Program Specification for Diploma Degree in diagnostic immunology

Code: 1708600

University: Alexandria **Faculty:** Medical Research Institute

Program Specification

A-Basic information

1- Program title: Diploma in allergy

2- Program type: **single** [√] **double** [ ] **multiple** [ ]

3- Department(s) : Immunology

4- Coordinator : Dr.Bassma Hussien Mersal

5- External evaluator(s): Prof. Amina Hassab

6- Last date of program specification approval: 8/1/2017

B-Professional Information

1- Program aims:

Provide the students with a framework for understanding the role of immunology in medicine.
By end of the program, the student should:

1. Demonstrate **knowledge** of essential facts , concepts, principles and theories of normal and abnormal immunological function
2. Acquire an appropriate functional background of cells, tissues, organs & systems involved in immunologic response.
3. Acquire basic **knowledge** of immunology
4. Describe the **integration** of immunologic functions, which characterize the performance of the human body.
5. **Integrate** concepts and relate ideas covered in different parts of the degree programme to analyze and **solve problems**.
6. Manage common and less common **clinical immunology problems** properly
7. Be able to perform basic and some advanced procedural / **practical skills** competently
8. Be able to carry out immunologic **investigations** and relevant **techniques**.
9. Understand basics behind the choice of appropriate **tests**
10. Communicate effectively through written and oral presentation
11. Establish working relationship with colleagues and work effectively as a part of a team
12. Use information technology to increase his immunology knowledge.

2- Intended learning outcomes (ILOS)

a- knowledge and understanding:

a1- Recall the general description of immune system and describe different molecules that share in immunological cellular interaction.

a2- Describe cell surface ligand interaction and explain antigen processing and presentation.

a3- Define types of T cells, their response to antigens and relationship to B cells.

a4- Discuss the different techniques for serological diagnosis of infectious diseases as hepatitis A, B, C, EBV, TB, immunologic and molecular techniques.

a5- Recall the immune response to infections and understand the different mechanisms of immune damages.

a6- Understand how to present clinical data and recall national and international relevant clinical cases.

a7- Define the concept of hypersensitivity reactions and demonstrate different types of allergic reactions.

b- Intellectual skills:

b1- Illustrate the basis of immune system and demonstrate the innate immune mechanisms.

b2- Illustrate the regulation of immune response and cellular activation in the immune system: signal transduction.

b3- Demonstrate primary and secondary immune response to defend the body against microorganisms.

b4- Interpret results of different immunological tests in correlation with clinical and laboratory data.

b5- Distinguish between protective and hazards defense mechanisms.

B6- Illustrate how to present clinical data in case presentations.

B7- Illustrate inter-relation between allergic reactions and discuss differential diagnosis based on clinical signs.

c- Professional and practical skills:

c1- Use immunological laboratory techniques for diagnosis of cell mediated and humoral immune response.

c2- Use immunological laboratory techniques to differentiate T and B cells.

c3- Gain skills in applying different immunodiagnostic and molecular tests.

c4- Gain skills to diagnose and investigate clinical cases which have underlying immunopathology.

c5- Gain skills to differentiate between different allergic reactions.

d- General and transferable skills:

d1- Communicate through group discussion

d2- Work as a part of team

d3- Develop skills in information technology

d4- Develop skills for oral presentation

d5- Develop skills in reading and research

d6- Develop skills to work safely in a laboratory environment

3- Academic standards

3a. External references for standards (Benchmarks)

Generic Academic Reference Standards if the National Authority for Quality Assurance and Accreditation of Education (NAQAAE)

Date of Academic Reference standards (ARS) approval by Institute Council: 12/2/2014

3b. Comparison of provision to selected external references

Comparison between NAQAAE and ARS

NAQAAE	ARS for Diploma Diagnostic in Immunology
A1-Basic facts , theories, of the specialty and related subjects/ fields	A1- Recall the general description of immune system and describe different molecules that share in immunological cellular interaction.
A2-Fundamentals of ethical & legal practice	A2- Describe cell surface ligand interaction andexplain antigen processing and presentation. Define types of T cells, their response to antigens and relationship to B cells. A3-Discuss the different techniques for serological diagnosis of infectious diseases as hepatitis A, B, C, EBV, TB, immunologic and molecular techniques.
A3 -Quality standards of the practice	A4-Recall the immune response to infections and understand the different mechanisms of immune damages.
A4- Effect of the specialty practice on the environment including rules for environmental conservation	A5-Understand how to present clinical data and recall national and international relevant clinical cases
B1- Determine , analyze & prioritize problems	B1- Illustrate the basis of immune system and demonstrate the innate immune mechanisms
B2- Solve common problems effectively	B2- Illustrate the regulation of immune response and cellular activation in the immune system: signal transduction. Demonstrate primary and secondary immune response to defend the body against microorganisms.
B3- Critically appraise researches and articles	B3- Interpret results of different immunological tests in correlation with clinical and laboratory data
B4-Evaluate professional risks	B4-Distinguish between protective and hazards defense mechanisms
B5- Make decisions to solve professional problems according to available data	B5- Illustrate how to present clinical data in case presentations
C1- Practice basic professional skills (clinical/practical & procedural skills) competently	C1-Use immunological laboratory techniques for diagnosis of cell mediated and humoral immune response and to differentiate T and B cells.
C2- Write reports related to the profession (Patient records, self appraisal/ audit reports etc...)	C2- Gain skills in applying different immunodiagnostic and molecular tests
D1- Communicate effectively using all methods	D1- Communicate through group discussion
D2- Use information technology to improve his/her professional practice	D3 Develop skills in information technology
D3- Practice self appraisal and determines his learning needs	D3 Develop skills in information technology
D4- Use different sources of information to obtain data	D3 Develop skills in information technology
D5- Work in teams **D6- Manage time effectively**	D2 Work as a part of team
D7-Work as team leader in situations comparable to his work level	D2.Work as a part of team
D8-Learn independently and seek continuous learning	E3. - Develop skills of observation

4- Curriculum structure and contents

4.a program duration: 3 semesters

4.b program structure :

4.b.i- No. of hours per week in each year/semester:

Semester	Core Courses	Elective Courses
	No. of hours	No. of hours
First semester	10 H	
Second semester	2 H	8 H
Third semester	10 H	

4.b.ii- No. of credit hours	Lectures	19	Practical	22	Total	30
	Compulsory	22	Elective	8	Optional	0

4.b.iii- No. of credit hours of basic science courses (elective from other departments except for computer and statistics)	No.	7	%	36.8
4.b.iv- No. of credit hours of courses of social sciences and humanities.	No.	0	%	0
4.b.v- No. of credit hours of specialized courses(مواد التخصص)	No.	8	%	42.1
4.b.vi- No. of credit hours of other courses(e.g. statistics, computer)	No.	4	%	21.1
4.b.vii- Practical/Field Training	No.		%	

4.b.viii- Program levels (in credit-hours system)

5- Program Courses

5.1- Compulsory (22 CH)

Code No.	Course Title	No. of credit hours	No. of hours /week	
			Lecture	Practical
1708601	Elementary immunology I	2	2	-
1708602	Elementary immunology II	4	3	2
1708603	Cellular immunology I	4	2	4
1708604	Diagnostic immunology I	4	2	4
1708605	General clinical immunology I	4	3	2
1708606	Interactive clinical immunology I	2	2	-
1708607	Hypersensitivity reactions	2	1	2

5.2- Elective I (8 CH)

Code No.	Course Title	No. of credit hours	No. of hours /week	
			Lecture	Practical
1701720	Biochemistry	2	1	2
1705720	Hematology	2	1	2
1708711	Immunohematology I	2	1	2
1706720	Bacteriology	2	1	2
1712720	Biophysics	2	1	2
1717720	Chemical pathology	2	1	2
1721720	Medical statistics	2	1	2
1713720	Genetics	2	1	2

6- Program admission requirements

Graduate students with a diploma or MSc of science or medical degrees or an equivalent

7- Regulations for progression and program completion

For the progression and completion of the program to obtain the degree of **Diagnostic immunology** the student must:

complete …30. credit hours with CGPA of at least C+.

8-Evaluation of Students enrolled in the program.

Tool evaluation	Intended learning outcomes being assessed
Written	ILOs a &b
Practical	ILOs c
Oral	ILOs a ,b &d
Semester Work	ILOs b & d

Evaluation of program intended learning outcomes

Evaluator	tool	Sample
1- Senior students		
2- Alumni		
3- Stakeholders (Employers)	questionnaire	
4- External Evaluator(S) External Examiner (s)	Report	
5- Other		

Dates of Previous editions/revisions:

Editions/Revisions Number	Date
Edition no.1	2009
Edition no. 2	2011
Edition no.3	5/6/2014
Edition no.3, revision no.1	12/2014
Edition no.3, revision no.2	10/2016

Program coordinator:
Name: Dr. Bassma Hussein Mersal **Signature ……. Date ……**

Department Head:

Name: Prof. Dr. Eman Rashwan Signature: ……

Date of Department Council Approval: 6/9/2017……

Courses vs program ILO Matrix

Course Title	a1	a2	a3	a4	a5	a6	a7	b1	b2	b3	b4	b5	b6	b7	c1	c2	c3	C4	c5	d1	d2	d3	d4	d5	d6
Elementary immunology I	x							x												x	x	x	x	x	
Elementary immunology II		x							x						x					x	x	x	x	x	X
Cellular immunology I			x							x						x				x	x	x	x	x	X
Diagnostic immunology I				x							x						x			x	x	x	x	x	X
General clinical immunology I					x							x						x		x	x	x	x	x	X
Interactive clinical immunology						x							x							x	x	x	x	x	
Hyper-sensitivity reactions							x							x					x	x	x	x	x	x	X

Program Aims vs ILOs Matrix

Aims \ ILOs	a1	a2	a3	a4	a5	a6	a7	a8	b1	b2	b3	b4	b5	b6	b7	b8	c1	c2	c3	C4	c5	c6	d1	d2	d3	d4	d5	d6
Demonstrate **knowledge** of essential facts , concepts, principles and theories of normal and abnormal immunological function	+	+				+			+				+															
Acquire an appropriate functional background of cells, tissues, organs & systems involved in immunologic response.			+							+	+						+	+										
Acquire basic **knowledge** of immunology	+	+	+						+	+																		
Describe the **integration** of immunologic functions, which characterize the performance of the human body.						+						+	+				+	+	+									
Integrate concepts and relate ideas covered in different parts of the degree program to analyze and **solve problems**.				+	+	+						+		+														
Manage common and less common **clinical immunology problems** properly						+	+					+		+	+													
Be able to perform basic and some advanced procedural / **practical skills** competently				+													+	+	+	+								
Be able to carry out immunologic **investigations** and relevant **techniques**				+																+	+	+						
Understand basics behind the choice of appropriate **tests**				+																+								
Communicate effectively through written and oral presentation					+																					+	+	+
Establish working relationship with colleagues and work as a part of a team																							+	+				+
Use information technology to increase his immunology knowledge														+	+									+	+			+

ARS vs ILOs matrix

AIMS \ ARS	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	C1	C2	C3	C4	C5	C6	C7	C8	C9	D1	D2	D3	D4	D5
A1-Basic facts , theories, of the specialty and related subjects/ fields	√																																						
A2- Mutual relation between professional practice and effects on environment		√	√																																				
A3- Recent advances in the field of practice				√																																			
A4-Details of ethical & legal practice **A5 -Quality standards of the practice**					√																																		
A6- Design, conduction & publishing of scientific research							√						√																										
A7- Ethical considerations in different types of scientific research						√			√			√																												
B1- Analyze, deduce, extrapolate & evaluation of information													√																											
B2- Solve the majority of problems in the specialty according to the available data (complete or incomplete)														√																										
B3- Conduct research studies that add to the existing specialty knowledge															√																									
B4- Publish scientific articles/papers (in indexed journals)																√																								
B5- Plan and implement **(or supervise implementation of)**																	√																							

enhancement & Improvement approaches to practice																																							
B6- Take decisions in various professional situations (including dilemmas & controversial issues)							√																																
B7- Add to the specialty field through creativity & innovation		√																																				
B8- Manage discussions on basis of evidence and proofs																																						√	
C1- Competent in all basic and all required advanced professional skills (to be determined according to the specialty board/ department)																							√								√								
C2- Write and appraise reports																								√										√					
C3- Evaluate and improve methods and tools used in specialty																																							
C4- Use technology to advance practice																																			√				
C5- Plan professional development courses to improve practice and enhance performance of juniors																																							
D1- Communicate effectively using all methods																																			√				

D2- Use information technology to improve his/her professional practice																																					√	
D3- Teach and evaluate others																															√							
D4- Perform self appraisal & seek continuous learning																																		√			√	
D5- Use different sources of information to obtain data																																	√					
D6- Work in teams as well as a member in larger teams																																√				√		
D7- Manage scientific meetings and appropriately utilize time																																				√		

Teaching and Learning Methods Vs Courses Matrix

Degree: Diploma in Diagnostic Immunology Code: 1708600

	1708601	1708602	1708603	1708604	1708605	1708606	1708607
Lecture	x	x	x	x	x	x	x
Practical/Clinical	x		x		x	x	x
Brainstorming	x	x	x	x	x	x	x
Discussion Groups	x	x	x	x	x	x	x
Problem Solving	x	x	x	x	x	x	x
Case Study						x	
Field Training							
Role playing							
Training Workshops							
Self-Directed Learning							
e-learning							
Project	x	x	x	x	x	x	x