

Course Specification

1. Basic Information

Programme(s) on which the course is given:	MSc of Ctology, Histology&histochemistry
Department responsible for offering the course:	Zoology
Department responsible for teaching the course:	Zoology
Academic year:	2012-2013
Course title and code:	Immunochemistry Z6135
Contact hours (credit hours):	Lecture: 2 hrs Practical: 0hrs Total: 2 hrs
Course coordinator:	Dr. Hany. M. Ibrahim

2. Professional Information

The course aim and intended learning outcomes are based on that mentioned in the programme specifications, with more course-related specific details.

Overall Aims of Course: By the end of this course, the student should be able to

- * Identify the advanced concepts of the nature of antigen and antibody.
- * List the qualitative and quantitative aspects of antigen-antibody interaction.
- * Outline the nature of complement, vaccination and transplantation.

3. Intended Learning Outcomes of Course (ILOs):

a. Knowledge and Understanding:

- a1- Compare and contrast immunogen, antigen and hapten.
- a2- Describe the factors influencing immunogenicity.
- a3- Define the chemical nature of immunogens.
- a4- Explain the structural basis for immunoglobulin isotypes, allotypes and idiotypes
- a5- Describe the nature of Ag-Ab reactions
- a6- Compare and contrast antibody affinity and avidity
- a7- Delineate the basis for antibody specificity and cross reactivity
- a8- Discuss the principles of commonly used tests for antigen-antibody reactions

b. Intellectual Skills:

b1- Measure the student capability to differentiate between the immunogen, antigen and hapten.

b2- Define the factors influencing immunogenicity and chemical nature of immunogens.

b3- Measure the Ag-Ab interactions.

c. Professional and Practical Skills:

c1- Apply some tests for antigen-antibody reactions.

c2- Distinguish between different immunogens and antigens.

c3- Diagnose some diseases related to the immune disorders.

d. General and Transferable Skills:

d1- Measure the scientific writing ability.

d2- Utilize the oral communication skills.

d3- Use appropriate lab equipment.

d4- Use the appropriate technology such as (Internet) for scientific research.

4. Course Contents

Topic	No. of hours	Tutorial/ Practical	Lecture
Immunochemistry (Introduction)	2	-	2
Antigen & Immunogen	2	-	2
Immunoglobulin structure and function	6	-	6
Formation			
antigen-antibody interaction	6	-	6
Complement system	4	-	4
MHC structure & Organ transplantation	4	-	4
Vaccination	4	-	4
Other immunological Techniques	4	-	4

5. Teaching and Learning Methods

- Lectures.
- Practical sessions.

- Writing essays.
- Oral presentation.

6.Student Assessment Methods

- Essays
- Oral exms
- Written exams.
- Practical exams.
- Quizzes.

Assessment schedule

Assessment 1	Essay	Week 1 essay/term
Assessment 2	Oral exam	Twice/term
Assessment 3	Mid-term exams	Week 7
Assessment 4	Semester Work Exam	Week 10
Assessment 5	Final term exam	Week 14

Weighting of assessments

Mid-term examination	20%
Final-term examination	40%
Oral examination	10%
Practical examination	20%
<u>Semester work</u>	<u>10%</u>
Total	100%

7- List of references

.1- Course Notes:

- * Lecture notes.

.2- Essential books (text books)

- * Immunochemistry (van Oss).
- * Immunology (Kuby).

.3- Recommended books:

- * Immunology (Hyde).
- * Cellular and Molecular Immunology.

.4- Periodicals, Web sites....Etc:

- * Journal of Immunology.

7- Facilities required for teaching and learning

- * Dark room equipped with overhead and LCD projector.
- * Librarian facilities.
- * Computers with internet Access.
- * Lab provided with suitable equipments.

Course coordinator: Dr. Hany. M. Ibrahim

Head of Department: Prof. Saber Sakr