**Course Description Form**

| 1. Course Name:
 |
| --- |
| Microbiology II |
| 1. Course Code:
 |
| ClMv224/2 |
| 1. Semester / Year:
 |
| 2/2 |
| 1. Description Preparation Date:
 |
| 29/2/2024 |
| 1. Available Attendance Forms:
 |
| In person attendance |
| 1. Number of Credit Hours (Total) / Number of Units (Total)
 |
| 5/3 |
| 1. Course administrator's name (mention all, if more than one name)
 |
|

| assist. prof. Dr.Zainab Majeed Hashim | zainab.atyia@copharm.uobaghdad.edu.iq |  |
| --- | --- | --- |
| lecturer Dr.: Khalid Abdul-Hussain | khaled.abd@copharm.uobaghdad.edu.iq |  |
| lecturer Dr.: Shaymaa Abdul-Zahra | shaymaa.abbas@copharm.uobaghdad.edu.iq |  |
| Lecturer Dr. Ali S. Salman | ali.salman@copharm.uobaghdad.edu.iq |  |
| Assist. lecturer Muhammad Hasan Muhammad | muhammad.h@copharm.uobaghdad.edu.iq |  |
| Wasan G. Hussein | wasn.hussein@copharm.uobaghdad.edu.iq |  |

 |
| 1. Course Objectives
 |
| **Course Objectives** | * Providing students with good information in the field of diagnosis of parasites, parasitic diseases and their vectors.
* Improving students’ ability to self-learn, use the Internet, and access accurate scientific information.
* Preparing students to be an efficient source with a solid scientific basis for community guidance.
 |
| 1. Teaching and Learning Strategies
 |
| **Strategy** | Lectures TutorialsGoogle class room Researches |
| 1. Course Structure
 |
|

| Week | Hours | Required Learning Outcomes | Unit  | Learning method | Evaluation method |
| --- | --- | --- | --- | --- | --- |
| 1 | 2 | Introduction to parasites that infect humans and their classificationpractical: Fixed stained slides, microscopic examination, examination of laboratory models, and presentation of photographic slides | Introduction to Parasitology  | Lectures, Discussions, and Reports | Exam and classroom activities |
| 1 | innate immunity and describe the most important physical and chemical immune barriers, also clarify the immediate and induced immune response | Innate immunity |
| 2 | 1 | Description of the pathogenic amoeba (Entamoeba histolytica)practical: fixed slides for pathogenicand non-pathogenic amoeba+ presentation of photographic slides using data-show  | Pathogenic amoeba | = | = |
| 1 | introduction to viruses, viral shape and size | Introduction to Virology |
| 1 | Cytokines definition, families and function  | Immunology/ Cytokines |
| 3 | 2 | Description of gastrointestinal and reproductive systems, tissue flagellates, and ciliatesPractical: fixed slides for flagellate+ presentation of photographic slides using data-show | Human parasitic flagellates | = | = |
| 1 | Adaptive immune response. T and B cells and its functions | Specific immune response |
| 4 | 1 | Malaria: life cycle and pathogenesis Practical: fixed slides for plasmodium+ presentation of photographic slides using data-show | Parasite/ malaria | = | = |
| 1 | Structure of viruses, including the basic unit of infection, the gene, the outer envelope, and its functions | Structure of viruses |
| 1 | Integration of the immune response with both non-specialized and specialized responses | Immune response |
| 5 | 2 | Comparison between different types of malaria and toxoplasmosisPractical: fixed slides for plasmodium and toxoplasma + presentation of photographic slides using data-show | Blood flagellate | = | = |
| 1 | Basic structure of Abs, their function and types | Antibodies |
| 6 | 1 | Tapeworms, their life cycle and pathogenesisPractical: fixed slides for tapworms+ presentation of photographic slides using data-show | Parasite/ tapeworms | = | = |
| 1 | Describe the different stages of virus reproduction and the accompanying structures produced during replication cycle | Viral reproduction |
| 1 | Definition of hypersensitivity, its types, and the mechanisms that lead to type 1 and type 2 hypersensitivity | Hypersensitivity reactions |
| 7 | Mid-term examination |
| 8 | 1 | Tapeworms in pigs and tapeworms in cows / continue Practical: fixed slides for tapworms: T saginata (beef tapeworm), T. solium (pork tapeworm) and cyct + presentation of photographic slides using data-show | Parasite/ tapeworms | = | = |
| 1 | One-step growth curve, methods of isolating viruses, and studying the most important genetic mutations | Growth curve and gene interaction in viruses |
| 1 | Mechanics that lead to type III and IV hypersensitivity | Hypersensitivity reactions/ continue |
| 9 | 2 | Dwarf tapewormsPractical: fixed slides for dwarf worm + presentation of photographic slides using data-show | Parasite/ tape worms | = | = |
| 1 | Definition of tumors, their causes, and the mechanisms that contribute to the growth of tumors | Tumor immunity |
| 10 | 1 | Blood and urinary schistosomiasis, their classification, forms, life cycle, pathology, diagnosis and treatmentPractical: fixed slides for egg of Schistosoma and larva + presentation of photographic slides using data-show | Parasite/ schistosomiasis | = | = |
| 1 | A description of the most DNA viruses, important families pathogenic to humans, along with a description of the most important diseases they cause and methods of diagnosis and treatment. | DNA viruses |
| 1 | How the tumor evades the immune response, as well as the most important immune strategies used in treatments | Tumor immunity/ continue |
| 11 | 2 | Ascaris nematodes and hookworms, their description, shapes, life cyclePractical: fixed slides for egg of egg of Ascaris and larva + presentation of photographic slides using data-show | Parasites/ nematodes | = | = |
| 1 | Tolerance and autoantigens | Autoimmunity |
| 12 | 1 | Ascaris nematodes and hookworms, Diseases, diagnostic methods and treatmentsPractical: fixed slides for egg of egg of Ascaris and larva + presentation of photographic slides using data-show | Parasites/ nematodes continue | = | = |
| 1 | Description of RNA viruses, the most important pathogenic families for humans, along with a description of the most important diseases they cause and methods of diagnosing and treating them. | RNA viruses |
| 1 | Mechanical damage associated with breakdown of tolerance and the presence of autoantibodies | autoantibodies |
| 13 | 3 | Pinworms and roundworms, their forms, life cycle, pathology, diagnostic methods and treatmentsPractical: fixed slides for egg of egg of pinworms and roundworms + presentation of photographic slides using data-show | Pinworms and roundworms | = | = |
| 14 | 2 | Diseases caused by free-living wormsPractical: presentation of photographic slides using data-show for free living worms  | Parasite/free living worms  | = | = |
| 1 | Description of RNA viruses, the most important pathogenic families for humans, along with a description of the most important diseases they cause and methods of diagnosing and treating them | RNA viruses/ continue |
| 15 | 3 | Elephantiasis and Trachnella worms, their forms, life cycle, pathology, diagnostic methods and treatmentsPractical: presentation of photographic slides using data-show for Wuchereria bancrofti and Trachnella worms | Wuchereria bancrofti and Trachnella worms | = | = |

 |
| 1. Course Evaluation
 |
| Mid-term examination (15 marks)Quiz and homework (5 marks)Practical work (20 marks)Final examination (60 marks)  |
| 1. Learning and Teaching Resources
 |
| Required textbooks (curricular books, if any) | -Medical Microbiology 24th ed. 2007 by E. Jawetz- Medical parasitology, 5th ed. By Dr. D.R. Arora & Dr. Brij Bala Arora. 2018 - Lab manual for practical virology and parasitology, - Atlas of Helminthes and Protozoa.ed. |
| Main references (sources) |  |
| Recommended books and references (scientific journals, reports...) |  |
| Electronic References, Websites |  |