Course Description Form

1. Course Name:
Medical Microbiology II
2. Course Code:
Phcls25 227
3. Semester / Year:
2nd semester/2nd year
4. Description Preparation Date:
15/1/2026
5. Available Attendance Forms:
Sheets signed by students
6. Number of Credit Hours (Total) / Number of Units (Total)
3 hours Theory + 2 hours Practical (75)/ 4 unites
7. Course administrator's name (mention all, if more than one name)
Theoretical
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8. Course Objectives

Course Objectives	• Give the student the most important information about the • Parasitic diseases mostly in Iraq& their transmission. • Also studying viruses and the most important groups of viruses associated human pathogenicity. • The course also include immune session which give the student information about innate and adaptive immune response and immune disorders and diseases. • This course also enables the students to understand the principles of innate and adaptive immunity and Studying most diseases deal with

	immunity as well as auto-immune diseases, different defense mechanism.

9. Teaching and Learning Strategies

Strategy	**Theoretical parts**: Lecture in classroom +discussion and oral questions+ Discussion and written question through Google classroom. **Practical part**: Explain work principles+ Applying the lab examinations + making weekly reports + written and practical quiz.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3+2	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions.	Introduction Parasitology and classification	Theory& practical	Written exam a quiz Practical report
2	3+2	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions. **B1:** The student identifies the diagnostic methods for various parasitic infections (such as amoebae, flagellates, nematodes, and platyhelminths) based on their distinctive characteristics."	Protozoa: Pathogenic Amoeba (*Entamoeba histolytica*)	Theory& practical	Written exam a quiz Practical report
3	3+2	**A1:** The student distinguishes the morphological and physiological characteristics of various	Cont. Commer amoeba and diseases caused free living amoeba.	Theory& practical	Written exam a quiz Practical report

		types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions. **B1:** The student identifies the diagnostic methods for various parasitic infections (such as amoebae, flagellates, nematodes, and platyhelminths) based on their distinctive characteristics."			
4	3+2	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions. **B1:** The student identifies the diagnostic methods for various parasitic infections (such as amoebae, flagellates, nematodes, and platyhelminths) based on their distinctive characteristics."	Flagellates of GIT and reproductive system. Ciliates *(Balantidi coli*)	Theory & practica	Written exam a quiz Practical report
5	3+2	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions. **B1:** The student identifies the diagnostic methods for various parasitic infections (such as amoebae, flagellates, nematodes, and platyhelminths) based on	Flagellates of blood and tissues Leishmania)	Theory & practical	Written exam a quiz Practical report

		their distinctive characteristics."			
6	3+2	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions. **B1:** The student identifies the diagnostic methods for various parasitic infections (such as amoebae, flagellates, nematodes, and platyhelminths) based on their distinctive characteristics."	Flagellates of blood a tissues (Trypanoson	Theory & practica	Written exam a quiz Practical report
7	3+2	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions. **B1:** The student identifies the diagnostic methods for various parasitic infections (such as amoebae, flagellates, nematodes, and platyhelminths) based on their distinctive characteristics."	Protozoa: Haemosporidia (Plasmodium spp.)	Theory & practica	Written exam a quiz Practical report
8	3+2	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions.	*Toxoplasma gondii*) Protozoa: Coccidia	Theory & practica	Written exam a quiz Practical report

		B1: The student identifies the diagnostic methods for various parasitic infections (such as amoebae, flagellates, nematodes, and platyhelminths) based on their distinctive characteristics."			
9	3+2	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions. **B1:** The student identifies the diagnostic methods for various parasitic infections (such as amoebae, flagellates, nematodes, and platyhelminths) based on their distinctive characteristics."	- Helminthes classification - Cestodes (Taenia sp *Hymenolepis nana*)	Theory & practica	Written exam a quiz Practical report
10	3+2	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions. **B1:** The student identifies the diagnostic methods for various parasitic infections (such as amoebae, flagellates, nematodes, and platyhelminths) based on their distinctive characteristics."	Cont. Echinococ spp.	Theory & practica	Written exam a quiz Practical report
11	3+2	**A1:** The student distinguishes the morphological and physiological	Trematodes: Schistosoma spp.	Theory & practica	Written exam a quiz Practical report

		characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions. **B1:** The student identifies the diagnostic methods for various parasitic infections (such as amoebae, flagellates, nematodes, and platyhelminths) based on their distinctive characteristics."			
12	3+2	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions. **B1:** The student identifies the diagnostic methods for various parasitic infections (such as amoebae, flagellates, nematodes, and platyhelminths) based on their distinctive characteristics."	Nematodes (Asca Hookworms)	Theory & practica	Written exam a quiz Practical report
13	3+2	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions. **B1:** The student identifies the diagnostic methods for various parasitic infections (such as amoebae, flagellates, nematodes, and platyhelminths) based on	Cont. Enterob Trichuris	Theory & practica	Written exam a quiz Practical report

		their distinctive characteristics."			
1	3	**A1:** The student distinguis the morphological physiological characteristics various types of paras (protozoa and helminths) viruses (DNA & RNA virus and understands their replicat mechanisms and gen interactions.	Introduction Virology and gen characters	Theory	Written exam quiz
2	3	**A1:** The student distinguis the morphological physiological characteristics various types of paras (protozoa and helminths) viruses (DNA & RNA virus and understands their replicat mechanisms and gen interactions.	Reproduction isolation methods viruses	Theory	Written exam quiz
3	3	**B2:** The student sugg appropriate therape strategies (such as anti-v therapies) based on understanding of gen interaction and the structu characteristics of the microbe	Anti-viral therapy gene interaction	Theory	Written exam quiz
4	3	**A1:** The student distinguis the morphological physiological characteristics various types of paras (protozoa and helminths) viruses (DNA & RNA virus and understands their replicat mechanisms and gen interactions.	Classification of viru	Theory	Written exam quiz
5	3	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions.	DNA viruses: HERPESVIRIDA (HSV1&2, Varic Zoster HV4,5,6,7,8), POXVIRIDAE(hu an pox disea ADENOVIRIDA deno disea PAPOVIRIDAE(V and its differ types),	Theory	Written exam quiz

			HEPADNAVIRIDE (HBV, PARVOVIRIDAE B19)		
6	3	**A1:** The student distinguishes the morphological and physiological characteristics of various types of parasites (protozoa and helminths) and viruses (DNA & RNA viruses), and understands their replication mechanisms and genetic interactions.	RNA viruses: Enveloped Segmented Single-Stranded RNA Viruses (Influenza A,B,C), Enveloped Nonsegmented ssRNA Viruses (parainfluenza, mumps virus, measles virus, RSV), Rhabdovirus family; genus Lyssavirus (Rabies), Flavivirus, ssRNA +ve sense (HCV), HIV, Nonenveloped Nonsegmented ssRNA Viruses: Picornaviruses and Caliciviruses (Picornaviruses HAV), Nonenveloped Segmented dsRNA Viruses: Reoviruses (rota & reo), Prions and Spongiform Encephalopathies	Theory	Written exam a quiz
1	3	**A2:** The student explains the mechanisms of innate and adaptive immunity, understands the role of cytokines and complements, and analyzes the body's	Innate immune response: • Describe the characteristics of innate immunity,	Theory	Written exam a quiz

		response to pathogens and hypersensitivity cases."	Describe physical and chemical immune barriers, *explain immediate and induced innate immune responses, *discuss natural killer cells, *describe major histocompatibility class I, II molecules, *how the proteins i complement system function to dest extracellular pathogens		
2	3	**A2:** The student explains mechanisms of innate a adaptive immunity, understa the role of cytokines a complements, and analyzes body's response to pathog and hypersensitivity cases."	Cytokines: Properties of cytokines Biological functions of cytokines Cytokines family	Theory	Written exam a quiz
3	3	**A2:** The student explains the mechanisms of innate and adaptive immunity, understands the role of cytokines and complements, and analyzes the body's response to pathogens and hypersensitivity cases."	Adaptive immune response: •Describe the characteristics of adaptive immunity, •explain cell functions (basics of B and T cells), •describe the formation of B and T cells, •discuss humoral immunity (How B cells function), •explain cell mediated immunity (T	Theory	Written exam a quiz

			cell types and functioning), •Summarize how the cells work together for an adaptive immune response		
4	3	**A2:** The student explains mechanisms of innate a adaptive immunity, understa the role of cytokines a complements, and analyzes body's response to pathog and hypersensitivity cases."	Antibodies characteristics features: *Distinguish between the overall structure and the fine structure of antibodies * Describe the variable and constant regions of an antibody's light and heavy chains. *Name and compare the biological and chemical characteristics of the five classes of antibodies. *Contrast conventional antib and monoclo antibody development; conceptualize procedure monoclonal antib screening; and disc hybrid monoclo antibodies.	Theory	Written exam a quiz
5	3	**A2:** The student explains the mechanisms of innate and adaptive immunity, understa the role of cytokines and complements, and analyzes t body's response to pathogens and hypersensitivity cases."	Hypersensitivity reactions: *classification of hypersensitivity types with respect to the participating	Theory	Written exam a quiz

			immune effectors and mechanisms of tissue damage. *Understand how normal T cell and B cell antigen recognition, signaling, and effector functions contribute to hypersensitivity. *Recognize the common clinical manifestants of the 4 types of hypersensitivity.		
6	3	**A2:** The student explains mechanisms of innate a adaptive immunity, understa the role of cytokines a complements, and analyzes body's response to pathog and hypersensitivity cases."	Tumor immunology: *understand how the immune system mounts an immune response against tumors *understand how tumors evade immunity *review strategies combat tumors ba on immunothera including passive a active immunizatio	Theory	Written exam a quiz
7	3	**A2:** The student explains the mechanisms of innate and adaptive immunity, understands the role of cytokines and complements, and analyzes the body's response to pathogens and hypersensitivity cases."	Autoimmune Diseases : *Understand h different autoimm diseases are driven the recognition different autoantig and have differ effector mechanis that result in injury.	Theory	Written exam a quiz

11. Course Evaluation

- 20 M mid-term (2% Class activity + 18% theoretical exam)
- 20 M Quest practical: (5% weekly reports+ 2% class activities + 12% Practical exams)
- 60 M Final paper-based exam

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- 100 M total

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. Animal agents & vectors of human disease 5th edition by Beaver& Jung 2. Medical Microbiology 24th ed. (2007) by Jawetz 3. Atlas of helminthes& Protozoa, 4. Principle of immunology by kuby ed. 2007
Main references (sources)	Lippincott illustrated review microbiology 2nd ed. By Harvey
Recommended books and references (scientific journals, reports...)	Lancet, International Journal of Medi microbiology
Web sites	https://asm.org. American Society of Microbiology.
Course update	2%