



Faculty of Medicine
Suez Canal University

Internal Medicine Department
Program Specification M.D.

PROGRAM SPECIFICATIONS

Program Title:

M.D. of Hematology

Code:

IMBD



Program Specification

A- Basic Information

1- Program Title: **MD of Hematology**

2- Program Type: **Single** Double Multiple

3- Department (s): **Internal Medicine Department (Clinical hematology Unit)**

4- Coordinator: Prof. Abd Elraouf Eldeib
Dr. Wallaa Youssef

5- External Evaluator(s) :

6- **Last date of program specifications approval:** the bylaws of the MD program in Hematology in the Faculty of Medicine, Suez Canal University were approved by the Supreme Council of Universities on 2016.

7- **Date of program specification revision approval:** September 2019.

8- **Number of credit points for this degree:** 180 CP

B- Professional Information

1- Program Aim

This program is designed to provide candidates with comprehensive and concise lectures / tutorials concerning updates in common and rare hematological disorders and professional skills that allow them to:

1. Professionally deal with the patient regarding history taking and physical examination
2. Prepare physicians as senior practitioners, educators, researchers, and administrators capable of practicing clinical hematology in academic and clinical settings.
3. Discuss pathophysiology of hematological disorder, appropriately diagnose, and construct the optimum individualized management plan, and preventive measures
4. Confirm previous knowledge of the hematological disorders emphasizing on rare hematologic diseases
5. Recognize the clinical spectrum of common hematological disorders with multisystem reflection.
6. Provide the updates in molecular and genetic principles and their application in clinical hematology
7. Assess the impact of the common hematologic health problems and to know how to improve these problems by providing good clinical practice.
8. Develop appropriate skills to assess, critically appraise and apply medical research to provide higher level of health care.



9. Use relevant quantitative and qualitative methodologies when writing-up the thesis and projects.

2. Intended Learning Outcomes (ILOs) of the program

By the end of this program, students should be able to:

a- Knowledge and Understanding:

- a1. Identify nature, structure and function of the bone marrow, the hematopoietic microenvironment and the lymphoid tissues
- a2. Discuss recent advances in genetic basis and screening of thalassaemia
- a3. Describe molecular basis of granulopoiesis, monopoiesis and thrombopoiesis.
- a4. Describe molecular basis, investigation and management of inherited bone marrow failure syndromes, and acquired disorders of red cell, white cell, and platelet production
- a5. Demonstrate the basics and updated knowledge of congenital and acquired red blood cell disorders
- a6. Identify molecular basis, genomics, approach, management and updates in leukocytosis, leukopenia, gammopathies, hemoglobinopathies & malignancies
- a7. Identify immune markers, immunophenotyping, cytochemical studies, and cytogenetic and DNA analysis of neoplastic hematological disorders
- a8. Demonstrate principles and updates of stem cell transplantation
- a9. Describe principles and updates of therapeutic apheresis, indications, technique and methods.
- a10. Identify Transfusion complications and reactions to blood and cell therapy products and blood transmitted diseases
- a11. Discuss genomic basis and updates of congenital and acquired hemostatic and thrombotic disorders
- a12. Demonstrate knowledge of reflection of systemic disorders and drugs on the blood, blood forming organs, and lymphatic tissues.
- a13. Demonstrate advanced knowledge of biostatistics
- a14. Critically appraise research designs relevant to healthcare.
- a15. Adhere to ethical principles in the practice of medicine and quality control measures related to the hematology
- a16. Recognize related information concerned with the effects of his professional practice on the environment

b- Intellectual Skills

- b1. Apply problem solving skills in different professional situations.
- b2. Demonstrate the basic principles of research, including how such research is conducted, evaluated, explained to patients, and applied to patient care.
- b3. Practice continuous self-learning and self-evaluation skills.
- b4. Interpret and analyze data.
- b5. Practice critical thinking and problem solving
- b6. Formulate a research hypothesis based on evidence and apply the appropriate methods to assess the validity of this hypothesis
- b7. Design a research article that can be submitted to a regional or international scientific journal.
- b8. Critically appraise articles and clinically an academically apply benefits of various researches.



- b9. Apply risk assessment related to medical decisions
- b10. Plan to improve performance related to hematology practice
- b11. Apply Evidence based medicine in his practice

c- Professional and Practical Skills

- c1. Apply efficiently the use of drugs, chemotherapeutic agents and biological products through all therapeutic routes.
- c2. Demonstrate competence in the performance and/or interpretation of the follow up results of malignant hematological diseases
- c3. Demonstrate competence in the performance and/or interpretation of complete blood count, including platelets and white cell differential, by automated techniques, with appropriate quality control.
- c4. Demonstrate competence in the performance and interpretation of bone marrow aspiration and biopsy (in specialized centers), preparation, and interpretation of blood smears, bone marrow aspirates, and touch preparations, as well as interpretation of bone marrow biopsies.
- c5. Perform apheresis procedures
- c6. Interpret partial thromboplastin time, prothrombin time, platelet aggregation, and bleeding time, as well as other standard coagulation assays
- c7. Demonstrate clinical experience in bone marrow or peripheral stem cell harvest for transplantation; and management of post-transplant complications (in specialized centers).
- c8. Apply indications, limitations, complications, techniques, and interpretation of results of diagnostic and therapeutic procedures integral to the discipline.
- c9. Apply indications, limitations, complications, of different blood components and derivatives.
- c10. Educate patients about the rationale, technique, and complications of procedures and in obtaining procedure-specific informed consent.
- c11. Professionally deal with acute emergent situations.
- c12. Write and evaluate medical reports

d- General and Transferable Skills

- d.1 Practice presentation skills
- d.2 Participate in a multidisciplinary case management conference or discussion
- d.3 Evaluate subordinates, peers & program
- d.4 Argue different ideas effectively
- d.5 Manage time and resources and set priorities;
- d.6 Practice effective teaching and mentor to others
- d.7 Practice working effectively within a team.
- d.8 Practice efficient Information and Communication Technology (ICT) skills
- d.9 Practice continuous self-learning skills.

3- Academic Standards

External References for Standards (Benchmarks)

- The generic Academic Reference Standards (ARS) of NAQAAE for Postgraduate (2009) [<http://naqaae.org/main/php/book/index.php>]



4- Curriculum Structure and Contents

4a- Program duration: The program lasts for a minimum of 3 academic years and maximum 7 years, as specified in the internal bylaws for postgraduate studies based on credit points system in the Faculty of Medicine, Suez Canal University approved on February 7th, 2016.

4b- Program structure:

MD Program Credit points (CP) structure:

Total needed credit points for getting MD degree 180 CP

The program consists of **First part 30 CP, Thesis 50 CP, and Second part 100 CP**

1. **The first part of the program:** 30 CP, its duration (15 weeks) for one academic semester. The first part comprises the following:
 - a. A course in Research Methodology planned and held in the Community Medicine Department of the Faculty of Medicine, Suez Canal University. This part includes 8 CP.
 - b. Two electives each one has 2 CP. The students should select one elective which has not been selected in the Master Degree.
 - c. The specialized courses in Applied Pathology, planned and held in the Pathology Department. It includes 6 CP.
 - d. The specialized courses in Applied Physiology, planned and held in the Physiology Department. It includes 6 CP.
 - e. The specialized courses in Endemic diseases, planned and held in the Endemic diseases Department. It includes 6 CP.
- 2- **MD thesis:** 50 CP, no scores for thesis. The candidate has the right to register his/her thesis protocol after 6 months from the degree registration. The first time for thesis defense after 2 years from the date of the faculty council approval on the thesis protocol.
- 3- **The second part of the program:** 100 CP, its duration (75 weeks) for 5 consecutive academic semesters. The second part comprises the specialized courses in Hematology, planned and held in the Internal Medicine Department. This part lasts for 2 years ending by written and practical exams.

3bi-No. of credit Points: the MD program is 180 credit Point system.

Every credit point include 25 working hour (30% = 7 hours for face to face learning activities, and 70% =18 hours for self-learning activities).

5. Program Courses

5.1- Level/Year of Program: First part of MD (30 CP)



Courses			Assessment				
Code No.	Course Title	No. of Credit points	Written Exam			Oral exam	Practical or clinical Exam
			No of Papers	Duration	Marks		
BR	Research methodology and biostatistics	8	1	3 hours	160		
IMBD51	Applied Pathology	6	1	3 hours	90	30	
IMBD52	Applied Physiology	6	1	3 hours	90	30	
IMBD53	Endemic Diseases	6	1	3 hours	55	15	50
E	Two Elective courses*	2+2	1+1	1 hour+1 hour	40+40		
Total		30 credit points			600 marks**		

*Student should select one course of the following as an elective course:

Two elective courses each one has 2 CP. The students should select two elective which has not been selected before in the Master Degree.

- E01 Evidence Based medicine (Community Department)
- E02 Scientific Writing (Medical Education Department)
- E03 Quality in Medical Education (Medical Education Department)
- E04 Infection Control (Microbiology Department)
- E05 Critical Appraisal (Community Department)
- E06 Communication Skills (Medical Education Department)

5.2- Level/Year of Program: Second part of MD program (100 CP)

Courses			Assessment					
Code No.	Course Title	No. of Credit points	Written Exam			Oral exam	Practical or clinical Exam	Continues assessment *(Portfolio)
			No of papers	Duration	Marks			
IMBD54	Advanced Course in clinical hematology	60	3	3 hours	225+	180	540	540
	Practical training in Advances of			3 hours	225+			
		30		1.5 hours	90			



	clinical hematology							
	***Scientific activities	10 (not included in the total marks)						
Total		100 credit points			1800**marks			

*Portfolio its scores distributed in the different parts of the portfolio and its total score included among total mark of second part

***Scientific activities are not included in the total marks

5.3 Thesis: A faculty senior & junior supervisor from the staff members are nominated by the department council to prepare a proposal of the thesis protocol after the selection of a subject that is complementary to the research plans of the department. Data collection, methodologies, study question, time table, ethical considerations and budget are formulated by the candidate under guidance of his supervisors into a research project. The research protocol is then peer reviewed by two different staff members nominated by the head of the department who share their ideas and comments with the supervisors to reach to the final form. The research protocol is discussed then openly in one of the department councils to be approved and diverted to the faculty research committee where it is subjected to a critical appraisal to meet the research basic standards set by the committee. The final approvals of the research protocol are then issued by the committee of post graduate studies, the Faculty and University Council to be registered.

Program Admission Requirements

- The program accepts candidates with Masters in Hematology with a grade of GOOD at least.
- Registration for the program opens 2 times/year, according to the internal bylaws for postgraduate studies of the Faculty of Medicine, Suez Canal University.

7- Student Assessment Methods

- 7.1 Written (MEQ) to assess the cognitive domain.
- 7.2 MCQs to assess the cognitive domain
- 7.3 Oral Viva Cards to assess higher cognitive and attitude domains.
- 7.4 Observations to assess practical and presentation skills.
- 7.5 Portfolio to assess the cognitive, psychomotor and the affective domains.

8- Weighting of Assessments

Type of exam First part (30 credit points= 600 mark)

- | | |
|---------------------------|------------|
| • Written exam | 475 |
| • Oral and practical exam | 125 |
| • Total | 600 |



Second part (100 credit points including 10 credit points not included in the total marks =1800 mark)

- Oral exam 180
- Practical exam 540
- Written exam 540
- Portfolio 540
- **Total 1800**

9- Regulations for Progression and Program Completion

- The regulations for program completion follow the general regulations for the Faculty of Medicine, Suez Canal University for MD approved by the Supreme Council of Universities. The program is considered complete with the accomplishment of 2 summative assessment (for the first and the second parts) and the defense of a thesis developed and submitted for the purpose of acquiring the degree.
- **First part**
Passing level 60% of total marks of the exam and at least 50% passing level of the total written exam marks
- **Second part**
Passing level 60% of total marks of the exam
Passing level 60% total of practical and oral exam
- **Thesis/Assay**
Passing discussion is required for MD degree

10- Evaluation of Program Intended Learning Outcomes (ILOs)

Evaluator	Tool	Sample
1- Postgraduate students	questionnaires	Random sample
2- Alumni(N/A since this is the first time to implement the program)	N/A	N/A
3- Stakeholders	questionnaires	
4-External Evaluator(s) (External Examiner(s))	External audit of the program specifications	

Head of Internal Medicine Department

Prof. Mahmoud Elprince