان المهارات المهنية الأساسية والحديثة في مجال التخصص.</p>	<p>3.2.1. Master the basic and some advanced professional skills in his scholarly field.</p>
<p>٣,٢,٢ كتابة و تقييم التقارير المهني.</p>	<p>3.2.2. Write and evaluate medical or scientific reports</p>
<p>٢,٣,٣ تقييم الطرق والأدوات القائمة في مجال التخصص</p>	<p>3.2.3. Assess and evaluate technical tools during research</p>
<p><b>4.2.المهارات العامة والمنتقلة :</b></p> <p>بانتهاء دراسة برنامج الماجستير يجب أن يكون الخريج قادرا على:</p>	<p><b>4.2. General and transferable skills</b></p> <p>Upon completion of the master program of clinical hematology, the graduate should be able to:</p>
<p>٤,٢,١. التواصل الفعال بأنواعه المختلفة</p>	<p>4.2.1. Communicate effectively using a written medical record, electronic medical record, or other digital technology.</p>
<p>٤,٢,٢. استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية</p>	<p>4.2.2. Use of information technology (computer to create, process, store, secure and exchange electronic data) in the field of medical practice.</p>
<p>4.2.3. لتقييم الذاتي وتحديد احتياجاته التعليمية الشخصية</p>	<p>4.2.3. Assess himself and identify personal learning needs</p>
<p>4.2.4. استخدام المصادر المختلفة للحصول على المعلومات والمعارف</p>	<p>4.2.4. Use various sources for information (physical and digital sources).</p>
<p>4.3.5. وضع قواعد ومؤشرات تقييم أداء الآخرين</p>	<p>4.2.5. Setting indicators for evaluating the performance of others</p>
<p>4.2.6. العمل في فريق، وقيادة فرق في سياقات مهنية مختلفة</p>	<p>4.2.6. Work in a team, and Apply leadership skills to enhance team functioning, the learning environment, and/or the health care delivery</p>

	system
4.2.7. إدارة الوقت بكفاءة	4.2.7. Manage time efficiently
4.2.8. التعلم الذاتي والمستمر	4.2.8. Demonstrate skills of self-learning and lifelong learning needs of medical profession.

**Date of last department approval: 6-3-2023**

**Head of the Internal Medicine department Signature:**



Handwritten signature in blue ink over a blue official stamp. The stamp contains Arabic text: "رئيس قسم الباطنة" (Head of the Internal Medicine Department) and "الجامعة العراقية" (Iraqi University).

**ANNEX [II]**

**Matrix Between Faculty Academic Reference Standards (ARS), and Program ILOs**

<b>2. Faculty Academic Reference Standards (ARS) for Master Program</b>	<b>Clinical hematology MSc program ILOs</b>
<b>2.1. Knowledge &amp; Understanding:</b> Upon completion of <b>the Master Program in</b> clinical hematology the graduate should have sufficient knowledge and understanding of:	<b>A. Knowledge And understanding (A)</b>
2.1.1. Understand the scientific basis and modern knowledge in the field of specialization and related medical sciences	<p>a.1 Mention <u>essential facts</u> of clinically supportive sciences of the internal medicine including cardiology, Gastroenterology and hepatology, connective tissue diseases, pulmonary diseases, Nephrology, neurology, and medical emergencies related to Clinical Hematology.</p> <p>a.2. Recognize the normal and abnormal laboratory investigations related to the field of clinical hematology (<b>clinical pathology</b>).</p> <p>a.3 demonstrates the normal <b>physiology</b> and functions of different human organs.</p> <p>a.4 Identify the <b>biochemical</b> basis of health and disease in the human body.</p> <p>a.5 Describe various <b>pharmacological</b> and non-pharmacological therapeutic options of different disease</p> <p>a.6 Identify the <b>microbiological</b> and immunological basis of health and disease related to clinical hematology.</p> <p>a.7. Recognize the essential <b>pathological</b> changes of different medical diseases related to the practice of clinical hematology.</p>

	<p>a.8 Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment the common diseases and situations related to Clinical Hematology.</p> <p>a.9 Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to Clinical Hematology.</p>
2.1.2. The mutual influence of professional practice on work environment, working conditions, and job characteristics.	a.10 Identify the mutual influence between professional practice of clinical hematology and its impacts on the environment.
2.1.3. Scientific developments in the field of specialization	a.11 Identify scientific development in the field of Clinical hematology.
2.1.4. Recognize basics of medico-legal aspects of practice, malpractice and avoid common medical errors	a.12 List the ethical and legal principles of professional practice in the field of Clinical hematology.
2.1.5. Quality principles in the scholarly field	a.13 List the principles of quality in professional practice in the field of clinical hematology.
2.1.6. Basis of research methodology and medical ethics.	a.14 Define the basics and ethics of scientific research.
<p><b>2.2. Intellectual Skills:</b></p> <p>Upon completion of the master program of, the graduate should be able to:</p>	<p><b>Intellectual Skills</b></p> <p><b>(B)</b></p>
2.2.1. Use judgment skills for analytical and critical problem solving	b.1 Develop critical and analytical skills to solve different problems related to Clinical hematology.
2.2.2. Capable of integrating knowledge and dealing with complex subjects to solve problems	b.2 Combine basic knowledge and clinical skills to diagnose and treat different clinical hematology diseases.
2.2.3. Be capable of integrating research results and/or results of history, physical and laboratory test findings to solve a research or a clinical problem.	b.3 Interpret clinical history, examination, imaging, and laboratory studies for different clinical hematology diseases.
2.2.4. Effectively apply research methods and carrying out a medical research thesis	b.4 Effectively apply research methods to carry out a thesis in one of the clinical hematology fields.



2.2.5. Be aware of risk management principles, and patient safety.	b.5 Construct good understanding to common risks and patient safety issues related to clinical hematology patients.
2.2.6. Establish goals, commitments, and strategies for improved professional performance in the field of specialty	b.6 Plan for the development of performance in the field of Clinical hematology.
2.2.7. Take professional situational decisions and logically support them.	b.7 Design diagnostic and therapeutic plans to Clinical hematology patients and report them to colleagues and managerial authorities.
<b>3.2. Professional Skills:</b>  Upon completion of the master program of....., the graduate must be able to:	<b>Professional Skills</b>  <b>(C)</b>
3.2.1. Master the basic and some advanced professional skills in his scholarly field.	c.1 Assess clinical history and symptoms of clinical hematology. c.2 Examine and perform clinical evaluation of different body systems. c.3 Analyze different laboratory and imaging studies (x-rays, CT, MRIs), etc. c.4 Assess complete blood count, blood film, and Bone Marrow Aspiration results. c.5 Perform some interventional procedures such as BM aspiration, BM biopsy, and use systemic therapies through all routes.
3.2.2. Write and evaluate medical or scientific reports	c.6 Write and evaluate medical reports for clinical hematology patients.
3.2.3. Assess and evaluate technical tools during research	c.7 Compare different clinical pictures, diagnostic procedures, and treatments of clinical hematology diseases.
<b>4.2. General and transferable skills</b>  Upon completion of the master program of....., the graduate should be able to:	<b>General and Transferrable Skills.</b>  <b>(D)</b>
4.2.1. Communicate effectively using	d.1 Communicate effectively with Clinical

a written medical record, electronic medical record, or other digital technology.	hematology patients, colleagues, and other managerial authorities.
4.2.2. Use of information technology (computer to create, process, store, secure and exchange electronic data) in the field of medical practice.	d.2 Use online databases to collect materials needed for research and thesis. d.3 Manage and organize materials from various sources from the internet, libraries, etc. d.4 Able to express a research assignment orally and electronically.
4.2.3. Assess himself and identify personal learning needs	d.5 Develop a life-long attitude of continuous self-improvement and continuous medical education.
4.2.4. Use various sources for information (physical and digital sources).	d.6 Manage and organize materials from various sources from the internet, libraries, etc.
4.2.5. Setting indicators for evaluating the performance of others	d.7 Able to put and use indicators for evaluating the performance of others.
4.2.6. Work in a team, and Apply leadership skills to enhance team functioning, the learning environment, and/or the health care delivery system	d.8 Able to be a team worker and leader while working with other colleagues.
4.2.7. Manage time efficiently	d.9 Manage time effectively during clinical and academic work.
4.2.8. Demonstrate skills of self-learning and lifelong learning needs of medical profession.	d.10 Develop a life-long attitude of continuous self-improvement and continuous medical education.

**Date of last department approval: 6-3-2023**

**Head of the Internal Medicine department Signature:**

The image shows a handwritten signature in blue ink over a blue official stamp. The stamp contains Arabic text: 'رئيس قسم الباطنة' (Head of the Internal Medicine Department) and 'الكلية الطبية' (Medical Faculty). The signature is written in a cursive style.

**ANNEX [III]:**  
**Matrix of Coverage of Program ILOs by Program courses**  
**(topics)**

Course Title	Program ILOs Covered
<b>FIRST PART (Level of course):</b>	
<b>1- <u>Physiology</u></b>	a.3, b.1, b.2, c.3, c.7, d.1, d.2, d.5.
<b>2- <u>biochemistry</u></b>	a.4, b.1, b.2, c.3, c.7, d.1, d.2, d.5.
<b>3- <u>Pharmacology</u></b>	a.5, b.1, b.2, c.3, c.7, d.1, d.2, d.5.
<b>4- <u>Pathology</u></b>	a.7, b.1, b.2, c.3, c.7, d.1, d.2, d.5.
<b>5- <u>Microbiology and Immunology.</u></b>	a.6, b.1, b.2, c.3, c.7, d.1, d.2, d.5.
<b>6- <u>Clinical Pathology</u></b>	a.2, b.1, b.2, c.3, c.7, d.1, d.2, d.5.
<b>7- <u>Medical Ethics.</u></b>	a.12, b5, d4, d5, d6
Training programs and workshops, field visits, seminars& other scientific activities	a.1, a.8, a.9, a.10, a.11, a.12, a.13, a.14. b.1, b.2, b.3, b.5, b.6, b.7, c.1, c.2, c.3, c.4, c.5, d.2, d.7, d.8
<b>SECOND PART (Level of course):</b>	

<b><u>Internal Medicine</u></b>	a.1, a.10, a.11, a.12, a.13, a.14. b.1, b.2, b.3, b.5, b.6, b.7, c.1, c.2, c.3, c.4, c.5, d.2, d.7, d.8
<b><u>Clinical Hematology</u></b>	a.8, a.9, a.10, a.11, a.12, a.13, a.14. b.1, b.2, b.3, b.5, b.6, b.7, c.1, c.2, c.3, c.4, c.5, d.2, d.7, d.8
Training programs and workshops, field visits, seminars & other scientific activities	a.1-a.14. b.1, b.2, b.3, b.5, b.6, b.7, c.1, c.2, c.3, c.4, c.5, d.2, d.7, d.8

**Date of last department approval: 6-3-2023**

**Head of the internal medicine department Signature:**



**ANNEX [IV]:**  
**Matrix of Coverage of Program ILOs by Methods of Teaching & Learning**

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lectures (PowerPoint, chalk, and talk)	1,2,3,4,5,6,7,8,9,10,11,12,13.	1,2,3,5,7	1,2,3,4,5	2,5,7,8,10
Clinical and practical (Including grand rounds)	1,2,3,4,5,6,7,8,9,10,11,12,14.	1,2,3,5,7	1,2,3,4,5,6,7	2,4,5,6,7,8,9,10,11
Presentation/seminar	8,9,10,11,12,13,14.	1,2,5,6,7	1,2,5	2,5,6,7,8,10
Journal club	8,9,10,11,12,13,14.	2,4,5,6,7	1,3,5	1,2,3,5,7,10
Thesis discussion	1-14	1-7	-	1,2,3,5

Date of last department approval: 6-3-2023

Head of the internal medicine department Signature:

The image shows a handwritten signature in blue ink over a rectangular blue official stamp. The stamp contains Arabic text, including 'رئيس قسم الباطنة' (Head of the Internal Medicine Department) and 'الكلية الطبية' (Medical Faculty).

**ANNEX [V]**  
**Matrix of Coverage of Program ILOs by Methods of Assessment**

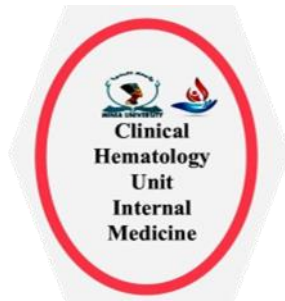
Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
<b>WRITTEN EXAM</b> - Short essay - MCQs - Complete - True or false and correct the wrong - Commentary - Problem solving	1,2,3,4,5,6,7,8,9,10,11,12.	1,2,3,7	-	-
<b>CLINICAL or PRACTICAL EXAM:</b> - Long case history and examination . - Short case history and examination . -	8,9,10,11,12	1,2,3,5,7	1,2,3,4,9,10,11,12	-

Commentary cases. - ECG Quizzes. - Radiology Quizzes.				
ORAL EXAM	1,2,3,4,6,7,8,9,10,11,12, 13	1,2,3,5,6, 7	4,6,7,11,12	4,5
LOGBOOK	-	-	1,2,3	1,2,3,4,5,6,7,8,9,10

Date of last department approval: 6-3-2023

Head of the Clinical hematology department Signature:

The image shows a handwritten signature in blue ink. Below the signature is a blue rectangular stamp containing Arabic text. The text in the stamp reads "أ.م.د. محمد عبد الحليم" (Dr. Mohamed Abdel Halim) and "مدير قسم الباطنة" (Head of the Internal Medicine Department).



## Internal Medicine Course Specifications for Clinical Hematology MSc degree.

**University:** Minia

**Faculty:** Medicine

**Department:** Internal Medicine (Clinical hematology Unit).

### 1. Course Information

• **Academic Year/level:**  
**Second Part**

• **Course Title:** Course Specifications of Internal Medicine, for Clinical Hematology MSc degree (**CODE CHe200**)



- **Number of teaching hours: 32 Hours per week X 18 months**
- **Lectures:** 4 hours/week X 18 months
- **ECG and Radiology Tutorials:** 4 hours per week X18 months
- **Practical/clinical:** 24 Hours per week X18 months

## 2. Overall Aims of the course

MSc candidates must be able to provide a high standard patient care that is compassionate and effective for the treatment of internal medical conditions and the promotion of health.

They must treat their patient's conditions with practices that are safe, scientifically based, effective, efficient, timely, cost effective as well as evidence -based.

The program must integrate patient centered care with medical education.

**After completing the internal medicine course, candidates are expected to demonstrate the ability of:**

1. Having sufficient knowledge about different Internal Medicine diseases that are related to clinical hematology.
2. Communicating with the patient, his relatives and cooperate with his colleagues.
3. To acquire the skill to interpret the results of the diagnostic tools.

## 3. Intended learning outcomes of course (ILOs):

*Upon completion of the course, the student should be able to:*

### A- Knowledge and Understanding

A1- Identify the Definition, causes, pathogenesis, diagnosis and treatment of the relevant **Gastroenterology , Hepatobiliary & pancreatic** disorders.

A2. Recognize the interplay between various internal medicine condions and different **Hematology & oncology** diseases.

A3. Recognize the Definition, causes, pathogenesis, diagnosis and treatment of the **Infectious diseases**.

A4. Define the causes, pathogenesis, diagnosis and treatment of the following **General internal medicine** topics including, History taking and examination, Ethics and communication, Chest pain / Dyspnea / Polyuria, Syncope, PUO, Laboratory interpretation, Imaging techniques and interpretation,

A5. Explain Evidence based medicine, Steps of EBM.

	<p>A6. Recall the definition, causes, pathogenesis, diagnosis and treatment of some <b>endocrinal</b> conditions such as <b>Diabetes</b> and adrenal diseases relevant to clinical hematology.</p> <p>A7. Recall the definition, causes, pathogenesis, diagnosis and treatment of the different <b>collagen and vascular</b> diseases relevant to clinical hematology.</p> <p>A8. Recognize the definition, causes, pathogenesis, diagnosis and treatment of some neurological diseases relevant to clinical hematology..</p> <p>A9. Define the basics of geriatric medicine (common disorders).</p> <p>A10. Recognize the definition, causes, pathogenesis, diagnosis and treatment of the different <b>Cardiological</b> diseases.</p> <p>A11. Recognize the definition, causes, pathogenesis, diagnosis and treatment of the different <b>Renal</b> medicine &amp; electrolyte disorders.</p> <p>A12. Identify important <b>Pulmonary &amp; critical</b> care medicine conditions related to clinical hematology..</p>
<p><b>B- Intellectual Skills</b></p>	<p>b.1 Develop critical and analytical skills to solve different problems related to Common Internal Medicine problems encountered by hematologists.</p> <p>b.2 Combine basic knowledge and clinical skills to diagnose and treat major internal medicine diseases.</p> <p>b.3 Interpret clinical history, examination, imaging, and laboratory studies for different internal medicine diseases.</p> <p>b.4 Effectively apply research methods to carry out a thesis in clinical hematology while being aware of the related internal medicine disorders.</p> <p>b.5 Construct good understanding to common risks and patient safety issues related to internal medicine patients.</p> <p>b.6 Plan for the development of performance in the field of Internal Medicine.</p> <p>b.7 Appraising diagnostic and therapeutic plans to Internal medicine patients and report them to colleagues and managerial authorities.</p>
<p><b>C- Professional and Practical Skills</b></p>	<p>c.1 Take a good medical history and conduct a proper general examination.</p> <p>c.2 Differentiate between normal and abnormal physical signs by proper regional examination of the body.</p> <p>c.3 Make and evaluate medical reports.</p> <p>c.4 Prepare a clear priority plan in the patient's management.</p>

	<p>c.5 Assess the indications for consulting higher levels of reference to other disciplines.</p> <p>c.6. Assess methods and tools in diagnosis and management in internal medicine.</p> <p>c.7 Get updated information and demonstrations on modern diagnostic tools.</p> <p>c.8 Judge adequately the results of common laboratory investigations.</p> <p>c.9 Interpret adequately X-ray, CT and ultrasonic images of common diseases.</p> <p>c.10 Interpret properly ECG recordings of cardiac cases.</p> <p>c.11 Get acquainted with the methods of patient's clinical assessment and monitoring, their significance and inter-relations.</p> <p>c.12 Evaluate adequately the patient's acute morbidity score and need for urgent intervention.</p>
<p><b>D- General and transferable Skills</b></p>	<p>d.1 Communicate effectively with patients and their families.</p> <p>d.2 Deal perfectly with the computer.</p> <p>d.3 Assess himself and identify personal learning needs.</p> <p>d.4 Develop personal skills in writing a <b>case summary</b> and a simple essay.</p> <p>d.5 Prepare and present different topics using power point and data show.</p> <p>d.6 Use different sources for information and knowledge continuously.</p> <p>d.7 Use information technology to serve the development of professional practice</p> <p>d.8 Work in a teamwork.</p> <p>d.9 Manage Scientific meetings according to the available time.</p> <p>d.10 Present problematic internal medicine-cases in seminars.</p> <p>d11. Communicate effectively by all types of effective communication.</p>

#### 4. Course Contents

Topic	Lecture Hours	Clinical/Tutorial Hours	Total
Heart failure	10	60	68
Hypertension	6	60	68
Ischemic heart disease	8	60	68
Renal failure	8	60	68
Cerebrovascular strokes	12	60	68

Neuropathies	4	60	68
Diabetes mellitus	8	60	68
Adrenal gland diseases	8	60	68
Liver cirrhosis and liver cell Failure	10	60	68
Gastritis, ileitis, malabsorption	6	60	68
GIT and liver in systemic Disease	8	60	68
Upper and lower GIT Bleeding	8	60	68
SLE	8	60	68
RA,	8	60	68
Vasculitis	8	60	68
Restrictive lung disorders, Granulomatous lung diseases& Idiopathic pulmonary fibrosis	10	60	68
Pulmonary infections	6	60	68
Acidosis and alkalosis	8	60	68
K and Na disorders	8	60	68
disorders of Ca & Mg	8	60	68
hypo and hypervitaminosis	8	60	68
ECG & Radiology Tutorials	-	180	180
<b>TOTAL</b>	<b>168</b>	<b>1440</b>	<b>1608</b>
<b>5. Methods of Learning and teaching</b>	<ul style="list-style-type: none"> <li>• Lectures (PowerPoint, chalk, and talk)</li> <li>• Clinical Training.</li> <li>• Seminars, Presentations.</li> <li>• Journal club</li> <li>• Thesis discussion</li> </ul>		
<b>6. Methods of teaching for students with disabilities.</b>	- Special session for training and tutorials.		
<b>7. Student Assessment</b>			
<b>A. Student Assessment Methods</b>	1. Research assignment for the students to assess the general and transferable skills.		

	<p>2. Logbook to assess clinical, and transferable skills, attendance to medical conferences and oral discussions of thesis.</p> <p>3 Final written and commentary written exam. to assess knowledge, understanding, and intellectual skills.</p> <p>4. Final oral exam to assess knowledge and understanding, intellectual skills.</p> <p>5. Final clinical exam., ECG and X- ray exam. to assess professional and clinical skills.</p>
<b>B. Assessment Schedule (Timing of Each Method of Assessment)</b>	Assessment Final exam: -----: 96 <sup>th</sup> Week.
<b>C. Weighting of Each Method of Assessment</b>	<p>Final-term written examination (including commentary question) 40 %</p> <p>Oral examination &amp; Clinical examination ----- ----- 60 %</p> <p>total: 100 %</p>
<b>8. List of References:</b>	
<b>A. Course Notes/handouts</b>	<b>Unapplicable.</b>
<b>B. Essential Books</b>	<ul style="list-style-type: none"> <li>• Davidson’s Principles and practice of medicine (24<sup>th</sup> Edition, 2023).</li> <li>• Handbook of critical and intensive care (4<sup>th</sup> Edition, 2021).</li> <li>• Essentials of electrocardiography</li> <li>• Methods of Clinical examination (Salah Ibrahim)</li> </ul>
<b>C. Recommended Text Books</b>	<ul style="list-style-type: none"> <li>• Harrison’s textbook of medicine (21<sup>st</sup> Edition, 2022)</li> <li>• Cecil’s essentials of internal medicine (26<sup>th</sup> Edition)</li> <li>• Hutchison for clinical examination methods (25<sup>th</sup> Edition, 2022)</li> <li>•</li> </ul>
<b>D. Periodicals, websites</b>	<ul style="list-style-type: none"> <li>• <a href="https://pubmed.ncbi.nlm.nih.gov/">https://pubmed.ncbi.nlm.nih.gov/</a></li> <li>• <a href="https://diabetesjournals.org/care">https://diabetesjournals.org/care</a> (Diabetes Care).</li> <li>• <a href="https://www.acpjournals.org/journal/aim">https://www.acpjournals.org/journal/aim</a> (Annals Of Internal Medicine).</li> </ul>

**Course Coordinator:**

Ass. Prof. Aliaa Sayed

**Head of Department:**

Prof. Dr. Youssef Ismail Moussa.

**Date of last update & approval by department Council:**

6<sup>th</sup> of March 2023



أولاد  
مفيس قسم البيطرة

الباطنة العامة	مسمى المقرر
CHe200	كود المقرر

جامعة: المنيا

كلية: الطب

قسم: الباطنة العامة

### [ANNEX I] Matrix of Coverage of Course ILOs By Content (Topics)

Contents (List of course topics)	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Heart failure	4,9,10	1-7	1-12	1-11
Hypertension	4,9,10	1-7	1-12	1-11
Ischemic heart disease	4,9,10	1-7	1-12	1-11
Renal failure	4,11	1-7	1-12	1-11
Cerebrovascular strokes	4,8,9	1-7	1-12	1-11

Neuropathies	<b>4,8,9</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Diabetes mellitus	<b>4,6,9</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Adrenal gland diseases	<b>4,6</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Liver cirrhosis and liver cell Failure	<b>1</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Gastritis, ileitis, malabsorption	<b>1</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
GIT and liver in systemic Disease	<b>1</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Upper and lower GIT Bleeding	<b>1</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
SLE	<b>7</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
RA	<b>7</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Vasculitis	<b>7</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Restrictive lung disorders, Granulomatous lung diseases& Idiopathic pulmonary fibrosis	<b>12</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Pulmonary infections	<b>9,12</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Acidosis and alkalosis	<b>4,9,11,12</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
K and Na disorders	<b>4,9,11,12</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
disorders of Ca & Mg	<b>4,9,11</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
hypo and hypervitaminosis	<b>4,9,11</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>



ECG & Radiology Tutorials	1-12	1-7	1-12	1-11
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Date of last department approval: 6-3-2023

Head of the Internal Medicine department Signature:



Handwritten signature and official stamp of the Head of the Internal Medicine department. The stamp is in Arabic and reads: "رئيس قسم الباطنة" (Head of the Internal Medicine Department).

## [ANNEX III] Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lectures (PowerPoint, chalk, and talk)	1,2,3,4,5,6,7,8,9,10,1 1,12	1,2,5,7	-	-
Clinical (Including grand rounds)	1,2,3,4,5,6,7,8,9,10,1 1,12	1,2,3,5,6, 7	1,2,3,4,5,6,7,8,9,10,1 1,12	1,2,3,4,6,8,11
Presentation/seminar	1,2,3,4,5,6,7,8,9,10,1 1,12	1,2,3,5,6, 7	2,5,7,8,12	2,3,4,5,7,9,10 ,11
Journal club	1,2,3,4,5,6,7,8,9,10,1 1,12	1,2,3,5,6, 7	4,5,6,7,8,12	2,3,4,5,7,9,10 ,11
Thesis discussion	1-12	1-7	--	2,3,4,5,6,7,8

Date of last department approval: 6-3-2023

Head of the Internal Medicine department Signature:



**[ANNEX III] Matrix of Coverage of Course ILOs  
by Methods of Assessment**

<b>Meth ods of</b>	<b>Intended Learning Outcomes (ILOs)</b>
----------------------------	--

	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	1,2,3,4,6,7,8,9,10,11,12	1,2,3,7	-	-
Clinical exam - Short Case. - Long Case. - ECG & Radiology Quizzes.	1,2,3,4,5,6,7,8,9,10,11,12	1,2,3,5,7	1,2,3,4,9,10,11,12	1,4,11
Oral Exam	1,2,3,4,5,6,7,8,9,10,11,12	1,2,3,5,6,7	4,6,7,11,12	4,5
Logbook	1,2,3,4,5,6,7,8,9,10,11,12	2,3,7	1,2,3	1,2,3,4,5,6,7,8,9,10,11

Date of last department approval: 6-3-2023

Head of the Internal Medicine department Signature:

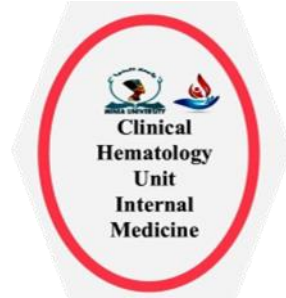
**[ANNEX IV] Blueprint Of Internal Medicine  
Department Candidates for Master Degree  
[Internal Medicine Examination Paper, Second  
Part, 280 marks]**

	Topic	Hours	Knowledge %	Intellectual %	% of topic	Marks	Actual Mark
1	Heart failure	10	80	20	6.0	8.3	8
2	Hypertension	6	80	20	3.6	5.0	5
3	Ischemic heart disease	8	80	20	4.8	6.7	7
4	Renal failure	8	80	20	4.8	6.7	7
5	Cerebrovascular strokes	12	80	20	7.1	10.0	10
6	Neuropathies	4	80	20	2.4	3.3	3
7	Diabetes mellitus	8	80	20	4.8	6.7	7
8	Adrenal gland diseases	8	80	20	4.8	6.7	7
9	Liver cirrhosis and liver cell Failure	10	80	20	6.0	8.3	8
10	Gastritis, ileitis, malabsorption	6	80	20	3.6	5.0	5
11	GIT and liver in systemic Disease	8	80	20	4.8	6.7	7
12	Upper and lower GIT Bleeding	8	80	20	4.8	6.7	7
13	SLE	8	80	20	4.8	6.7	7
14	RA,	8	80	20	4.8	6.7	7
15	Vasculitis	8	80	20	4.8	6.7	7

16	Restrictive lung disorders, Granulomatous lung diseases & Idiopathic pulmonary fibrosis	10	80	20	6.0	8.3	8
17	Pulmonary infections	6	80	20	3.6	5.0	5
18	Acidosis and alkalosis	8	80	20	4.8	6.7	7
19	K and Na disorders	8	80	20	4.8	6.7	7
20	disorders of Ca & Mg	8	80	20	4.8	6.7	7
21	hypo and hypervitaminosis	8	80	20	4.8	6.7	7
	<b>Total</b>	<b>168</b>	--	--	100%	--	140

Date of last department approval: 6-3-2023

Head of the Internal Medicine department Signature:



## Course Specifications of Clinical Hematology Master (MSc) degree.

**University:** Minia

**Faculty:** Medicine

**Department:** Internal Medicine (Clinical Hematology Unit).

### 9. Course Information

• **Academic Year/level:**  
Second Part

• **Course Title:** Course Specifications of clinical hematology, MSc Degree (**CODE CHe200**)

- **Number of teaching hours: 18 Hours per week X 18 months**
- **Lectures:** 6 hours/week X 18 months
- **Practical/clinical:** 12 Hours per week X18 months

### 10.Overall Aims of the course

MSc candidates must be able to provide a high standard patient care that is compassionate and effective for the treatment of Clinical Hematology conditions and the promotion of health.

They must treat their patient's conditions with practices that are safe, scientifically based, effective, efficient, timely, cost effective as well as evidence -based.

The program must integrate patient centered care with medical education.

#### **Master graduates of clinical hematology are expected to demonstrate the ability of:**

- 1- The overall aim is to enable the student to acquire the skills and knowledge to provide good care for patients in hematology ward and outpatient clinic.
- 2- To enable the students to cooperate with colleagues in other medical and surgical specialties.
- 3- be able to understand and properly use the hematological laboratory tests.
- 4- To use blood products properly and work in bone marrow transplantation centers.
- 5- To share in hematological research work.

### 11.Intended learning outcomes of course (ILOs):

*Upon completion of the course, the student should be able to:*

#### **E- Knowledge and Understanding**

##### **ILOs**

A1. Describe the etiology, clinical picture, diagnosis and management of **different hematological disorders** including RBCs, WBCs, Platelet, coagulation disorders, and hematological malignancies.

A2. Understands the basics and principles of **DIC, platelet, and other coagulation disorders** and the indications of thromboprophylaxis.

A3. State **update and evidence-based Knowledge** of DIC  
 Coagulation factor inhibitors  
 congenital coagulation disorders including Hemophilia A, Hemophilia B and Von Willebrand Disease  
 Acute myeloid leukaemia  
 Acute lymphoblastic leukaemia Chronic myeloid leukaemia chronic



	<p>Lymphocytic leukemia- Non-Hodgkin's lymphoma Hodgkin lymphoma Myeloproiferaive disorders Multiple Myeloma and Plasma cell disorders Transfusion Therapy and BMT</p> <p>A4. Memorize the facts and principles of the <b>relevant basic and clinically supportive sciences</b> related to Clinical Hematology.</p> <p>A5. Mention the basic <b>ethical and medicolegal</b> principles revenant to the Clinical Hematology</p> <p>A6. Mention the basics of <b>quality assurance</b> to ensure good clinical care in Clinical Hematology</p> <p>A7. Mention the ethical and scientific principles of <b>medical research</b></p> <p>A8. State the <b>impact of common health problems</b> in the field of Clinical Hematology on the society.</p>
<p><b>F- Intellectual Skills</b></p>	<p>b.8 Develop critical and analytical skills to solve different problems related to Clinical Hematology.</p> <p>b.9 Combine basic knowledge and clinical skills to diagnose and treat different Clinical hematology diseases.</p> <p>b.10 Interpret clinical history, examination, imaging, and laboratory studies for different Clinical Hematology diseases.</p> <p>b.11 Effectively apply research methods to carry out a thesis in one of the Clinical Hematology fields.</p> <p>b.12 Construct good understanding to common risks and patient safety issues related to Clinical Hematology patients.</p> <p>b.13 Plan for the development of performance in the field of Clinical Hematology.</p> <p>b.14 Design diagnostic and therapeutic plans to Clinical Hematology patients and report them to colleagues and managerial authorities.</p>
<p><b>G- Professional and Practical Skills</b></p>	<p>C.1 Take a good medical history and conduct a proper general examination on clinical hematology patients.</p> <p>C.2 Differentiate between normal and abnormal physical signs by proper regional examination of the body.</p> <p>c.3 Make and evaluate medical reports.</p> <p>c.4 Prepare a clear priority plan in the patient's management (including chemotherapy and radiotherapy plans for hematological malignancy patients).</p>

	<p>c.5 Assess the indications for consulting higher levels of reference to other disciplines.</p> <p>c.6. Assess methods and tools in diagnosis and management in Clinical Hematology.</p> <p>c.7 Get updated information and demonstrations on modern diagnostic tools in the field of clinical hematology.</p> <p>c.8 Judge adequately the results of common laboratory investigations, including Blood film, BM aspiration, BM Biopsy, routine blood investigations, and coagulation profile assessment.</p> <p>c.9 Interpret adequately imaging techniques relevant to clinical hematology such as X-ray, CT, MRI, and ultrasonic images of common diseases.</p> <p>c.10 Perform Some interventional skills such as BM aspiration, Blood film examination, CVP insertion, ABG, and application of IV cannula.</p> <p>c.11 Get acquainted with the methods of patient's clinical assessment and monitoring, their significance and inter-relations.</p> <p>c.12 Evaluate adequately the patient's acute morbidity score and need for urgent intervention.</p>
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<b>H- General and transferable Skills</b>	<p>d.1 Communicate effectively with patients and their families.</p> <p>d.2 Deal perfectly with the computer.</p> <p>d.3 Assess himself and identify personal learning needs.</p> <p>d.4 Develop personal skills in writing a <b>case summary</b> and a simple essay.</p> <p>d.5 Prepare and present different topics using power point and data show.</p> <p>d.6 Use different sources for information and knowledge continuously.</p> <p>d.7 Use information technology to serve the development of professional practice</p> <p>d.8 Work in a teamwork.</p> <p>d.9 Manage Scientific meetings according to the available time.</p> <p>d.10 Present problematic internal medicine-cases in seminars.</p> <p>d11. Communicate effectively by all types of effective communication.</p>
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## 12.Course Contents

Topic	Lecture Hours	Clinical/Tutorial Hours	Total
RBCs related disorders	18.0	36.0	54.0

WBCs disorders	18.0	36.0	54.0
Congenital coagulation disorders including Hemophilia A, Hemophilia B and Von Willebrand Disease	18.0	36.0	54.0
DIC and thrombophilia	12.0	24.0	36.0
Renal & hepatic disease	8.0	16.0	24.0
Coagulation factor inhibitors	8.0	16.0	24.0
Side effect and risks of Transfusion therapy	4.0	8.0	12.0
Thrombocytopenias – acquired and hereditary	18.0	36.0	54.0
Thrombocytosis – reactive and essential thrombocythaemia Qualitative disorders of platelet function – acquired and Hereditary (vWF disease)	10.0	20.0	30.0
Thromboticthrombocytopenic purpura	6.0	12.0	18.0
Vascular purpuras	4.0	8.0	12.0
Hereditary thrombophilias	8.0	16.0	24.0
Acquired thrombophilia	8.0	16.0	24.0
Acute myeloid leukaemia.	10.0	20.0	30.0
Acute lymphoblastic Leukaemia	10.0	20.0	30.0
Chronic myeloid leukaemia-	10.0	20.0	30.0
chronic Lymphocytic leukaemia-	10.0	20.0	30.0
Non-Hodgkins lymphoma Hodgkin lymphoma	10.0	20.0	30.0
Myelopoiferaive disorders	18.0	36.0	54.0
Multiple Myeloma and Plasma cell disorders	10.0	20.0	30.0
Donor selection &Pre- transfusion compatibility Testing	6.0	12.0	18.0
thrombosis in arteries, veins and the microcirculation	8.0	16.0	24.0

Anticoagulant Therapy: Mechanisms of action and define the indications for the use of heparin, oral anticoagulants and platelet inhibitors	8.0	16.0	24.0
Thromboprophylaxis (pharmacological and non-pharmacological) the indications and methods for thromboprophylaxis, both pharmacological and nonpharmacological	4.0	8.0	12.0
Other hematological malignancies	10.0	20.0	30.0
Infections in immune-compromised patients.	8.0	16.0	24.0
Immune deficient disorders.	8.0	16.0	24.0
<b>TOTAL</b>	<b>270.0</b>	<b>540.0</b>	<b>810.0</b>
<b>13. Teaching and Learning Methods</b>	<ul style="list-style-type: none"> <li>• Lectures (PowerPoint, chalk, and talk)</li> <li>• Clinical Training.</li> <li>• Seminars, Presentations.</li> <li>• Journal club</li> <li>• Thesis discussion</li> </ul>		
<b>14. Teaching and Learning Methods for students with limited Capacity</b>	- Special session for training and tutorials.		
<b>15. Student Assessment</b>			
<b>D. Student Assessment Methods</b>	<ol style="list-style-type: none"> <li>1. Research assignment for the students to assess the general and transferable skills.</li> <li>2. Logbook to assess clinical, and transferable skills, attendance to medical conferences and oral discussions of thesis.</li> <li>3 Final written and commentary written exam. to assess knowledge, understanding, and intellectual skills.</li> <li>4. Final oral exam to assess knowledge and understanding, intellectual skills.</li> <li>5. Final clinical exam., ECG and X- ray exam. to assess professional and clinical skills.</li> </ol>		

<b>E. Assessment Schedule (Timing of Each Method of Assessment)</b>	Assessment Final exam: -----: 60 <sup>th</sup> Week.
<b>F. Weighting of Each Method of Assessment</b>	Final-term written examination (including commentary question) 40 % Oral examination & Clinical examination ----- ----- 60 % total: 100 %
<b>16. List of References:</b>	
<b>E. Course Notes/handouts</b>	<ul style="list-style-type: none"> <li>• Hematology by Prof. Mona Abo Elmakarem.</li> </ul>
<b>F. Essential Books</b>	<ul style="list-style-type: none"> <li>• The Washington Manual of Hematology and Onchology Subspecialty Consult), 4<sup>th</sup> ed, 2016.</li> <li>• Clinical hematology Atlas, 6<sup>th</sup> Ed, 2022</li> </ul>
<b>G. Recommended Text Books</b>	<ul style="list-style-type: none"> <li>• Harrison's Hematology and Onchology (3<sup>rd</sup> Ed, 2022)</li> <li>• Williams Hemaotlogy, 10<sup>th</sup> Ed, 2021</li> </ul>
<b>H. Periodicals, websites</b>	<ul style="list-style-type: none"> <li>• American Journal of Hematology: <a href="https://onlinelibrary.wiley.com/journal/10968652">https://onlinelibrary.wiley.com/journal/10968652</a></li> <li>• Journal of Hematology and Onchology: <a href="https://jhoonline.biomedcentral.com/">https://jhoonline.biomedcentral.com/</a></li> <li>• Lancet Hematology: <a href="https://www.thelancet.com/journals/lanhae/home">https://www.thelancet.com/journals/lanhae/home</a></li> </ul>

**Course Coordinator:**

Ass. Prof. Aliaa Sayed

**Head of Department:**

Prof. Dr. Youssef Ismail Moussa.

**Date of last update & approval by department Council:**

6<sup>th</sup> of March 2023



أمراض الدم الاكلينيكية	مسمى المقرر
CHe200	كود المقرر

جامعة: المنيا

كلية: الطب

قسم: الباطنة العامة

### **[ANNEX I] Matrix of Coverage of Course ILOs By Content (Topics)**

Contents (List of course topics)	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
RBCs related disorders	1,3-8	1-7	1-12	1-11
WBCs disorders	1,3-8	1-7	1-12	1-11
Congenital coagulation disorders including Hemophilia A, Hemophilia B and Von Willebrand Disease	1-8	1-7	1-12	1-11
DIC and thrombophilia	1-8	1-7	1-12	1-11
Renal & hepatic disease	1,3-8	1-7	1-12	1-11

Coagulation factor inhibitors	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Side effect and risks of Transfusion therapy	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Thrombocytopenias – acquired and hereditary	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Thrombocytosis – reactive and essential thrombocythaemia, Qualitative disorders of platelet function – acquired and Hereditary (vWF disease	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Thromboticthrombocytopenic purpura	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Vascular purpuras	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Hereditary thrombophilias	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Acquired thrombophilia	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Acute myeloid leukaemia.	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Acute lymphoblastic Leukaemia	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Chronic myeloid leukaemia-	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
chronic Lymphocytic leukaemia-	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Non-Hodgkins lymphoma Hodgkin lymphoma	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Myelopoiferaive disorders	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>
Multiple Myeloma and Plasma cell disorders	<b>1,3-8</b>	<b>1-7</b>	<b>1-12</b>	<b>1-11</b>

Donor selection &Pre-transfusion compatibility Testing	1,3-8	1-7	1-12	1-11
thrombosis in arteries, veins and the microcirculation	1,3-8	1-7	1-12	1-11
Anticoagulant Therapy: Mechanisms of action and define the indications for the use of heparin, oral anticoagulants and platelet inhibitors	1,3-8	1-7	1-12	1-11
Thromboprophylaxis (pharmacological and non-pharmacological) the indications and methods for thromboprophylaxis, both pharmacological and nonpharmacological	1,3-8	1-7	1-12	1-11
Other hematological malignancies	1,3-8	1-7	1-12	1-11
Infections in immune-compromised patients.	1,3-8	1-7	1-12	1-11
Immune deficient disorders.	1,3-8	1-7	1-12	1-11

Date of last department approval: 6-3-2023

Head of the Internal Medicine department Signature:



## [ANNEX II] Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lectures (PowerPoint, chalk, and talk)	1,2,3,4,5,6, ,8	1,2,5,7	1,2,3,4,5,6,7,8,9,10,11,12	1-11
Clinical (Including grand rounds)	1,2,3,4,6	1,2,3,5,6,7	1,2,3,4,5,6,7,8,9,10,11,12	1-11
Presentation/seminar	1,2,3,4,5,6,7,8	1,2,3,5,6,7	1,2,3,4,5,6,7,8,9,10,11,12	1-11
Journal club	1,2,3,4,5,6,7,8	1,2,3,5,6,7	1,2,3,4,5,6,7,8,9,10,11,12	1-11
Thesis discussion	1,2,3,4,7,8	1,4,5	--	1-11

Date of last department approval: 6-3-2023

Head of the Internal Medicine department Signature:

**[ANNEX III] Matrix of Coverage of Course ILOs  
by Methods of Assessment**

Intended Learning Outcomes (ILOs)	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	1,2,3,4,8	1,2,3,7	-	-
Clinical exam - Short Case. - Long Case.	1,2,3,4,5,6,7,8	1,2,3,5,7	1,2,3,4,9,10,11,12	1,4,11

ECG & Radiology Quizzes.				
Oral Exam	1,2,3,4,5,6,7,8	1,2,3,5,6,7	4,6,7,11,12	4,5
Logbook	1,2,3,4,5,6,7,8	2,3,7	1,2,3	1,2,3,4,5,6,7,8,9,10,11

Date of last department approval: 6-3-2023  
Head of the Internal Medicine department Signature.

The image shows a handwritten signature in blue ink over a rectangular official stamp. The stamp contains Arabic text: 'رئيس قسم الباطنة' (Head of the Internal Medicine Department) and 'جامعة الملك سعود' (King Saud University). The signature is written in a cursive style.

**[ANNEX IV] Blueprint Of Internal Medicine  
Department Candidates for Master Degree  
[Internal Medicine Examination Paper, Second  
Part, 280 marks]**

	<b>Topic</b>	<b>Hou rs</b>	<b>Knowled ge %</b>	<b>Intellect ual %</b>	<b>% of topic</b>	<b>Mark s</b>	<b>Actu al Mark</b>
<b>1</b>	RBCs related disorders	18	80	20	6.7	9.33	<b>9</b>
<b>2</b>	WBCs disorders	18	80	20	6.7	9.33	<b>9</b>
<b>3</b>	Congenital coagulation disorders including Hemophilia A, Hemophilia B and Von Willebrand Disease	18	80	20	6.7	9.33	<b>9</b>
<b>4</b>	DIC and thrombophilia	12	80	20	4.4	6.22	<b>6</b>
<b>5</b>	Renal & hepatic disease	8	80	20	3.0	4.15	<b>4</b>
<b>6</b>	Coagulation factor inhibitors	8	80	20	3.0	4.15	<b>4</b>
<b>7</b>	Side effect and risks of Transfusion therapy	4	80	20	1.5	2.07	<b>2</b>
<b>8</b>	Thrombocytopenias – acquired and hereditary	18	80	20	6.7	9.33	<b>9</b>
<b>9</b>	Thrombocytosis – reactive and essential thrombocythaemia Qualitative disorders of platelet function – acquired	10	80	20	3.7	5.19	<b>5</b>

	and Hereditary (vWF disease)						
<b>10</b>	Thrombotic thrombocytopenic purpura	6	80	20	2.2	3.11	<b>3</b>
<b>11</b>	Vascular purpuras	4	80	20	1.5	2.07	<b>2</b>
<b>12</b>	Hereditary thrombophilias	8	80	20	3.0	4.15	<b>4</b>
<b>13</b>	Acquired thrombophilia	8	80	20	3.0	4.15	<b>4</b>
<b>14</b>	Acute myeloid leukaemia.	10	80	20	3.7	5.19	<b>5</b>
<b>15</b>	Acute lymphoblastic Leukaemia	10	80	20	3.7	5.19	<b>5</b>
<b>16</b>	Chronic myeloid leukaemia-	10	80	20	3.7	5.19	<b>5</b>
<b>17</b>	chronic Lymphocytic leukaemia-	10	80	20	3.7	5.19	<b>5</b>
<b>18</b>	Non-Hodgkins lymphoma Hodgkin lymphoma	10	80	20	3.7	5.19	<b>5</b>
<b>19</b>	Myeloproliferative disorders	18	80	20	6.7	9.33	<b>9</b>
<b>20</b>	Multiple Myeloma and Plasma cell disorders	10	80	20	3.7	5.19	<b>5</b>
<b>21</b>	Donor selection & Pre-transfusion compatibility Testing	6	80	20	2.2	3.11	<b>3</b>
<b>22</b>	thrombosis in arteries, veins and the microcirculation	8	80	20	3.0	4.15	<b>4</b>
<b>23</b>	Anticoagulant Therapy: Mechanisms of action and define the indications for the use of heparin, oral	8	80	20	3.0	4.15	<b>4</b>

	anticoagulants and platelet inhibitors						
2 4	Thromboprophylaxis (pharmacological and non-pharmacological) the indications and methods for thromboprophylaxis, both pharmacological and nonpharmacological	4	80	20	1.5	2.07	2
2 5	Other hematological malignancies	10	80	20	3.7	5.19	5
2 6	Infections in immune-compromised patients.	8	80	20	3.0	4.15	4
2 7	Immune deficient disorders.	8	80	20	3.0	4.15	4
	<b>Total</b>	270			100.0 %	140.0 0	140

Date of last department approval: 6-3-2023

Head of the Internal Medicine department Signature:

  
 رئيس قسم الباطنة  
 جامعة المنيا



**Faculty of Medicine**

كلية الطب

**Medical Biochemistry course specification for master  
degree in Clinical Hematology (First part)**

**University: Minia**

**Faculty: Medicine**

**Department: Medical Biochemistry**

**Last date of approval 5/ 3\2023**

<b>17.Course Information</b>		
<b>Academic Year/level:</b> First Part of Master Degree	<b>Course Title:</b> First Part of Master Degree in Clinical Hematology	<b>Code: CHe 200</b>
<b>Number of teaching hours:</b> <b>Lectures: 30 hours; 1.5 hours/week</b>		
<b>Overall Aims of the course</b>	<b>By the end of the course the student must be able to:</b> 1. Provide the postgraduate student with the medical Knowledge and skills essential for the practice of specialty and necessary to gain. 2-To understand all molecular basics and diseases. 3-To know different molecular techniques and their advanced applications. 4-To better understand and use the research tools including internet and differentlaboratory equipment. 5-To know retrieving the literature and understanding the evidence-basedmedicine 6-Maintain learning abilities necessary for	

	<p>continuous medical education. 7-Maintain research interest and abilities.</p>
<p><b>.Intended learning outcomes of course (ILOs):</b> <i>Upon completion of the course, the student should be able to:</i></p>	
<p><b>Knowledge and Understanding</b></p>	<p>The student finishes the course; he will be able to achieve the following objectives:  A1. Illustrate various metabolic processes of carbohydrate, lipid and protein  A2. Describe role of minerals and hormones and Vitamins in metabolism.  A3. Interpret Various metabolic diseases and their diagnosis  A4. List the role of enzymes in the chemical reactions in the body and its diagnostic importance.  A5. Discuss types of gene therapy and its therapeutic effect.  A.6. Describe the metabolism of hemoglobin and nucleic acids.  A.7- Explain xenobiotics and their detoxification.  A8- Explain principles, methodologies, tools and ethics of scientific research.</p>
<p><b>Intellectual Skills</b></p>	<p>B1-Develop the skills for analysis of different diseases to reach a final diagnosis.  B2-Develop the ability to solve problems associated with metabolic diseases.  B3-Develop the ability to integrate metabolic pathways with diseases.</p>
<p><b>Professional and Practical Skills</b></p>	<p>After completing the course, the student should be able to  C1. Organize groups, as a leader or as a colleague.  C2. Practice willingly the presentation skills through the attendance and participation in scientific activities.</p>



<b>General and transferable Skills</b>	After completing the course, the student should be able to D1. Be aware of the advanced biomedical information to remain current with advances in knowledge and practice (self-learning). D2. Prepare for medical progress by having advanced medical research studies		
<b>4- Course Contents</b>			
<b>Topic</b>	<b>Lecture hours)(</b>	<b>Practical/Clinical hours)(</b>	<b>Total No. of hours</b>
<b>1. Carbohydrate Metabolism</b>	6	---	6
<b>2. Lipid metabolism</b>	6	---	6
<b>3. Protein metabolism</b>	3	---	3
<b>4. Purines and pyrimidine Metabolism</b>	1.5	---	1.5
<b>5. Enzymes</b>	1.5	---	1.5
<b>6. Minerals</b>	3	---	3
<b>7. Hormones</b>	1.5	---	1.5
<b>8. Vitamins</b>	3	---	3
<b>9. Xenobiotics</b>	1.5	---	1.5
<b>10. Gene Therapy</b>	1.5	---	1.5
<b>11. Hemoglobin metabolism</b>	1.5	---	1.5
<b>Total</b>	<b>30</b>	---	<b>30</b>
<b>5-Teaching and Learning Methods</b>	1-Lectures & discussions. 2-Assignments		

	3-Attending and participating in scientific conferences and workshops to acquire the general and transferable skills needed
<b>6-Teaching and Learning Methods for students with limited Capacity</b>	Additional lectures, adjusting time and place of lectures according to their schedule and capacity
<b>7- Student Assessment</b>	
<b>A-Student Assessment Methods</b>	<b>1- Written exam</b> to assess the capability of the student for assimilation and application of the knowledge included in the course. <b>Oral exam</b> to assess the student intellectual and communication skills regarding basic knowledge and understanding of the course topics, and to help the teaching staff to evaluate the % of achievement of the intended learning outcomes of the course
<b>B-Assessment Schedule (Timing of Each Method of Assessment)</b>	<i>Assessment 1: one written exam by the end of the course</i> <i>Assessment 2: Oral exam, after the written exam</i> <b>Formative only assessment: log book.</b>
<b>C-Weighting of Each Method of Assessment</b>	<b>Written examination:</b> 25 marks <b>Oral examination</b> 25 marks <b>Total:</b> 50 marks
<b>8- List of References</b>	
<b>A-Course Notes/handouts</b>	Lectures notes are prepared in the form of a book authorized by the department.
<b>B-Essential Books</b>	-Harper's Biochemistry, Robert K. Murray, Daryl K. Granner, Peter A. Mayes, and Victor W. Rodwell (32th edition, 2022)
<b>C- Recommended Text Books</b>	Lubert Stryer, Biochemistry (9 th edition, 2019) Lehninger, Biochemistry (8th edition, 2021) Lippincott, Biochemistry (7th edition, 2017)
<b>D-Periodicals, websites</b>	To be determined and updated during the course work. <b>Websites:</b> 1- <a href="http://www.Medical Biochemistry.com">http://www.Medical Biochemistry.com</a> .

	<b>Periodicals:</b> 1- International journal of biochemistry 2- Science Direct
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**Course Coordinator/s:**

Dr. Heba Marey

**Head of Department:**

Prof. Dr. Salama Rabie Abd El Rahiem

**Date of last update & approval by department Council: 5 / 3 / 2023**



مسمى المقرر	جزء اول ماجستير أمراض الدم
كود المقرر	CHe 200

.....جامعة/أكاديمية :..المنيا

.....الطب.....:كلية / معهد

الكيمياء الحيويه قسم :

### A. Matrix of Coverage of Course ILOs By Contents

Contents (List of course topics)	Week No.	Intended Learning Outcomes (ILOs)			
		A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
		A	B	C	D
1. Carbohydrate Metabolism	1	A1 A3 A4	B3	C2	
2. Lipid metabolism	2	A1 A3 A4	B2 B3	C2	
3. Protein metabolism	3	A1 A3 A4	B1 B2 B3	C1 C2	
4. Purines and pyrimidine metabolism	4	A3 A6	B1	C1	

5. Enzymes	5	A4	B2		
6. Minerals	6	A2 A3	B1	C1	
7. Hormones	7	A2 A3	B3	C2	
8. vitamins	8	A2 A3	B1	C2	
9. Xenobiotics	9	A7	B1 B3		
10. Gene Therapy	10	A5	B3	C1	
11. Hemoglobin metabolism	11	A3 A6	B2	C2	

Date of last update & approval by department Council: 5 / 3 / 2023



**B. Matrix of Coverage of Course ILOs by Methods of Teaching & Learning**

Methods of Teaching	Intended Learning Outcomes (ILOs)			
	A. Knowledge	B.	C.	D. General &

<b>&amp; Learning</b>	<b>&amp; Understanding</b>	<b>Intellectual Skills</b>	<b>Professional &amp; Practical skills</b>	<b>Transferable Skills</b>
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Lecture</b>	<b>A1 A2 A3 A4 A5 A6</b>	<b>B2 B3</b>		
<b>Practical</b>			<b>C1 C2</b>	
<b>Presentation/seminar</b>				<b>D1 D2</b>
<b>Journal club</b>				<b>D1 D2</b>
<b>Training courses &amp; workshops</b>				<b>D1 D2</b>
<b>Other/s (Specify)</b>		<b>B3 B1</b>	<b>C1 C2</b>	<b>D1 D2</b>

**Date of last update & approval by department Council: 5 / 3 / 2023**



### C. Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
<b>Written exam</b>	A1 A2 A3 A4 A5 A6 A7 A8	B1 B2 B3		
<b>Oral Exam</b>	A1 A2 A3 A4 A5 A6 A7	B2 B3		
<b>Assignment</b>				D1 D2
<b>Other/s(Specify)</b>		B1 B2	C2	D2

**Date of last update & approval by department Council: 5 / 3 / 2023**





## Blueprint of Medical Biochemistry Department

### 1<sup>st</sup> part of master clinical hematology (25 marks)

	Topic	Hours	Knowledge %	Intellectual %	% of topic	No of items per topic	Knowledge		Intellectual		Marks	Actual mark
							No of Items	Mark	No of Items	Mark		
1	General metabolism	15	70	30	<b>50</b>	6	5	10.5	1	2	<b>12.5</b>	<b>12.5</b>
2	Purine and pyrimidine metabolism and Gene Therapy	3	70	30	<b>10</b>	2	1	1.25	1	1.25	<b>2.5</b>	<b>2.5</b>
3	Enzymes and Hormones	3	70	30	<b>10</b>	4	3	1.875	1	0.625	<b>2.5</b>	<b>2.5</b>
4	Minerals and Vitamins	6	80	20	<b>20</b>	4	3	3.75	1	1.25	<b>5</b>	<b>5</b>
5	Xenobiotics and Hemoglobin metabolism	3	75	25	<b>10</b>	2	1	1.25	1	1.25	<b>2.5</b>	<b>2.5</b>
	<b>Total</b>	<b>30</b>			<b>100</b>						<b>25</b>	<b>25</b>



					%							
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**Course Specification of Medical Ethics  
Master degree of Internal Medicine(2022-2023)**

**University:** Minia

**Faculty:** Medicine

**Program on which the course is given:** Master degree of Clinical hematology

**Major or minor element of program:** Medical ethics, ethics of medical research

**Department offering the program:** Internal Medicine Department

**Department offering the course:** Forensic Medicine & Clinical Toxicology Department

**Academic year / Level:** First part

**Date of specification approval:** Last date of approval: 7/11/2021

<b>A. Basic Information</b>		
<b>3- Academic Year/level:</b> Post graduate; 1 <sup>st</sup> Part MSC, Clinical Hematology	<b>4- Course Title:</b> Course Specification of Medical Ethics (Master degree of Clinical hematology)	<b>5- Code:</b> Che 200
<b>6- Number of teaching hours:</b>		
- <b>Lectures:</b> Total of 30 hours; 3 hour/week		
- <b>Practical:</b> Total of 15 hours; 1 hour/week		
<b>B- Professional Information</b>		
<b>1. Overall Aims of the course</b>	By the end of the course the student should be able to identify the value of studying and practicing medicine, the duties of doctors towards their patients, colleagues and community, the ethics in medical consultations among colleagues and also able to explain respect the patient's confidentiality and secrets, recognize the role of health care providers in the community and describe medical errors, negligence and legal issues, ethics of medical research especially on human beings and finally able to explain ethics and evidence based medicine	
<b>2. Intended learning outcomes of course (ILOs):</b> <i>Upon completion of the course, the student should be able to:</i>		

<p><b>A- Knowledge and Understanding</b></p>	<p><b>A.1-</b> Identify the basic concept of learning and practicing medicine from the religious and human point of view.</p> <p><b>A.2-</b> Identify the very beneficial impressive history of medicine; ethics related.</p> <p><b>A.3-</b> Classify the main principles of medical ethics.</p> <p><b>A.4-</b> Recognize an integrated approach to deal with patients, their families, community and medical staff in an ethical, legal and human manner.</p> <p><b>A.5-</b> Identify rules in law and regulations to deal with patients in practicing medicine.</p> <p><b>A.6-</b> Explain the standard and accredited methods of clinical research especially on human beings.</p>
<p><b>B- Intellectual Skills</b></p>	<p><b>B.1-</b> Design approach to patients in different situations; critical and noncritical ones.</p> <p><b>B.2-</b> Develop adequate communication skills with patients, community and colleagues.</p> <p><b>B.3-</b> Conclude in medical researches on clear ethical basis.</p> <p><b>B.4-</b> Use knowledge and learn according to standard basis worldwide.</p> <p><b>B.5-</b> Apply and practice medicine according to concepts of evidence based medicine.</p> <p><b>B.6-</b> Recognize common ethical dilemma and suggest a proper solution.</p>
<p><b>C- Professional and Practical Skills</b></p>	<p><b>C.1-</b> Use a high professional approach with colleagues and patients.</p> <p><b>C.2-</b> Modify steps of upgrading his/her educational, academic and clinical carriers.</p> <p><b>C.3-</b> Use the standard guidelines in managing patients.</p> <p><b>C.4-</b> Identify what is called as clinical governance and auditing his /her Performance.</p>
<p><b>D- General and transferable Skills</b></p>	<p><b>D.1-</b> Identify how to respect his/herself and the profession.</p> <p><b>D.2-</b> Develop adequate behavior and skill communications with community.</p> <p><b>D.3-</b> Modify life and live like others sharing social and national affairs.</p> <p><b>D.4-</b> Develop the capacity of helping people and share in upgrading their culture and education.</p> <p><b>D.5-</b> Identify how to participate in the national and social affairs and responsibilities.</p>

### 3- Course Contents

<b>TOPIC</b>	<b>Lecture Hours</b>	<b>Practical Hours</b>	<b>Total hours</b>
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<b>Medical Responsibility and Duties of the physician</b>		2	1	3
<b>4- Teaching and Learning Methods</b>	<del>4.1 - Straight lectures; power point presentations</del>	<del>2</del>	<del>1</del>	<del>3</del>
	4.2 - Practical lessons	2	1	3
	4.3 - Brain storming with the students	2	1	3
	4.4 - Questions and Answers	2	1	3
<b>5- Teaching and Learning Methods to students with limited Capacity</b>	Medical certificates (Not applicable)	2	1	3
		2	1	3
<b>6- Student Assessment</b>				
<b>Medical syndicate</b>		2	1	3
<b>Professional secrecy</b>		2	1	3
<b>Physician disciplinary proceeding</b>		2	1	3
<b>Domestic Violence</b>		2	1	3
<b>Euthanasia (Mercy death)</b>		2	1	3
<b>Ethics in medical research</b>		2	1	3
<b>Medical reports</b>		2	1	3
<b>Rules of using addictive drugs among physicians</b>		2	1	3
<b>Medical certificates</b>		2	1	3
<b>Total</b>		(30 hr.) 2/W	(15 hr.) 1/W	(45 hr.) 3/W

<b>A. Student Assessment Methods</b>	<p><b><u>TENDANCE CRITERIA:</u></b> by Faculty laws (log book)</p> <p><b><u>ASSESSMENT TOOLS:</u></b></p> <p>*Final Written exam: short essay to asses knowledge and understanding. problem solving to asses intellectual skills MCQ to assess knowledge and intellectual skills. *Oral exam; to asses knowledge and understanding. Also intellectual skills, attitude, and communication. *Practical exam: to assess practical and professional skills.</p>						
<b>B. Assessment Schedule</b>	<ul style="list-style-type: none"> <li>• Final Written exam week: 24-28</li> <li>• Oral exam week: 24-28</li> <li>• Practical exam week: 24-28</li> </ul>						
<b>C. Weighting of Assessment</b>	<table> <tr> <td>• Final Written exam</td> <td>40% (40 Marks)</td> </tr> <tr> <td>• Oral &amp; Practical exams</td> <td>60% (60 Marks)</td> </tr> <tr> <td>• Total</td> <td>100% (100 Marks)</td> </tr> </table>	• Final Written exam	40% (40 Marks)	• Oral & Practical exams	60% (60 Marks)	• Total	100% (100 Marks)
• Final Written exam	40% (40 Marks)						
• Oral & Practical exams	60% (60 Marks)						
• Total	100% (100 Marks)						
<b>7- List of References</b>							
<b>A. Course Notes/handouts</b>	Department book by staff members. Log Book.						
<b>B. Essential Books (text books)</b>	Medical Ethics Manual, 2nd Edition John R. Williams, 2009. Medical Ethics, 2nd Edition, Michael Boylan, 2014.						
<b>C. Recommended Books</b>	Text book of medical ethics, Erich H. Loewy, 1989						
<b>D. Periodicals</b>	Journal of Medical Ethics Journal of Medical Ethics and History of Medicine						
<b>E. Web sites</b>	<a href="https://en.wikipedia.org/wiki/Medical_ethics">https://en.wikipedia.org/wiki/Medical_ethics</a> <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5074007/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5074007/</a>						
<b>8- Facilities required for teaching and learning</b>	Classrooms for theoretical lectures and tutorials						

**Course Coordinators:**

Prof. Dr. Morid Malak Hanna

Dr. Mennatallah Mahmoud Ahmed

**Head of Department:**

**Prof. Dr. Irene Atef Fawzy**

**Date of last update & approval by department council: 5/3/2023**

Course Specification of Medical Ethics  Master degree of Clinical Hematology  (First part))	مسمى المقرر
CHe 200	كود المقرر

جامعة/أكاديمية : .....المنيا.....  
كلية / معهد: .....الطب البشرى.....  
قسم: .....الطب الشرعى والسوموم  
الأكلينكية.....

#### A. The Matrix of Coverage of Course IL by Contents

Contents	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Medical Responsibility and Duties of the physician	A1,3	B4	C1	D1,2
Medicolegal aspect of cloning	A1,2	B3	-	-
Defensive Medicine	A4,5	B6	C3	D3
Diagnosis of death & Death Certificates	A1,2	B2	-	-
Consent in medical field	A2,5	-	-	-
Medical malpractice	A1,6	B5	C4	D5
Medical syndicate	A5,6	B3	-	-
Professional secrecy	A1,2,3	-	-	D4
Physician disciplinary proceeding	A2,4,5	B2	-	D1,2,3
Domestic Violence	A2,4,6	-	C2	-

<b>Euthanasia (Mercy death)</b>	<b>A1,3,4</b>	<b>B1</b>	-	-
<b>Ethics in medical research</b>	<b>A1,2</b>	-	-	-
<b>Medical reports</b>	<b>A3,4</b>	-	<b>C1,2</b>	<b>D1.2</b>
<b>Rules of using addictive drugs among physicians</b>	<b>A1,4</b>	<b>B1,2</b>	-	-
<b>Medical certificates</b>	<b>A1,6</b>	<b>B3,5</b>	<b>C3</b>	<b>D1,4</b>

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**B. Matrix of Coverage of Course ILOs by Methods of Teaching & Learning**

C.

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lecture	A1,2,3,4,5,6	B1,2,3,4,5,6	-	-
Practical	-	-	C1,2,3,4	-
Presentation/seminar	-	-	-	D1,2,3,4,5
Journal club	-	-	-	-
Thesis discussion	-	-	-	-
Training courses & workshops	-	-	-	D1,2,3,4,5

*Corinal*



### Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	A1,2,3,4,4,5,6	B1,2,3,4,5	-	-
Practical exam	-	-	C1,2,3,4,5	-
Oral Exam	A1,2,3,4,4,5,6	B1,2,3,4,5	-	-

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# Blueprint of Forensic Medicine and Clinical Toxicology Department

Blueprint of 1st master of Clinical Hematology (CHE  
200)

Postgraduates" Medical Ethics Examination Paper  
(40 marks)

	Topic	Hours	Knowledge %	Intellectual %	% of topic	N of items per topic	Knowledge		Intellectual		Marks	Actual Mark
							N of items	Mark	N of items	Mark		
1	Medical Responsibility and Duties of the physician &	4	75	25	13.32	1	1	532	1	10	532	5

	<b>Defensive Medicine</b>											
<b>2</b>	<b>Medicolegal aspect of cloning</b>	2	75	25	<b>6. 6 6</b>	1	1	<b>2 . 6 6</b>	---	---	<b>2 . 6 6</b>	<b>3</b>
<b>3</b>	<b>Diagnosis of death &amp; Death Certificates</b>	2	75	25	<b>6. 6 6</b>	1	1	<b>2 . 6 6</b>	---	---	<b>2 . 6 6</b>	<b>3</b>
<b>4</b>	<b>Consent in medical field &amp; Medical malpractice</b>	4	70	30	<b>1 3. 3 2</b>	1	1	<b>5 . 3 2</b>	1	<b>10</b>	<b>5 . 3 2</b>	<b>5</b>
<b>5</b>	<b>Medical syndicate &amp; Professional secrecy</b>	4	75	25	<b>1 3. 3 2</b>	1	1	<b>5 . 3 2</b>	---	---	<b>5 . 3 2</b>	<b>5</b>
<b>6</b>	<b>Physician disciplinary proceeding &amp; Euthanasia (Mercy death)</b>	4	75	25	<b>1 3. 3 2</b>	1	1	<b>5 . 3 2</b>	1	<b>10</b>	<b>5 . 3 2</b>	<b>5</b>
<b>7</b>	<b>Domestic Violence</b>	2	70	30	<b>6. 6 6</b>	1	1	<b>2 . 6 6</b>	---	---	<b>2 . 6 6</b>	<b>3</b>
<b>8</b>	<b>Ethics in</b>	2	80	20	<b>6. 6 6</b>	1	1	<b>2 . 6 6</b>	---	---	<b>2 . 6 6</b>	<b>3</b>

	medical research				66			.66			.66	
9	Medical reports & Medical certificates	4	80	20	1332	1	1	542	1	10	542	5
10	Rules of using addictive drugs among physicians	2	75	25	676	1	1	266	---	---	266	3
	<b>Total</b>	<b>30</b>			<b>100%</b>			<b>40</b>		<b>40</b>	<b>40</b>	<b>40</b>

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## Course Specifications of Pathology for 1st Part of Master Degree in Clinical Hematology

### 1. Course Information

**Course Title:** Pathology

**Code:** CHe 200

**Academic Year/level:** Postgraduate, Master degree (1st part), Clinical Hematology.

**Date of specification approval:** 2022/2023

**• Number of teaching hours:**

- **Lectures:** Total of 48 hours; 2 hour/week
- **Practical/clinical:** Total of 48 hrs., 2 hour/week

### 2. Overall Aims of the course

*By the end of the course the student must be able to:*

1. Explain theories, basics & recent advances in the field of pathology.
2. Appraise & interpret relevant basic information and correlate them with essential clinical data to reach a final diagnosis
3. Plan for the development of acquisition of skills of basic & modern pathological laboratory techniques as well as principals of pathology.
4. Demonstrate competency on dealing with various biopsies and reporting pathological features and correlate such information with the relevant provided clinical data.

### 3. Intended learning outcomes of course (ILOs):

*Upon completion of the course, the student should be able to:*

<p><b>A- Knowledge and Understanding</b></p>	<p>A.1. Illustrate definition, types of acute inflammation as well as its pathological features and complications</p> <p>A.2. Demonstrate pathological features of chronic inflammation, and granuloma in relation to its morphological and etiological types</p> <p>A.3. List examples of granulomas: Define tuberculosis, outline methods of infection, the sites of primary and secondary infection, pathological features, and its fate. Explain the reaction to bilharzial infestation, pathological features, and complications of bilharziasis of the intestine, bilharzial hepatic fibrosis and bilharzial splenomegaly.</p> <p>A.4. Illustrate different forms of bacterial infections such as bacteremia, septicemia, toxemia and pyemia. Mention their causes and effects on different organs.</p> <p>A.5. Interpret cellular response to injury, etiology and pathological features of reversible cell injury and irreversible cell injury</p> <p>A.6. Define repair, fibrosis, and regeneration with examples, and analyze pathological processes.</p> <p>A.7. Explain hemodynamic disorders such as thrombosis, embolism, ischemia, infarction, hemorrhage, gangrene and edema and mention their causes and effects on different organs.</p> <p>A.8. Classify hypersensitivity reactions and explain pathogenesis of autoimmune diseases.</p> <p>A.9. Define each of these terms with examples as hypertrophy, hyperplasia, agenesis, hypoplasia, aplasia and atrophy. Distinguish between the disorders of differentiation of the cells as dysplasia and metaplasia.</p> <p>A.10. Define neoplasia, classification of tumors, illustrate grading and staging of malignant tumors. Define metastasis, explain mechanism of spread, and outline the main routes</p> <p>A. 11. Heart and Blood vessels: - Identify the causative organism of rheumatic fever (Post Streptococcus pyogenes infection) .Understand the mechanism and pathophysiology of the disease -Recognize the role of molecular mimicry and type II hypersensitivity -.State the diagnosis of the disease.- Learn the most important preventive measures - Identify the most common causative organisms of infective carditis -.Learn about HACEK organisms and bacteria</p>
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	<p>responsible for “culture negative” endocarditis -.List the high risk diseases associated with occurrence of IE -. Understand the pathogenesis of IE-Define rheumatic fever and discuss its etiology, pathogenesis, pathology and complications -.Enumerate pathological types of pericarditis and its causes -.Outline the clinical features and complications of pericarditis. Outline the main types of endocarditis. -Summarise the clinical features, pathogenesis and appearance of vegetation in each of these types.- Define myocarditis and cardiomyopathy and enumerate their types. - Recognize the different diagnostic methods of IE. Define the term atherosclerosis and list the risk factors for its development and mention its pathogenesis. -Describe the morphological changes that occur in vessel wall in the various stages of development of atheroma -Outline the common complications of atheroma. Define systemic hypertension, enumerate its causes and mention its types -. Describe the effects of systemic hypertension, particularly on the vessels, heart, kidney and brain and list causes of death in patients affected with systemic hypertension. - Define secondary hypertension and list its causes.</p> <p>A.12. Outline the main causes of jaundice</p> <p>A.13. Identify the classification of lymphoma and its main pathological features.</p>
<b>B- Intellectual Skills</b>	<p>B.1.Analyze the signs and symptoms of a disease based on the underlying gross &amp; microscopic tissue changes .</p> <p>B2. Interpret a pathology report and integrate gross and microscopic findings with the underlying etiology</p> <p>B3. Utilize the obtained information to solve a problem in a case scenario to reach a provisional diagnosis</p>
<b>C- Professional and Practical Skills</b>	<p>C1- Write adequate pathological description concerning main features of gross appearance of a museum specimen</p> <p>C2- Use the light microscope to examine and identify microscopic findings of some selected examples of studied diseases .</p> <p>C3- Learn proper handling of and processing tissue specimens sent for pathological examination.</p> <p>C4- Write a pathological request.</p>

<b>D- General and transferable Skills</b>	<p>D1. Demonstrate efficient communication &amp; interpersonal skills in all its forms and in different situations that may involve senior staff, colleagues, other health care professionals, and patients</p> <p>D.2. Use efficiently the information technology and select reliable sources of information to get essential information and updates regarding the different topics and techniques in surgical pathology.</p> <p>D.3. Develop skills of self-evaluation and identify personal learning needs to plan for self-development and continuous medical education</p> <p>D.4. Demonstrate the skills of effective time management</p>
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#### 4.Course content

Topic	Lecture hours	Practical hours	Total hours
1. Acute inflammation	3	3	6
2. Chronic inflammation	3	3	6
3- Granuloma and Bilharziasis	4	4	8
4- Bacterial infection	3	3	6
5 - Cell injury	4	4	8
6- Repair& Healing	3	3	6
7- Hemodynamic disorders	4	4	8
8- Immunopathology	4	4	8
9- Cellular adaptation	3	3	6
10 – Neoplasia	5	5	10
11- Pathology of the Heart and blood vessels	4	4	8
12- jaundice	4	4	8
13- Blood and lymphatic system	4	4	8



<b>Total</b>	48	48	-
<b>5. Teaching and Learning Methods</b>			
<p>5.1. Lectures: Both face to face &amp; on-line.</p> <p>5.2. Practical sessions: Gross pathology and histopathology</p> <p>5.3. Self-learning activities for the topics studied in lectures or related topics; including libraries, E-learning (practical photographs and questions of different topics available online for student's assessments) and consulting professors for gathering information.</p> <p>5.4. Tutorial &amp; regular weekly seminars, case presentation, training courses &amp; workshops.</p>			
<b>5. Teaching and Learning Methods for students with limited Capacity.</b>			
Not applicable			

<b>7. Student Assessment</b>	
<b>A. Student Assessment Methods</b>	<p><b>1. Written exam</b> to assess the acquired knowledge &amp; understanding as well as intellectual skills and essential professional skills.</p> <p><b>2. Oral exam</b> to assess the student intellectual and communication skills regarding basic knowledge and understanding of the course topics, and to help the teaching staff to evaluate the % of achievement of the intended learning outcomes of the course.</p>
<b>B. Assessment Schedule (Timing of Each Method of Assessment)</b>	<p><b>Assessment 1: 1 written exam</b> by the end of course.</p> <p><b>Assessment 2: Oral exam</b>, after the written exam</p> <p><b>Assessment 3: Practical exam after written exam</b></p>

<b>C. Weighting of Each Method of Assessment</b>	<b>Type of Assessment</b>	<b>Degree</b>
	<b>Written</b> examination	(25)
	<b>Oral</b> examination.	(15)
	Practical examination	(10)
	• <b>Total</b>	(50)

### 8. List of References

<b>A. Course Notes/handouts</b>	1 -General pathology course notes prepared by the department staff and printed material of recorded lectures. 2- Lectures' Handouts
<b>B. Essential Books</b>	1- Goldblum, John R., et al. Rosai and Ackerman's Surgical Pathology E-Book. Elsevier Health Sciences (2017). 2- Kumar, V., Abbas, A. K., & Aster, J. C. Robbins basic pathology e-book. Elsevier Health Sciences (2017).
<b>C. Recommended Textbooks</b>	1- Liang Jing & David Bostwick. Essentials of anatomic pathology (2011). 2- Diana W Molavi. The practice of surgical pathology; A beginners guide to the diagnostic process (2008).
<b>D. Periodicals, websites</b>	To be determined and updated during the course 1-American Journal of pathology 2-The Journal of pathology 3-Diagnostic Histopathology 4-Pathology outlines 5- <a href="http://www.pubmed.com">www.pubmed.com</a> 6- <a href="http://www.pathmax.com">www.pathmax.com</a>

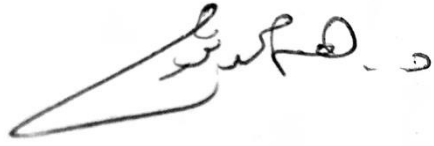
#### **Course Coordinator/s:**

Assistant Prof. Dr. . Nisreen Dahi Mohamed Toni

#### **Head of Department**

Prof. Dr. Heba Mohamed Tawfik

Date of last update & approval by department Council: 3/ 2023



<b>Course Specification</b> <b>Pathology</b>  <b>Master degree of</b> <b>Internal Medicine</b>  <b>(First part))</b>	مسمى المقرر
<b>GM200</b>	كود المقرر

جامعة/أكاديمية : .....المنيا.....  
كلية / معهد: .....الطب البشرى.....  
قسم: .....الباثولوجي.....

#### D. The Matrix of Coverage of Course IL by Contents

Contents	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Acute inflammation	A1	B3	C1	D1,2
Chronic inflammation	A2	B3	C1	-
Granuloma and Bilharziasis	A3	B1, B2, B3	C1,C2	D3
Bacterial infection	A4	B2, B3	C1, C2	-
Cell injury	A5	-	C1	-
Repair	A6	B3	C2	D2
Hemodynamic disorders	A7	-	C1	-
Immunopathology	A8	B3	C1, C2	D4
Cellular adaptation	A9	-	C2	D1
Neoplasia	A10	-	C2	-
Pathology of the Heart and Blood Vessels.	A11	B1,B2,B3	C2,C3,C4	D3
Jaundice	A12	B1,B2,B3	C3,C4	-
Pathology of blood and lymphatic system	A13	B1,B2,B3	C1,C2,C3,C4	D1,4



**E. Matrix of Coverage of Course ILOs by Methods of Teaching & Learning**

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lecture	A1,2,3,4,5,6,7,8,9,10,11,12,13	B1,2,3	-	D1,2,3,4
Practical	-	-	C1,2,3,4	D3,4
Clinical (Including grand rounds)	-	-	-	-
Presentation/seminar	A12,13	B1,2,3	C1,2,3,4	D1,2,3
Journal club	-	-	-	-
Thesis discussion	-	-	-	-
Training courses & workshops	A12,13	B1,2,3	C3,4	D3,4

**F. Matrix of Coverage of Course ILOs by Methods of Assessment**

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
Written exam	A1,2,3,4,5,6,7,8,9,10,11,12,13	B1,2,3		
Oral Exam	A1,2,3,4,5,6,7,8,9,10,11,12,13	B1,2,3	C1,2,3,4	D1,2,3,4
Logbook	A1,2,3,4,5,6,7,8,9,10,11,12,13	B1,2,3	C1,2,3,4	D1,2,3,4



**Blueprint of Pathology course for Clinical Hematopathology MSc degree**

Postgraduate Pathology Course for Master's degree (1<sup>st</sup> part) of Hamatopathology (Code: CHe200 (25 marks))

Topic	Hours	Weight %	ILOs	Total Marks
1. Acute inflammation	3	6.25	A1	1.5
2. Chronic inflammation	3	6.25	A2	1.5
3- Granuloma and Bilharziasis	4	8.3	A3	2.1
4- Bacterial infection	3	6.25	A4	1.5
5 - Cell injury	4	8.3	A5	2.1
6- Repair& Healing	3	6.25	A6	1.5
7- Hemodynamic disorders	4	8.3	A7	2.1
8- Immunopathology	4	8.3	A8	2.1
9- Cellular adaptation	3	6.25	A9	1.5
10 - Neoplasia	5	10.4	A10	2.6
12- Pathology of the Heart and blood vessels	4	8.3	A11	2.1
14- Jaundice	4	8.3	A.12	2.1
17- Pathology of blood and lymphatics	4	8.3	A13	2.1
<b>Total</b>	48	100%	-	25



## Course Specifications of Clinical pathology and chemistry for First part Master degree of Clinical hematology

**University:** Minia

**Faculty:** Medicine

**Department:** Clinical pathology and chemistry department

<b>Course Information</b>		
<b>Academic Year/level:</b> first part internal medicine MSc	<b>Course Title:</b> Clinical pathology and chemistry for internal medicine Master degree	<b>Code:</b> <b>CHe200</b>
<i>Number of teaching hours:</i> <i>Total of 48 hours</i>		
<b>Overall Aims of the course</b>	<p><i>By the end of the course the student must be able to:</i></p> <p>1-Gain basic and necessary knowledge for proper diagnosis of different hematological disease.</p> <p>2- Enable candidate to reach to proper diagnosis by interpreting of electrolyte, lipid ,renal and carbohydrate results.</p> <p>3-Enable candidate to know various infectious (e.g. bacterial or viral or fungal) disease and how to differentiate between them.</p> <p>3-To identify the basic information about hypersensitivity reaction, allergic reaction and</p>	

	immunological disease .
<b>Intended learning outcomes of course (ILOs): .۳</b> <i>Upon completion of the course, the student should be able to:</i>	
<b>Knowledge and Understanding -A</b>	<p>A.1. Define terms screening of hemostasis.</p> <p>A.2. Recognize basic concepts of different hematological disease.</p> <p>A.3. To know the of importance of microbiology disease.</p> <p>A.4. Understand different types of hypersensitivity reaction.</p> <p>A.12. Describe importance of electrolytes analysis .</p>
<b>Intellectual Skills -B</b>	<p>B.1. Discover appropriate laboratory tests for hemostasis screening.</p> <p>B.2. Differentiate between different types of anemia and hematological malignancies.</p> <p>B.3. Report different patterns of microbiological disease .</p> <p>B.4. Compare the different types of hypersensitivity reaction and lipid patterns.</p>
<b>Professional and Practical Skills -C</b>	<p>C.1. Label importance of assay of hypersensitivity test.</p> <p>C.2. Investigate appropriate laboratory tests for hematological disease, diabetic pattern.</p>
<b>General and transferable -D</b>	D.1. Practice the life-long habits of reading, literature-searches, and consultation with colleagues, attendance of



<b>Skills</b>	<p>scientific meetings, and the presentation of scientific work as part of continuing professional education (CPD).</p> <p>D.2. Use communication skills as the trainee must gain experience, under supervision, in planning departmental policies and develop and implement the leadership skills.</p> <p>D.3. Discuss the use of e-technology in continuous professional improvement</p>
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**Course Contents .ξ**

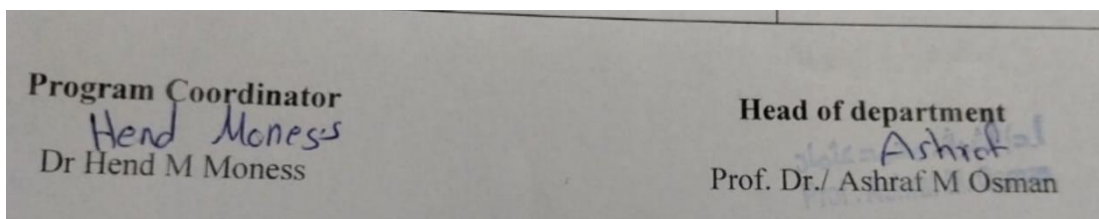
<b>Topic</b>	<b>No. of hour lecture</b>	<b>No. of hour practical (cases)</b>
<b>Anemia (etiology and classification)</b> (Clinical hematology)	<b>6</b>	<b>2</b>
<b>Screening tests of hemostasis</b> (Clinical hematology)	<b>2</b>	<b>2</b>
<b>Malignancy( myeloid)</b> (Clinical hematology)	<b>2</b>	<b>2</b>
<b>Malignancy ( Lymphoid)</b> (Clinical hematology)	<b>2</b>	<b>2</b>
<b>Blood bank</b> (Clinical hematology)	<b>2</b>	<b>1</b>
<b>Carbohydrate (CHO)</b> (Clinical chemistry)	<b>2</b>	<b>2</b>
<b>Lipid</b> (Clinical chemistry)	<b>2</b>	<b>2</b>
<b>Electrolyte</b> (Clinical chemistry)	<b>2</b>	<b>2</b>
<b>Kidney</b> (Clinical chemistry)	<b>2</b>	<b>2</b>
<b>Immunological diseases</b> (Clinical immunology)	<b>2</b>	<b>1</b>
<b>Hypersensitivity reactions ,allergic reaction</b> (Clinical immunology)	<b>2</b>	<b>1</b>
<b>Bacterial infection Viral infection Fungal infection</b> (Clinical microbiology)	<b>2</b>	<b>1</b>

<b>Total</b>	<b>28</b>	<b>20</b>
<b>5. Teaching and Learning Methods</b>	1- Lectures.  2- Online lectures and seminars	
<b>Student Assessment . 7</b>		
<b>Student Assessment Methods .A</b>	<b>5.1- Written exams:</b> to assess the student's comprehension and understanding of the class work.  <b>5.2- Oral Exams:</b> to assess student's intellectual and communication abilities regarding basic knowledge and understanding of the course topics.	
<b>Assessment Schedule (Timing of Each Method of Assessment) .B</b>	<b>Assessment 1: Final written exam</b>  <b>Assessment 2: Oral exam</b>	
<b>Weighting of Each Method of Assessment .C</b>	<b>Final Written Examination 40 %</b>  <b>Oral Examination 60 %</b>  <b>Total 100%</b>	
<b>List of References .Y</b>		
<b>Course Notes/handouts .A</b>	<b>Staff members print out of lectures and/or CD copies.</b>	

<p style="text-align: center;"><b>Essential Books .B</b></p>	<p>Tietz Fundamentals of clinical chemistry ➤  Williams of hematology ➤  Basic and clinical immunology ➤  Basic and clinical immunology ➤</p>
<p style="text-align: center;"><b>Periodicals, websites .C</b></p>	<p><a href="http://www.medscape.com">http://www.medscape.com</a> ➤  <a href="http://www.pubmed.com">http://www.pubmed.com</a> ➤</p>

**Course Coordinator**

**Head of Department**



**Dr . /Hend M Moness**

**Prof. Dr. /Ashraf M Osman**

**Last data of approval 7/3/2023**

## نموذج رقم ( ١١١ ) أ

<b>Post-Graduate Course Specifications</b> <b>Clinical pathology for First part Master degree of internal medicine</b>	مسمى المقرر
<b>CP 200</b>	كود المقرر

جامعة/أكاديمية : المنيا  
 كلية / معهد: الطب  
 قسم: الباثولوجيا الأكلينكية

### Matrix of Coverage of Course ILOs By Contents .A

Contents (List of course topics)	W e e k N o .	Intended Learning Outcomes (ILOs)			
		A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
		A	B	C	D
Anemia (etiology and classification)		A2	B2	C1	D1,2,3

<b>Screening tests of hemostasis</b>		<b>A1</b>	<b>B1</b>	<b>C2</b>	<b>D1,2,3</b>
<b>Malignancy (myeloid)</b>		<b>A2</b>	<b>B2</b>	<b>C2</b>	<b>D1,2,3</b>
<b>Lymphadenopathy (lymphoid)</b>		<b>A2</b>	<b>B2</b>	<b>C2</b>	<b>D1,2,3</b>
<b>Blood bank</b>		<b>A3</b>	<b>B3</b>	<b>C2</b>	<b>D1,2,3</b>
<b>CHO</b>		<b>A2</b>	<b>B2</b>	<b>C2</b>	<b>D1,2,3</b>
<b>Lipid</b>		<b>A2</b>	<b>B2</b>	<b>C2</b>	<b>D1,2,3</b>
<b>electrolyte</b>		<b>A3</b>	<b>B3</b>		<b>D1,2,3</b>
<b>kidney</b>		<b>A3</b>	<b>B3</b>	<b>C2</b>	<b>D1,2,3</b>
<b>Immunological disease</b>		<b>A5</b>	<b>B4</b>		<b>D1,2,3</b>
<b>Hypersensitivity reactions ,allergic reaction</b>		<b>A4</b>	<b>B4</b>	<b>C1</b>	<b>D1,2,3</b>
<b>Bacterial infection Viral infection Fungal infection</b>		<b>A5</b>	<b>B4</b>	<b>C1</b>	<b>D1,2,3</b>

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
Lecture	A1-5	B1-4	C1, C2	D1,2,3,
Assignment	A1-5	B1-4	C1, C2	D1,2,3

**Matrix of Coverage of Course ILOs by Methods of Teaching & Learning**

### Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	Written exam	A1-5	B1-4	
Oral Exam	A1-5	B1-4	C1, 2	D1,2,3

Course Coordinator

Head of Department



Dr . /Hend M Moness

Prof. Dr. /Ashraf M Osman

Last data of approval 7/3/2023

**Blueprint of Clinical pathology and chemistry Exam paper for 1<sup>st</sup> part  
of internal medicine (CHe200)  
(25 marks)**

	Topic	H o u r s	Knowle dge %	Intellect ual%	% of topic	N of ite ms Per topi c	Knowledg e		Intellectu al		Mar ks	Actu al Mar k
							N of items	ma rk	N of ite ms	Ma rk		
1	Clinical hematolog y	1 4	70	30	50	8	7	12 .5	1	0. 4	12. 5	12.5
2	Clinical chemistry	8	75	25	28. 5	4	3	7. 1	1	0. 2 8	7.1	7.0
3	Clinical microbiology	2	75	25	7.1	1	1	1. 77	---	-- --	1.7 7	2
4	Clinical immunology	4	70	30	14. 2	2	2	3. 5 5	---	-- --	3. 55	3.5
	<b>Total</b>	2 8			<b>100%</b>							<b>25</b>

Course Coordinator

Head of Department



Dr . /Hend M Moness

Prof. Dr. /Ashraf M Osman

Last data of approval 7/3/2023





.....المنيا.....: جامعة/أكاديمية  
.....الطب البشري.....: كلية / معهد  
.....الфизиولوجيا الطبية.....: قسم:

## Medical Physiology Course Specifications

For 1st Part Master (MSc) Degree in Clinical Hematology (CHe 200)

*University: Minia*

*Faculty: Medicine*

**Faculty offering the program:** Faculty of Medicine.

**Department offering the course:** Medical Physiology Department.

**Program(s), on which the course is given:** MSc Degree in Clinical Hematology (CHe 200).

**Major or minor element of program(s):** Medical Physiology.

**Academic year/level:** 1st part MSc degree in Hematology.

**Date of specification approval: 2020-2021 Last update: 2023**

### Basic Information

**Title:** Physiology course specifications for 1st part MSC degree of Hematology.

**Code:** H200

**Credit Hours:** Not applicable

**Lectures:** 2 hours / week

**Tutorial/Practical:** Not applicable

### Professional information

#### **1) OVERALL AIM OF COURSE:**

The aim of the course are to provide the postgraduate students with knowledge about the physiological principles underlying internal medicine diseases that aid in interpretation of symptoms, investigations and management.

#### **INTENDED LEARNING OUTCOMES OF COURSE (ILOs)**

##### **A. Knowledge and Understanding:**

*By the end of the course, the student should be able to:*

##### **A1. Physiology of Blood:**

- 1.1. Identify General constituents of blood and their functions.
- 1.2. Explain RBCs, Erythropoiesis and its clinical disorders.
- 1.3. Describe blood groups and principles of blood transfusion.
- 1.4. Describe WBCs and Immune response.
- 1.5. Discuss the mechanisms of Haemostasis and its clinical disorders.

#### **A2. Physiology of Cardiovascular System (CVS):**

- 2.1. Identify Properties of cardiac muscle.
- 2.2. Discuss Heart rate and its regulation.
- 2.3. Describe Cardiac cycle, ECG and arrhythmia.
- 2.4. Describe ABP and its regulation.
- 2.5. Explain COP and factors affecting it.
- 2.6. Recognize effects of Hemorrhage and body compensatory mechanisms.

#### **A3. Physiology of liver:**

- 3.1. Explain functions of liver.
- 3.2. List the functions, types and control of bile secretion and jaundice.

#### **A4. Physiology of kidney:**

- 4.1. Discuss in details mechanisms of renal tubular transport.
- 4.2. Explain water, electrolyte balance and acid base balance and common disorders.
- 4.3. Recognize renal function tests.

#### **B. Intellectual Skills:**

*By the end of the course, the student should be able to:*

- B1. Develop the skills for demonstrating different functions of the body systems and diagnose deviation from normality as detected disease state.
- B2. Assess the problems associated with different factors, which affect the normal function of different body systems.

#### **C. Practical Skills:**

**Practical hours:** 1 h / week

#### **D. General and Transferable Skills:**

*By the end of the course, the student should be able to:*

- D1. Adopt the principles of lifelong learning.
- D2. Prepare and present clearly and effectively a scientific topic in a tutorial, a staff meeting or the yearly scientific day.
- D3. Work efficiently within a team, honor and respect his colleagues.

### Curriculum structure & contents:

<u>Topic:</u>	<b>No. of Lectures</b>	<b>Total no. of hours</b>
<p><b><u>1. Physiology of Blood:</u></b></p> <ul style="list-style-type: none"> <li>- General constituents of blood and their functions.</li> <li>- RBCs, Erythropoiesis and its clinical disorders.</li> <li>- Blood groups and principles of blood transfusion.</li> <li>- WBCs and Immune response.</li> <li>- Mechanisms of Haemostasis and its clinical disorders.</li> </ul>	<b>7</b>	<b>14</b>
<p><b><u>2. Physiology of Cardiovascular System (CVS):</u></b></p> <ul style="list-style-type: none"> <li>- Properties of cardiac muscle.</li> <li>- Heart rate and its regulation.</li> <li>- Cardiac cycle, ECG and arrhythmia.</li> <li>- ABP and its regulation.</li> <li>- COP and factors affecting it.</li> <li>- Effects of Hemorrhage and body compensatory mechanisms.</li> </ul>	<b>8</b>	<b>16</b>
<p><b><u>3. Physiology of liver:</u></b></p> <ul style="list-style-type: none"> <li>- Functions of the liver.</li> <li>- Functions, types and control of bile and jaundice.</li> </ul>	<b>3</b>	<b>6</b>
<p><b><u>4. Physiology of Kidney:</u></b></p> <ul style="list-style-type: none"> <li>- Mechanisms of renal tubular transport.</li> <li>- Water and electrolyte balance, acid base balance and its clinical disorders</li> <li>- Renal function tests.</li> </ul>	<b>6</b>	<b>12</b>
<b>Total</b>	<b>24</b>	<b>48</b>

## TEACHING AND LEARNING METHODS:

1. Lectures (2 hr/wk.) throughout the academic year interchangeable with recorded lectures.
2. Self-learning activities such as use of internet and multimedia.

## STUDENT ASSESSMENT METHODS:

1. **Written exam** to assess the student's knowledge in the form of short essay questions and /or MCQs.
2. **Oral exam** to assess student's knowledge, intellectual and general skills as well as assessing the verbal communication abilities.
3. **Log book.**

## Assessment Schedule:

- **Assessment 1:** Final written exam.
- **Assessment 2:** Final oral exam.

## Weighting of assessment:

- **Final written exam**            **25** marks (50%)
- **Final oral exam**            **25** marks (50%)
- **Total**                            **50** marks (100%)

## LIST OF REFERENCES:

### 1. **Department books and notes.**

Prepared by Medical Physiology Department staff members, Faculty of Medicine, Minia University.

### 2. **Essential books (Text Books):**

- Ganong review of medical physiology.
- Guyton text book of medical physiology.

### 3. **Periodicals, Web sites... etc.**

## FACILITIES REQUIRED FOR TEACHING AND LEARNING:

1. Classrooms with data show for lectures.
2. Computers and internet facilities.

**Course Coordinator,**

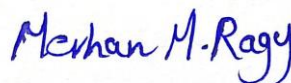
**Dr. Abdelaleem Abdelnour**

Lecturer of Medical Physiology Faculty  
Department of Medicine, Minia University

**Head of Department,**

**Dr. Merhan M. Ragy**

Prof. & Head of Medical Physiology  
of Medicine, Minia University



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### C. Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	X	X	-	-
Oral Exam	X	X	-	X
Log Book	X	X	-	X

**Course Coordinator,  
Head of Department,**

**Dr. Abdelaleem Abdelnour**

**Dr. Merhan M. Ragy**

Lecturer of Medical Physiology

Professor & Head of Medical Physiology Department

Faculty of Medicine, Minia University

Faculty of Medicine, Minia University



**Blueprint of Postgraduate Physiology Course for MCs degree (1<sup>st</sup> part) of Clinical Hematology (Code: CHe200) (50 marks)**

<b>Topic</b>	<b>Hours</b>	<b>Knowledge %</b>	<b>Intellectual%</b>	<b>Weight %</b>	<b>ILOs</b>	<b>Actual Mark</b>	<b>Modified mark</b>
<p><b>1. Physiology of Blood:</b> Recognize composition of blood as a vital fluid and function of each type of blood cell. Describe in details RBCs as regard (structure, function) Describe details the process of erythropoiesis and its clinically related diseases. Describe blood antigenicity, blood groups and its role in blood transfusion. Discuss role of blood in body defense and immunity. Discuss in details the hemostatic response and diseases characterized by disturbed hemostatic function.</p>	14	75	25	29.16	A1	7.29	7
<p><b>2. Physiology of Cardiovascular System:</b> Identify origin of heart beat and electrophysiology of cardiac muscle. Discuss in details cardiovascular reflexes and regulation of heart rate. Describe events of cardiac cycle and causes of heart sounds. Describe ECG and types and causes of cardiac arrhythmia. Explain blood flow and its dynamics and cardiac output. Recognize blood pressure in different parts of the CVS (arterial, venous and capillary).</p>	16	75	25	33.33	A2	8.325	8



<b>3. Physiology of Liver:</b> Explain Functions of the liver. Discuss the functions, types and control of bile secretion and jaundice.	6	75	25	12.5	A3	3.125	3
<b>4. Physiology of Kidney:</b> Discuss in details mechanisms of renal tubular transport at different segments. Explain water, electrolyte balance and acid base balance and common disorders. Recognize renal function tests and their interpretation in kidney diseases	12	75	25	25	A4	6.25	6
<b>Total</b>	48			100%	-	25	25

*Merhan M. Ragy*

# Course Specifications of Medical Microbiology and Immunology for Clinical Hematology master program (CHe200)

**University:** Minia

**Faculty:** Medicine

**Department:** Medical Microbiology and Immunology

1. Course Information		
<b>Academic Year/level:</b> postgraduate students	<b>Course Title:</b> Medical Microbiology and Immunology for Clinical Haematology postgraduate students.	<b>Code:</b> CHe200
<ul style="list-style-type: none"> <li>- <b>Number of teaching hours:</b></li> <li>- <b>Lectures:</b> Total of 20 hours; 1 hours/week</li> <li>- <b>Practical/clinical:</b> Total of 10 hours</li> </ul>		
<b>1.Overall Aims of the course</b>	<p>By the end of the course the student must be able to:</p> <ol style="list-style-type: none"> <li>1. Know the different types of pathogens, their structure and pathogenesis</li> <li>2. Know the different methods for laboratory diagnosis and control of different infectious agents.</li> <li>3. Know the different molecular microbiological techniques and their applications in the field of Clinical Hematology.</li> <li>4. Know the basics of the host-parasite relationships and the role of the immune system in defending the body against different pathogens and its role in Hematological diseases.</li> <li>5. Know the principles of biosafety measures and aseptic precautions.</li> </ol>	
<b>3.Intended learning outcomes of course (ILOs):</b> <i>Upon completion of the course, the student should be able to:</i>		

<p><b>A-Knowledge and Understanding</b></p>	<p>A1. Know microbial morphology, structure, metabolism and physiology of medically significant microorganisms</p> <p>A2. Understand the basis of microbial genetics and biotechnology techniques and their applications in Diagnosis of Blood diseases.</p> <p>A3. Recognize the taxonomy and classification of different microorganisms.</p> <p>A4. Identify the natural habitat, source of infection and mode of transmission of blood transmitted pathogens.</p> <p>A5. Identify the different levels of host-parasite relationship and recognize the microbial virulence factors</p> <p>A6. Recognize the role of the immune system in the health and Hematological diseases e.g. autoimmune diseases, transplantation and cancer immunology.</p> <p>A7. Know the causes, sources, mode of transmission and treatment of nosocomial infections and know the different methods for infection control.</p>
<p><b>B-Intellectual Skills</b></p>	<p>B1. analyze of different cases of infection to reach a final diagnosis and microbiological identification of the causative organism</p> <p>B2. Develop the ability to solve problems associated with different immunological blood disorders, reach a final diagnosis of a certain pathological condition.</p>
<p><b>C- Professional and Practical Skills</b></p>	<p>C1. Apply standard protocol in collection of pathological samples</p> <p>C2. Identify different microbes at microbiology laboratory using basic techniques</p> <p>C3. Apply standards of infection control</p> <p>C4. Demonstrate different techniques of immunological investigations and molecular techniques</p>
<p><b>D-General and transferable Skills</b></p>	<p>D1. Manipulate microbiological samples and reach a microbiological diagnosis of an infection.</p> <p>D1. Write protocols for identification of a given microorganism.</p> <p>D3. Communicate with colleagues and patients regarding a case caused by a microorganism.</p>

	D4. Work in/with different groups. D5. Manage a microbiological laboratory.		
<b>4.Course Contents</b>			
<b>Topic</b>	<b>Lecture hours/week</b>	<b>Practical/Clinical hours/week</b>	<b>Total No. of hours hours/week</b>
<b>1. Introduction and collection of pathological samples</b>		2	2
<b>2. Cleaning, sterilization and disinfection</b>		2	2
<b>3. Antimicrobial chemotherapy</b>	1	2	3
<b>4. Bacteremia, toxemia and toxic shock</b>	1		1
<b>5. Fever</b>	1		1
<b>6. Basic immunology 1</b>	1		1
<b>7. Basic immunology 2</b>	1		1
<b>8. Hypersensitivity reactions</b>	1		1
<b>9. Cancer immunology</b>	1		1
<b>10. Transplantation immunology</b>	1		1
<b>11. Autoimmunity</b>	1		1
<b>12. Immunological investigations</b>		2	2
<b>13. Bacterial and viral vaccines</b>	1		1
<b>14. syphilis</b>	1		1
<b>15. General virology</b>	1		1
<b>16. Viral Hepatitis</b>	1		1
<b>17. Human immunodeficiency virus</b>	1		1
<b>18. Covid-19</b>	1		1

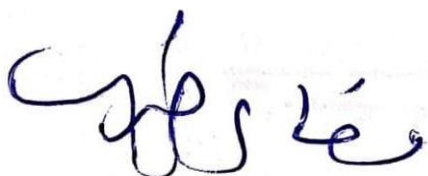
<b>19. Hemorrhagic fevers</b>	1		1
<b>20. Blood-transmitted diseases</b>	1		1
<b>21. Molecular techniques</b>	1	2	1
<b>22. Nosocomial infections</b>	1		1
<b>23. Infection control and Occupational safety</b>	1		1
<b>Total</b>	20	10	30
<b>5. Teaching and Learning Methods</b>	Lectures Practical sessions Seminars		
<b>6. Teaching and Learning Methods for students with limited Capacity</b>	Self-learning activities such as use of internet and multimedia.		
<b>7. Student Assessment</b>			
<b>A. Student Assessment Methods</b>	End of course written exam: A paper based exam <b>to assess</b> the student's comprehension and understanding of the class work  Oral exam: to assess student's intellectual and communication abilities regarding basic knowledge and understanding of the course topics.  Practical exam: objective structured practical examination to assess student professional and practical skills		
<b>B. Assessment Schedule (Timing of Each Method of Assessment)</b>	End of course exam (written, oral and practical exams) <b>Week 23</b>		
<b>C. Weighting of Each Method of Assessment</b>	Final written Examination: 25 marks Oral Examination: 15 marks practical Examination: 10 marks Total 50 marks		
<b>8. List of References</b>			
<b>A. Course Notes/handouts</b>	Department Books, and notes on Medical Microbiology and Immunology by microbiology		

	department, Faculty of medicine, Minia university
<b>B. Essential Books</b>	Jawetz, Melnick and Adelberg's Medical Microbiology 17th edition by Riedel. S (2019); McGraw-Hill Education  Review of Medical Microbiology and Immunology 17th edition by warren levinson (2022); McGraw-Hill Education
<b>C. Recommended Text Books</b>	Janeway's Immunobiology 9 <sup>th</sup> edition by <a href="#">Kenneth Murphy</a> and <a href="#">Casey Weaver</a> , (2016); Garland Publishing Inc. NY, London.
<b>D. Periodicals, websites</b>	TBD and updated during the course work

**Course Coordinator: Dr. Dalia Nabil**

**Head of Department : Prof. Dr. Wafaa Khairy**

Date of last update: 3/ 2023



## A. Matrix between ILOs and course topics

Contents  (List of course topics)	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
1. Introduction and collection of pathological samples	A3 A5 A7	B1	C1,C4	D4 D5
2. Cleaning, sterilization and disinfection	A3 A5 A6	B1	C1,C4	D1 D3
3. Antimicrobial chemotherapy	A1 A5 A6	B1	C1	D1 D3
4. Bacteremia, toxemia and toxic shock	A1 A5 A7	B1 B2	C1, C2	D1 D2 D3
5. Fever	A1	B1	C1	D1 D3 D5
6. Basic immunology 1	A6	B1	C1,C3	D1 D4
7. Basic immunology 2	A3 A6 A7	B1	C1,C4	D3
8. Hypersensitivity reactions	A1 A6	B1	C1,C4	D1 D3 D4
9. Cancer immunology	A3 A46	B1 B2	C2	D1
10. Transplantation immunology	A1,A6	B1	C4,C1	D1 D3 D4

<b>11. Autoimmunity</b>	<b>A1 A6</b>	<b>B1 B2</b>	<b>C1, C2</b>	<b>D1 D3 D4</b>
<b>12. Immunological investigations</b>	<b>A3 A4</b>	<b>B1</b>	<b>C1</b>	<b>D5</b>
<b>13. Bacterial and viral vaccines</b>	<b>A3 A4</b>	<b>B1</b>	<b>C1,C4</b>	<b>D3</b>
<b>14. syphilis</b>	<b>A1 A3</b>	<b>B1 B2</b>	<b>C1, C4</b>	<b>D1 D3</b>
<b>15. General virology</b>	<b>A1 A5</b>	<b>B1</b>	<b>C1, C3</b>	<b>D1 D3 D4</b>
<b>16. Viral Hepatitis</b>	<b>A1,A2,A3</b>	<b>B1,B1</b>	<b>C1, C4</b>	<b>D1,D2,D3</b>
<b>17. Human immunodeficiency virus</b>	<b>A4 A2 A5</b>	<b>B1</b>	<b>C1</b>	<b>D3 D4</b>
<b>18. Covid-19</b>	<b>A3 A4</b>	<b>B1</b>	<b>C1 C4</b>	<b>D3 D4</b>
<b>19. Hemorrhagic fevers</b>	<b>A1 A2 A3</b>	<b>B1</b>	<b>C1 C4</b>	<b>D4 D5</b>
<b>20. Blood-transmitted diseases</b>	<b>A1 A2 A4</b>	<b>B1</b>	<b>C1, C4</b>	<b>D3 D5</b>
<b>21. Molecular techniques</b>	<b>A4 A5</b>	<b>B1</b>	<b>C1, C4</b>	<b>D3</b>
<b>22. Nosocomial infections</b>	<b>A1A7</b>	<b>B1</b>	<b>C1, C4</b>	<b>D4 D5</b>
<b>23. Infection control and Occupational safety</b>	<b>A1 A2 A3 A7</b>	<b>B1</b>	<b>C1,C4</b>	<b>D4</b>



## **B. Matrix of Coverage of Course ILOs by Methods of Teaching**

<b>Methods of Teaching &amp; Learning</b>	<b>Intended Learning Outcomes (ILOs)</b>			
	<b>A. Knowledge Understanding</b>	<b>B. Intellectual Skills</b>	<b>C. Professional &amp; Practical skills</b>	<b>D. General &amp; Transferable</b>

				Skills
	A	B	C	D
Lecture	A1 A2 A3 A4 A5 A6 A7	B1		
Practical			C1 C2 C3 C4	D1 D2 D5
Presentation/seminar				D3 D4

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<b>C. Matrix of Coverage of Course ILOs by Methods of Assessment</b>				
<b>Methods of Assessment</b>	<b>Intended Learning Outcomes (ILOs)</b>			
	<b>A. Knowledge &amp; Understanding</b>	<b>B. Intellectual Skills</b>	<b>C. Professional &amp; Practical skills</b>	<b>D. General &amp; Transferable Skills</b>
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Written exam</b>	A1 A2 A3 A4 A5 A6 A7	B1 B2		114
<b>Practical exam</b>	Specs]		C1 C2 C3 C4	D3 D4
<b>Oral Exam</b>				D1 D2 D5

**Blueprint of Medical Microbiology and Immunology Exam paper for 1<sup>st</sup> part of Master of Clinical Hematology (CHe200)**  
**(25 marks)**

(List of course topics)	HOURS	Intended learning outcomes ILOS		N of items per topic	% of topic	Knowledge & Understanding		Intellectual Skills		Total mark	Actual mark
		Knowledge & Understanding	Intellectual Skills			No of items	mark	No of items	mark		
1. General Microbiology	4	70%	30%	4	20	2	3	1	2	5	5
2. Immunology	7	70%	30%	7	35	4	5	2	3.75	8.75	9
3. Bacteriology	1	70%	30%	1	5	2	0.75	1	0.5	1.25	1
4. Virology	4	70%	30%	4	20	2	3	1	2	5	5
5. Applied Microbiology	2	70%	30%	2	10	2	1.5	1	1	2.5	2.5
6. Nosocomial Infection and Infection control	2	70%	30%	2	10	2	1.5	1	1	2.5	2.5
<b>Total</b>	<b>20</b>				<b>100%</b>					<b>25</b>	<b>25</b>



## Pharmacology course specification for master degree in Hematology (First part)

**University:** Minia

**Faculty:** Medicine

**Department:** Pharmacology

**Last date of approval** 6/3/2023

20. Basic Information		
<ul style="list-style-type: none"> <li><b>Academic Year/level:</b> First Part of Master Degree</li> </ul>	<ul style="list-style-type: none"> <li><b>Course Title:</b> First Part of Master Degree in <b>Hematology</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Code:</b></li> </ul>
<ul style="list-style-type: none"> <li><b>Number of teaching hours:</b>  <div style="text-align: right;"><b>Lectures: 16 hours; 2 hours/week</b> <b>Practical: 0</b></div></li> </ul>		
<b>21. Overall Aims of the course</b>	<p style="text-align: right;"><i>By the end of the course the student must be able to:</i></p> <p style="text-align: right;">1. Provide the postgraduate student with the medical Knowledge and skills essential for the practice of specialty and</p>	

	<p style="text-align: right;">necessary to gain.</p> <p>2-To understand all molecular basics and diseases.</p> <p>3-To detect different molecular techniques and their advanced applications.</p> <p>4-To better understand and use the research tools including internet and different laboratory equipment.</p> <p>5-To know retrieving the literature and understanding the evidence-based medicine</p> <p style="padding-left: 40px;">6-Maintain learning abilities necessary for continuous medical education.</p> <p>7-Maintain research interest and abilities.</p>
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**22.Intended learning outcomes of course (ILOs):**  
*Upon completion of the course, the student should be able to:*

<p><b>A.Knowledge and Understanding</b></p>	<p>A1. Mention the basic biochemical and physiological activities, their disturbances and how to be corrected.</p> <p>A.2 Define general pharmacokinetics as well specific properties of different groups of drugs putting into consideration age, sex and genetic-related variations that affect the response to drugs (pharmacogenetics).</p> <p>A.3 Recall general pharmacodynamics as well specific properties of different groups of drugs that include the drug's mechanism of action and pharmacological effects.</p> <p>A.4 List pharmacotherapeutics which reflects the role of drugs in prevention, diagnosis and treatment of diseases as well as prevention of conception. It includes also pathopharmacology of diseases and drugs, indications, contraindications, adverse reactions and drug interactions especially in high risk groups (extremes of age, pregnancy and lactation, liver kidney and cardiac diseases). Pharmacoeconomics is included in this category.</p> <p>A.5 Memorize Systemic pharmacology which includes drugs acting on different body systems such as cardiovascular, autonomic, respiratory, gastrointestinal, endocrine, blood ,.....</p> <p>A.A.6 know the basic, and ethics of scientific research.</p>
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	A.7. List the principles of quality in professional practice in the field of therapeutics and applied pharmacology.
<b>M-Intellectual Skills</b>	<p>B.1 Make the skills in selecting and using drugs safely and efficiently knowing their limits and the potential risks</p> <p>B.2 Develop the ability to solve medical problems arising from use of drugs and the development of resistance or tolerance encouraging them to search for alternative approaches after revising the diagnosis.</p> <p>B.3 Demonstrate an investigatory and analytic thinking “problem-solving” approaches to relevant situations related to Medical Pharmacology.</p> <p>B.8 Design management plans and alternative decisions in different situations in the field of Pharmacology.</p>
<b>N- Professional and Practical Skills</b>	<p>By the end of the study of master program in <b>Pharmacology</b> the candidate should be able to:</p> <p>C.1 Practice different skills of research including how to retrieve the literature and use the different laboratory equipment such as centrifuge, homogenizer, spectrophotometer and Ph meter.</p> <p>C.2 Evaluate the need of his/her career to join the major advances in drug information</p> <p>C.3 Perform the basic lab skills essential to the course.</p> <p>C.4 Prepare plans for performing experiments related to pharmacology.</p>
<b>O- General and transferable Skills</b>	<p>After completing the course, the student should be able to</p> <p>D1- Perform practice-based improvement activities using a systemic methodology (share in audits and risk management activities and use logbooks).</p> <p>D3- Collect and verify data from different sources.</p> <p>D4- Analyze and interpret data.</p> <p>D5-Appraise evidence from scientific studies.</p> <p>D6- Use information technology to manage information, access</p>

	on-line medical researches to support his/her own education.
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<b>4- Course Contents</b>			
<b>Topic</b>	<b>Lecture hours/week</b>	<b>Practical/Clini cal hours/week</b>	<b>Total No. of hours hours/week</b>
Pharmacokinetic variables	3	-	3
Principles of antimicrobials	6	-	6
Introduction to anticancer drugs	2	-	2
Principles of immunosuppressive therapy	1	-	1
Anti-platelets, anti-coagulants, and anti-fibrinolytics	2	-	2
Drug induced blood diseases	2	-	2
<b>Total</b>	16		16
<b>5-Teaching and Learning Methods</b>	1-Lectures & discussions. 2-Assignments 3-Attending and participating in scientific conferences and workshops to acquire the general and transferable skills needed		
<b>6-Teaching and Learning Methods for</b>	Additional lectures, adjusting time and place of		

<b>students with limited Capacity</b>	lectures according to their schedule and capacity
<b>7- Student Assessment</b>	
<b>A-Student Assessment Methods</b>	<p><b>1- Written exam</b> to assess the capability of the student for assimilation and application of the knowledge included in the course.</p> <p><b>2-Oral exam</b> to assess the student intellectual and communication skills regarding basic knowledge and understanding of the course topics, and to help the teaching staff to evaluate the % of achievement of the intended learning outcomes of the course</p> <p><b>3- Practical exam</b> to assess the student's ability to identify different methods of identification of different drug actions and interactions.</p>
<b>B-Assessment Schedule (Timing of Each Method of Assessment)</b>	<p><i>Assessment 1: one written exam by the end of the course</i></p> <p><i>Assessment 2: Oral exam, after the written exam</i></p> <p><i>Assessment 3: Practical exam</i></p> <p><b>Formative only assessment:</b> log book.</p>
<b>8-Weighting of Each Method of Assessment</b>	<p>Written examination:                    ۲۰ marks   ۶0%</p> <p>Oral and practical examination: ۲۰ marks   ۶0%</p> <p>Total:    ۴0 marks   100%</p>
<b>9- List of References</b>	



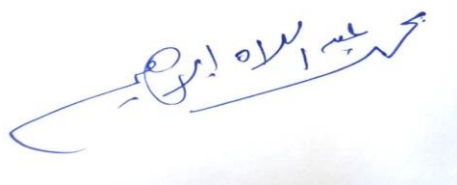
<b>I. Course Notes/handouts</b>	Lecture notes prepared by the staff members in the department.
<b>J. Essential Books</b>	- Principles of pharmacology the pathophysiologic basis of drug therapy
<b>K. Recommended Text Books</b>	- Goodman & Gilman - Katzung
<b>L. Periodicals, websites</b>	Pharmacological Reviews - Journal of Pharmacology and Experimental therapeutics - British journal of pharmacology - European journal of pharmacology - Pharmacological research  <a href="http://www.ncbi.nlm.nih.gov/pubmed/">http://www.ncbi.nlm.nih.gov/pubmed/</a>

**Course Coordinator/s:**

**Dr. Ass. Prof. Dr. Seham Abdelwakeel**

**Head of Department:**

Professor Dr. Mohamed Abdellah Ibrahim



**Date of last update & approval by department Council:**

**6/3 / 2023**

مسمى المقرر	جزء اول ماجستير امراض الدم
كود المقرر	

جامعة/أكاديمية : ..المنيا  
الطب.....:كلية / معهد  
الفارماكولوجي قسم :

### A. Matrix of Coverage of Course ILOs By Contents

Contents (List of course topics)	Week No.	Intended Learning Outcomes (ILOs)			
		A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	. General & Transferable Skills
		A	B	C	D
Pharmacokinetic variables		+	+		
Principles of antimicrobials		+	+	+	
Introduction to anticancer drugs		+	+	+	

Principles of immunosuppressive therapy		+	+	+	+
Anti-platelets, anti-coagulants, and anti-fibrinolytics		+	+		
Drug induced blood diseases		+	+	+	

**B. Matrix of Coverage of Course ILOs by Methods of Teaching & Learning**

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
<b>Lecture</b>	X	X		
<b>Practical</b>	X	X	X	
<b>Presentation/seminar</b>	X	X	X	

<b>Training courses &amp; workshops</b>		X	X	X
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### C. Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	X	X		
Oral Exam	X	X	X	X
Practical exam	X	X	X	

## Blueprint of hematology MSC (Pharmacology Examination Paper)

**25 Mark**

	Topics	H O U R S	Knowledge %	Intellectual %	% of topics	Mark	Actual mark
1	Pharmacokinetic variables	3	100	0	18.75	4.68	4.5
2	Principles of antimicrobials	6	60	40	37.5	9.37	9
3	Introduction to anticancer drugs	2	80	20	12.5	3.12	3
4	Principles of immunosuppressive therapy	1	100	0	6.25	1.56	2
5	Anti-platelets, anti-coagulants, and anti-fibrinolytics	2	70	30	12.5	3.12	3.5
6	Drug induced blood diseases	2	100	0	12.5	3.12	3
	<b>Total</b>	<b>16</b>					<b>25</b>