Program Specification for Master Degree: Clinical Hematology

Department offering the program: Internal Medicine department
Program type: Single
Program Code: HEMA 800
Total credit points: 150 points
Academic year: 2009/2010
Director of the Hematology Department: Prof. Mona El-Kasas
Program Coordinators: Prof. Hadi Alphonse Goubran
                       Prof. Mohamed Roshdy El-masry
External evaluators: Staff members in equivalent universities

I. Program Aims

The program mission is to provide the postgraduate candidate a Master Degree that enables him / her to start a professional career as a hematology specialist. The candidates should achieve evidence based standards of hematology practice by acquiring satisfactory levels of basic knowledge and clinical skills. They should interact with community problems and keep ethical attitudes according to community culture. The candidates should keep their medical standards through encouraging the concept of continuing medical education. The program also aims to introduce the candidates to the basics of scientific medical research.

II. Intended learning outcomes of course (ILOs)

1. Knowledge and understanding: Candidates should;

   a. Know basic scientific knowledge in clinical pathology, immunology and specific pharmacology related to normal hematopoiesis and hematological disorders.
   b. Know basic scientific knowledge related to normal hematopoiesis.
   c. Identify common hematological problems related to disorders of erythrocytes, leucocytes and platelets.
   d. Understand basic pathology, cytogenetics, clinical manifestations and management of different hematological malignancies.
   e. Understand the psychosocial basis of patients with hematological malignancies including their financial aspects.
   f. Understand basic concepts of hematological laboratory tests particularly that involve immunophenotyping and cytogenetics.
   g. Understand basic concepts of immune hematological disorders.
   h. Identify the basic principles and indications of bone marrow transplantation.
   i. Identify the different iron overload states.
j. Describe the clinical indications, limitations and complications of blood and blood products transfusion.

k. Describe different management modalities for common benign and malignant hematological problems.

2. **Intellectual skills: Candidates should;**
   a. Interpret the results of different investigations related to all benign and malignant hematological disorders.
   b. Set up clinical decision making according to cultural and individual needs.
   c. Offer treatment plans for common and rare hematological problems.

3. **Professional and practical skills: Candidates should be;**
   a. Able to collect clinical data specially the art of history taking in different hematological disorders.
   b. Able to examine and identify signs of common and rare hematological disorders.
   c. Able to request hematological laboratory tests related to clinical presentation of the patients.
   d. Able to offer proper medical treatment for benign and malignant hematological disorders.
   e. Able to identify and manage all hematological emergencies properly.

4. **General and transferable skills: Candidates should;**
   a. Communicate with the patients to gain their confidence.
   b. Communicate with other health care providers.
   c. Appreciate team working.
   d. Understand different scientific methodologies and have critical reading abilities.
   e. Achieve Computer skills necessary to make use of medical data bases and use of internet for communication.
   f. Able to write scientific article and master thesis under basics of scientific research.

### III. Academic Standards

**External references for standards:**

a- American society of hematology.

b- European hematology association.

c- International society of hematology

### IV. Program admission (pre-course) requirements

According to bylaws of the faculty of medicine, Cairo University, candidates should have M.B. B.ch. in addition to master degree of internal medicine, pediatric medicine or clinical pathology.

### V. Program Structure and contents
Program duration: one year.

Program structure: Total of 150 credit points.

1- 70 credit points for the master degree of internal medicine, pediatric medicine or clinical pathology.
2- 20 credit points for the master thesis in clinical hematology.
3- 60 credit points for the clinical hematology course as follow:
   - 40 credit points for the clinical training program.
   - 16 credit points for the scientific course classified into:
     A) 4 credit points for basic sciences include:
        - Basic clinical pathology = 2 points
        - Basic immunology = 1 point
        - Specific pharmacology = 1 point
     B) 12 credit points for the hematology sciences include:
        - Erythropoiesis and red cell disorders = 2 points
        - Leucocytes in health and White cell disorders = 1 points
        - Coagulation and hemostasis = 2 points
        - Hematological malignancies = 3 points
        - Immune hematology and its disorders = 1 point
        - Iron overload states = 1 point
        - Bone marrow transplantation = 1 point
        - Transfusion medicine = 1 point
   - 4 credit points for the scientific activity that include:
      a) Regular weekly hematology meeting.
      b) Journal club that presents scientific articles.
      c) Seminars for discussion of recent topics and controversial issues. Candidates are expected to participate in the discussions.
      d) Scientific meetings arranged by the department.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Points</th>
<th>Intended Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basics clinical pathology, immunology and specific pharmacology</td>
<td>4</td>
<td>1-a</td>
</tr>
<tr>
<td>Erythropoiesis and red cell disorders</td>
<td>2</td>
<td>1-b, c, d, g, k 2-a,b,c 3-a,b,c, e 4-a,b,c,d,e,f.</td>
</tr>
</tbody>
</table>
## Clinical Training Program (40 credit Points)

According to the new bylaws July 2009 for post graduate programs all students should complete the clinical training program in order to acquire the needed credit hours. The candidate is expected to attend the outpatient hematology clinic and the inpatient section to be aware of the different assessment and available techniques under the supervision of the senior staff members of the department.

### Master Thesis

All master-degree candidates should prepare a thesis in one of the eight main domains of hematology. The department and the ethical committees must approve the protocol of the research. The thesis should include a review part and a research part. The Thesis is supervised by one or more senior staff members from the hematology department and may include other specialties according to the nature of the research. The thesis should be evaluated and approved by a committee of three professors including one of the supervisors and an external professor.

### Scientific Activities:

The students should participate in the scientific activities of the departments such as:

- Journal club.
- Seminars (including recent topics and controversial issues). Students are expected to participate in the discussions.
- Scientific meetings arranged by the department.

Each activity is monitored and given credit points registered in a special section in the residency-training logbook. The student should collect the required points before allowed to sit for final exam.

**VI. Regulations for progression and course completion**

The student should pass the exam by its all categories. The thesis should be in the clinical hematology domains mentioned before. If previously fulfilled during the submission to the master degree of general medicine, it will be counted for the student. The candidate will receive his degree after collecting all the credit points mentioned before in addition to passing the final exam.

**VII. Evaluation**

**Supervision & Monitoring of the Training Program:**

According the Faculty of Medicine, Cairo University Bylaws for Residency Training Programs, coordinators carry continuous assessment during the program. A residency training logbook including scientific activities will be kept for each student to document all his/her clinical, laboratory and/or operative activities as well as his/her participation in different scientific activities. The head of the department should allow the students to undergo the final examination when they complete their training program and collect the credit points needed.

**A: Assessment Tools:**

**Basic sciences (total 200 marks)**

1- Three-hours written exam in two papers, one for basic clinical pathology and basic immunology (70marks) and other for specific pharmacology (30marks).

2- Oral exam for basic clinical pathology and basic immunology (70marks) and specific pharmacology (30marks).

**Clinical hematology (total 600 marks)**

1- Written two papers exam, each 175 marks in three hours.
2- Oral exam (125 marks).
3- Clinical exam (125 marks).

<table>
<thead>
<tr>
<th>Subject</th>
<th>Exam</th>
<th>Marks</th>
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</thead>
<tbody>
<tr>
<td>Basic clinical pathology and basic immunology</td>
<td>Written exam in 2 papers (3 hours for both)</td>
<td>Written: 70</td>
</tr>
<tr>
<td>Specific pharmacology</td>
<td></td>
<td>Written: 30</td>
</tr>
<tr>
<td>Clinical hematology</td>
<td>Written exam in 2 papers (3 hours for each paper) in two separate days</td>
<td>Written: 175</td>
</tr>
</tbody>
</table>
### VIII. Evaluation of program ILOs

<table>
<thead>
<tr>
<th>Evaluator</th>
<th>Tool</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Senior Students</td>
<td>Questionnaire at the end of the program</td>
<td>All the PG students</td>
</tr>
<tr>
<td>2. Alumni</td>
<td>The faculty is currently developing an Alumni office for postgraduates</td>
<td>Not yet determined</td>
</tr>
<tr>
<td>3. Stakeholders</td>
<td>A meeting will be arranged during the annual conference of the department</td>
<td>representatives from</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Army hospitals</td>
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<tr>
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<td>• National medical insurance</td>
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<td>• Medical syndicate</td>
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<td>Ministry of health</td>
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<tr>
<td>4. External Evaluators</td>
<td>• Review the program and courses • Attending the final exam.</td>
<td>Staff members of other equivalent universities in same specialty</td>
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<tr>
<td>5. Others</td>
<td>Annual program review</td>
<td></td>
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Program coordinators: Prof Hadi Goubran

Department Director: Prof Mona Mohamed El Kasas

Prof Mohamed Roshyd El Masry