

Course Book

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| 1. Course name | Practical Immunology |
| 2. Lecturer in charge | Suhayla Hamad Shareef |
| 3. Department/ College | Biology/College of Education |
| 4. Contact | E-mail: suhayla.shareef@su.edu.krd Tel: 07728414580-07504631250 |
| 5. Time (in hours) per week | (12 hrs.) |
| 6. Office hours | 18 Hrs |
| 7. Course code | EdB0402 |
| 8. Teacher's academic profile | <p>I finished High school in 1992 and attended to College of Education, Biology Department/Salahaddin University /Erbil during 1995-1996, and I was at the top students in Biology class and college level with a grade of 82.396.</p> <p>On January 18-1-1997 started working as an official employee in the biology department as an assistant biologist my role was to assist the head of the biology department help lecturers in biology laboratories and teach students the practical parts. I got my master's degree and immunology in 2012 with a grade of very good. Then I got my Ph.D. in Medical Immunology in May 2020.</p> <p>My academic title is Lecturer now, and I have taught various courses during my career as a lecturer, including immunology, pathogenic bacteria, and zoology</p> |
| 9. Keywords | Immunity, Serology, Antibody, Complement |
| 10. Course overview: | <p>The objective of this course is to instill a broad-based knowledge of the science of immunology. Immunology is a science that studies immunity. Historically, immunity has been understood as a defence against, or resistance to, contagious (infectious) diseases. It has become apparent, however, that the mechanisms that confer protection against the above diseases also operate when a body mounts a reaction against some innocuous substances. Such a reaction is triggered when certain substances that are not made in the body ("foreign" substances) invade the body from outside. The mechanisms of immunity can protect against diseases that might be caused by foreign agents but, on the other hand, these same mechanisms can themselves injure the body and cause disease. Therefore, immunity was redefined as a reaction against foreign substances, including – but not limited to – infectious microorganisms. This reaction may or may not be protective. This reaction is quite</p> |

complex, involves many different cells, molecules, and genes (collectively termed the immune system), The response of the immune system to the introduction of foreign substances is called the immune response.

Immunity is a part of a complex system of defense reactions of the body. These defense reactions can be innate or acquired. Innate (or natural) immunity refers to the work of mechanisms that pre-exist the invasion of foreign substances, while acquired immunity refers to a reaction that is caused by the invasion of a certain foreign substance. The ability of the immune system to “remember” an encounter with an antigen and to develop a qualitatively better response to it is called the immune memory. This feature is a paramount property of specific immunity.

11. Course objective:

The course has two primary objectives:

- The main objectives of this course are, that students should know something about immunity and the arms of immunity, a component of the immune system, how our immune system work in disease and in health, antigen and their types, immunoglobulin and their classes, the different pathway of complement activation, cytokine and the mode of their action and other different subjects.
- We will dissect the particular mechanisms of immunity and characterize the elements of the immune system and the properties of immune responses. The immune system—it is the only thing standing between us and a sea of microbial predators that could send us to an early and ugly death microbe.

12. Student's obligation

The role of students and their obligations throughout the academic year include:

- A. Quizzes and daily activities and seminar**
- B. 1st examination**
- C. 2nd examination**
- D. 3rd examination**

13. Forms of teaching

Different forms of teaching will be used to reach the objectives of the course:

Using projectors to view PowerPoint slides and laser pointers for further explanation and using the whiteboard and colored pens to illustrate the lab notes or slide preparation.

14. Assessment scheme

Course grade

The following assignments will determine the grade: Quizzes, activities, and participating in lab work, daily questions, and examinations during the year.

| No. | Exam (Evaluation) | Marks |
|-----|-------------------|-------|
| 1 | Student presence | 1% |
| 2 | Lab Activities | 4% |
| 3 | Mid-term Exam | 30% |
| 4 | Total Scores | 35% |

15. Student learning outcome:

After completing this course, students should be able to describe, identify, and/or explain:

Students must have knowledge about the immunological tests that have been done in practices and labs. Distinguishing between the causative agents of certain diseases and how to avoid them in life.

16-Course Reading List and References

Hyde, R.M. (1995). Immunology. 3rd Ed., Williams & Wilkins. Philadelphia, USA. Dubey, R.C. and Maheshwari, D.K. (1999). Textbook of Microbiology. 1st Ed., S. chand & company ltd. Hossain, A. (2003). A short textbook of Immunology 2nd Ed. Jawetz, Melnick, Adelbergs. (2007). Medical Microbiology .24th Ed. Abbas, K.A, Lichtman, A.H. and Pillai, S.H. (2007). Cellular and Molecular Immunology 6th Ed. Philadelphia, USA.

17.

18. Topics

lecturers name

| Topics | Weeks |
|--------------------------------------|---------------------------------------|
| Week 1: Bactericidal Power of Serum. | Suhayla H. Shareef Time: (12 hrs.) |
| Week 2: Blood group and immunity. | Suhayla H. Shareef Time: (12 hrs.) |
| Week 3: Rheumatoid factor test | Suhayla H. Shareef Time: (12 hrs.) |

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| Week 4: Phagocytosis | Suhayla H. Shareef Time: (12 hrs.) |
| Week 5: ASO TEST | Suhayla H. Shareef Time: (12 hrs.) |
| Week 6: WIDAL TEST | Suhayla H. Shareef Time: (12 hrs.) |
| Week 7: ROSE BENGAL TEST | Suhayla H. Shareef Time: (12 hrs.) |
| Week 8 – RADIAL IMMUNODIFFUSION TEST | Suhayla H. Shareef Time: (12 hrs.) |
| Week 9: ELISA | Suhayla H. Shareef Time: (12 hrs.) |
| Week 10: Complement | Suhayla H. Shareef Time: (12 hrs.) |
| 19. Extra notes: | |
| 20. Peer review | پیداچوونہوہی ہاودل |