Course Description Form

1. Course Name:
Medical Microbiology II
2. Course Code:
Phcls23 227
3. Semester / Year:
2nd semester/2nd year
4. Description Preparation Date:
1/9/2023
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
Name: Assis. Prof. Dr. Maruah Hashem Dawood Email: maruadaood@uomosul.edu.iq Name: Assis. Prof. Dr. Farah Hazem Omer Email: farahomer@uomosul.edu.iq Name: Assis. Prof. Karam Amer Al-Dabbagh Email: karam.aldabbagh@uomosul.edu.iq Name: Assis. Prof. Zahraa Amer Hashim Email: hashimz@uomosul.edu.iq
Practical
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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	Learning what is parasites and parasitism	Introduction to Parasitology and classification	Theory& practical	Exam
2	3+2	About amoebic dysentery	Protozoa: Pathogenic Amoeba (*Entamoeba histolytica*)	Theory& practical	Exam
3	3+2	About nonpathogenic intestinal amoeba and free living opportunistic amoeba.	Cont. Commensal amoeba and diseases caused by f living amoeba.	Theory& practical	Exam
4	3+2	About endemic intestinal and luminal flagellates.	Flagellates of GIT and reproductive system. Ciliates *(Balantidium coli*)	Theory & practical	Exam
5	3+2	About endemic blood flagellates	Flagellates of blood and tissues (Leishmania)	Theory & practical	Exam
6	3+2	About flagellate that cause sleeping sickness.	Flagellates of blood and tissu Trypanosoma)	Theory & practical	Exam
7	3+2	About malaria parasites	Protozoa: Haemosporidia (Plasmodi spp.)	Theory & practical	Exam
8	3+2	About the most endemic cat parasite	*Toxoplasma gondii*) Protozoa: Coccidia	Theory & practical	Exam
9	3+2	About the cattle tape worm, s, big tapeworm and dwarf tapeworm.	- Helminthes classification - Cestodes (Taenia sp *Hymenolepis nana*)	Theory & practical	Exam
10	3+2	About tape worm causing hydatid disease	Cont. Echinococcus spp.	Theory & practical	Exam
11	3+2	About Bilharzia	Trematodes: Schistosoma spp	Theory & practical	Exam
12	3+2	About upper GIT nematodes	Nematodes (Asca Hookworms)	Theory & practical	Exam
13	3+2	About lower GIT nematodes	Cont. Enterobius, Trichuris	Theory & practical	Exam

1	3	Virus structure typing	Introduction to Virology general characters	Theory	Exam
2	3	Virus proliferation identification	Reproduction and isolat methods for viruses	Theory	Exam
3	3	Virus treatment	Anti-viral therapy and g interaction	Theory	Exam
4	3	Virus groups	Classification of viruses	Theory	Exam
5	3	The most endemic viral groups that have DNA	DNA viruses: HERPESVIRIDAE (HSV1&2, Varicella Zost HV4,5,6,7,8), POXVIRIDAE(human disease), ADENOVIRIDAE(adeno disease), PAPOVIRIDAE(HPV and its different typ HEPADNAVIRIDAE (HBV, PARVOVIRIDAE(B19)	Theory	Exam
6	3	The most endemic viral groups that have RNA	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	Exam
1	3	Immune response mechanisms in human body: innate immunity	Innate immune response: • Describe the characteristics of innate immunity,	Theory	Exam

			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 in complement system function to dest extracellular pathogens		
2	3	The role of cytokine immune system	Cytokines: Properties of cytokines Biological functions of cytokines Cytokines family	Theory	Exam
3	3	Immune response mechanisms in human body: adaptive immunity	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 cell types and functioning), •Summarize how the cells work together for an adaptive immune response	Theory	Exam
4	3	About structure and mechanism of action of antibodies	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.	Theory	Exam

			*Name and compare the biological and chemical characteristics of the five classes of antibodies. *Contrast conventio antibody and monoclo antibody developm conceptualize the procedure monoclonal antib screening; and discuss hyb monoclonal antibodies.		
5	3	Understanding hypersensitivity reactions considerin mechanisms and effects	Hypersensitivity reactions: *classification of hypersensitivity types with respect to the participating 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.	Theory	Exam
6	3	Understanding tum and their relation with immune system	Tumor immunology: *understand how the immune system mounts an immune response against tumors *understand how tumors evade immunity *review strategies to com tumors based immunotherapy, includ passive and act immunization	Theory	Exam
7	3	What do we mean by autoimmune disease with examples	Autoimmune Diseases : *Understand how differ autoimmune diseases driven by the recognition different autoantigens and h different effector mechanis that result in injury.	Theory	Exam
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.