



Course Description

2023-2024 Course Description Form

1.	Course Name:
	Medical Virology (Theoretical & Practical)
2.	Course Code:
	EngLang-11 (1st Term) EngLang-12 (2nd Term)
3.	Semester / Year:
	Second Semesters / Third Year (2024–2025)
4.	Description Preparation Date:
5.	Available Attendance Forms:
	In person & hybrid

6. Number of Credit Hours (Total) / Number of Units (Total)	
3 Credit Hours Total (2 hrs/week Theoretical + 2 hrs/week Practical × 15 weeks)	
7. Course administrator's name (mention all, if more than one name)	
Name: Professor Dr. Ahmed Sahib AbdulAmeer Email:ahmsah73@nahrainuniv.edu.iq Name: Professor Dr. Asmaa Baqer Salem Email: asmaa.viro@nahrainuniv.edu.iq Name: Professor Dr. Arwa Mujahed Abdullah Email:arwa.mujahid@nahrainuniv.edu.iq	
8. Course Objectives	
Course Objectives	<ul style="list-style-type: none"> * Elucidate what is the virus, its definition and structure * What are Medically important viruses and the diseases they cause, and how to classify Medically important viruses * Enhance students' proficiency in diagnosing Medically important viruses and the diseases they cause *Enhance students' proficiency in preventing viral infection, what are the vaccines and antiviral drugs used
9. Teaching and Learning Strategies	
Strategy	<ul style="list-style-type: none"> • Task-Based Learning (TBL) • Content-Based Instruction (CBI) • Interactive lectures and discussions • Role-plays and case-based simulations • Reflective writing and critical analysis • Use of audio-visual medical materials

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Students will understand what are viruses and their classification	Introduction: General properties & classification of viruses	Lectures	Tasks, Exams quizzes
	2	What are the methods in diagnosing viral infection	Introduction to practical virology & Methods of diagnosis of viral infections	Practical session	
2	2	What is the virus replication cycle and how viruses cause human diseases	Viral replication and genetics Pathogenesis of viral diseases	Lectures	
	2	How to collect and handle specimens?	Clinical specimens collection and handling	Practical session	
3	2	What are the virus vaccines and antiviral drugs classification and mechanism of action	Prevention and treatment of viral infections	Lectures	
	2	How to diagnose viruses PCR	Detection of viruses using polymerase chain reaction (PCR), and reverse transcriptase PCR	Practical session	
4	2	Starting systematic virology and learning about the diseases caused by non-enveloped DNA viruses	Medically important non-enveloped DNA viruses	Lectures	
	2	How to diagnose viruses by Real time PCR	Detection and quantification of viral load using Real time PCR	Practical session	
5	2	What are the diseases caused by Enveloped DNA viruses	Medically important enveloped DNA viruses	Lectures	
	2	How to prepare tissue culture for virus isolation	Preparation of tissue culture	Practical session	
6	2	What are the influenza viruses and how cause epidemics or pandemics	Orthomyxoviruses	Lectures	
	2	How to cultivate the virus in tissue culture	Inoculation of clinical samples and Detection of virus growth in tissue culture	Practical session	
7			Midterm Exams		
8	2	What are the diseases caused by Paramyxoviruses	Paramyxoviruses	Lectures	

		and their importance in Pediatrics			
	2	How to introduce the virus in to a lab animal or Egg	Inoculation of clinical samples in embryo-egg and lab. Animals	Practical session	
9	2	What are medically important hepatitis viruses	Hepatitis viruses	Lectures	
	2	How to quantify virus particles	Viral Titration	Practical session	
10	2	How does Rubella virus affect the pregnancy outcome	Rubella virus and other congenital viral infection	Lectures	
	2	How to diagnose viruses serology	Detection of viruses using direct and indirect serological tests	Practical session	
11	2	What is rabies? What are the viruses that cause diarrhea?	Rhabdovirus , RNA non-enveloped viruses, Rotaviruses	Lectures	
	2	What are Emergency diagnostic tests	Rapid diagnostic methods	Practical session	
12	2	Learning about poliomyelitis disease and other related viruses	Picornaviruses	Lectures	
	2	How to detect viruses using Immunohistochemistry	Detection of viruses using Immunohistochemistry	Practical session	
13	2	Learning about AIDS	Retroviruses (HIV)	Lectures	
	2	How to see the viruses by EM	Detection of viruses using EM	Practical session	
14	2	Learning about Corona pandemic	Coronaviruses	Lectures	
	2	How to apply the diagnostic methods on patients	Selected Clinical cases in Virology I	Practical session	
15	2	What are arthropod-borne viruses?	Arboviruses and *Ebola Virus Zika virus, Dengue virus	Lectures	
	2	How to apply the diagnostic methods on patients	Selected Clinical cases in Virology II	Practical session	

11.

The final score (100 marks) is distributed as follows:

- Daily participation and oral answers
- Short quizzes and assignments
- midterm written exam
- Final written and practical exams
- Reports, role-plays, and Seminar presentations

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Jawetz, Melnick, & Adelberg's Medical Microbiology, 28e
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Main references (sources)	Jawetz, Melnick, & Adelberg's Medical Microbiology, 28e
Recommended books and references (scientific journals, reports...)	Fields Virology Book Journal of Virology
Electronic References, Websites	https://virologyj.biomedcentral.com https://www.sciencedirect.com