

**Department of Epidemiology and Population Health**

**EPHD 316  
Epidemiology of Communicable Diseases  
[2 credits]**

**Course Syllabus  
Fall Semester, Academic Year 2023-2024**

**Class time and Venue:**

<b>Lecture:</b>	Tuesday	3:45-5:00 PM	Van Dyck building, room 103
<b>Discussion:</b>	Friday	5:30-7:30 PM	Van Dyck building, room 203

**Course Instructors and Contact Details:**

**Name:** Ghina Mumtaz, PhD  
**Email:** [gm15@aub.edu.lb](mailto:gm15@aub.edu.lb)  
**Extension:** 4652/4640  
**Office Hours:** By appointment

**Course Description:**

The course explores the epidemiology, prevention and control of selected communicable diseases with major public health significance locally, regionally and globally. For each disease, the course will cover the morbidity, mortality, burden, associated risk factors, social and behavioral determinants, as well as public health strategies for prevention and control.

**Course Format:**

The course is set up in a way that each topic will be covered via a lecture followed by a discussion. The course instructor or an invited guest speaker will present a lecture given their specific expertise and experience in the selected topic. The lecture will be followed by a class discussion around key themes, methods, and controversies. The discussion will be based on assigned readings circulated ahead of class and/or class exercises. All students are expected to have read the assigned reading(s) prior to class. The class discussion session requires active participation, critical discussion of the assigned reading(s), and engagement in class exercises.

The course also includes a service learning component to help students practice in real life what they learned through the course. "Service learning is a method of teaching which combines academic instruction, meaningful service to the community and critical reflective thinking to enhance student learning and social responsibility".

**Course learning Objectives**

**By the end of the course, students will be able to:**

- LO1.** Discuss the global, regional, and local epidemiology of selected emerging and re-emerging communicable diseases

- LO2.** Identify surveillance systems and tools to monitor trends of communicable diseases
- LO3.** Apply principles of epidemiological methods and outbreak investigations
- LO4.** Critically evaluate strategies for prevention and control of communicable diseases
- LO5.** Review, synthesize and communicate published epidemiological findings on selected infectious diseases in oral and written format

**Council on Education for Public Health (CEPH) Core/Concentration Competencies mapped to EPHD 316**

- **EBCC1.** Discuss the extent, distribution and determinants of common and emerging communicable and non-communicable diseases, and mental health disorders of local, regional and global importance
- **EBCC2.** Discuss prevention and control strategies/programs for common and emerging communicable and non-communicable diseases and mental health disorders
- **EBCC3.** Design epidemiological studies to investigate public health research questions
- **EBCC7.** Review, synthesize and communicate published epidemiological findings in oral and written format
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**Essential Skills**

The following essential skills will be reinforced during the course, through the various sessions and assessments:

- **Critical thinking/analysis**
- **Problem solving**
- **Time management**
- **Presentation skills**
- **Communication skills**

**Course Learning Objectives mapped to CEPH competencies**

**Table 1. Mapping of course LO to CEPH competencies**

	<b>LO1</b>	<b>LO2</b>	<b>LO3</b>	<b>LO4</b>	<b>LO5</b>
<b>EBCC1.</b> Discuss the extent, distribution and determinants of common and emerging communicable and non-communicable diseases, and mental health disorders of local, regional and global importance	X				
<b>EBCC2.</b> Discuss prevention and control strategies/programs for common and emerging communicable and non-communicable diseases and mental health disorders		X		X	X
<b>EBCC3.</b> Design epidemiological studies to investigate public health research questions			X		
<b>EBCC7.</b> Review, synthesize and communicate published epidemiological findings in oral and written format					X

**Assigned Text Book and Readings (if applicable)**

There is no required textbook for the course. You will be assigned 1-2 readings to read prior to the session. You are expected to check Moodle/email regularly for any readings or material posted. Recommended reference books (electronic copies posted on Moodle):

- Infectious Diseases Epidemiology Theory and Practice, Kenrad E. Nelson, Carolyn Masters Williams. Jones & Bartlett Learning, 3rd edition 2014
- Control of Communicable Diseases Manual. Heymann, D.L. American Public Health Association (APHA) Press (recommended for review of specific infections)

*Additional Suggested Instructions:*

The course will also use an assortment of educational resources including: publications, reports, white papers, videos and case studies. All course readings, except for book chapters, will be posted on Moodle according to the weekly topic and reading schedule. It is the responsibility of students to access the Moodle and download/ print the course readings as per the weekly schedule.

**Course requirements and Student evaluation:**

**Pre-requisites**

EPHD300 or any equivalent graduate or undergraduate-level course in Epidemiology.

**Student Evaluation**

**Table 2. Summary of students' assessments mapped to course learning objectives**

	Learning Objectives				
	LO1	LO2	LO3	LO4	LO5
Exam 1	X	X	X	X	
Service learning assignment		X	X	X	X
Exam 2	X	X	X	X	
Class engagement	X	X	X	X	

**Table 3. Description of Assessment methods, Due Dates and Corresponding Learning Objectives**

Assessment method	Date (tentative)	Grade percentage
<b>Class Engagement (individual)</b>	NA	10%
<p>You are encouraged to attend all classes to maximize your learning experience and engage in discussions. Class participation however extends beyond just attendance and will be assessed through active engagement in class discussions and exercises. Students may be asked in advance to summarize the main points of the assigned readings or may be called upon randomly to do so in class. Students will also be called upon to present their work on class exercises or home assignments. Responses will be factored into the class participation grade.</p>		

Assessment method	Date (tentative)	Grade percentage
<b>Exam 1 (Individual)</b>	<i>October 13</i>	<i>30%</i>
<p>Exam 1 will include questions based on lectures, required readings, and class exercises. The exam will test students on material covered in <b>sessions 2-11</b>. It will include knowledge-based questions as well as subjective questions that will assess the students' critical thinking and ability to link course material.</p>		
<b>Service learning assignment</b>	<i>November 21</i>	<i>30%</i>
<p>Students will be divided into groups of 4 or 5. Each group will be placed in one community setting where they will work on a specific task of interest to both the students and host partner organization. More detailed instructions will be provided during the semester.</p> <p>The service learning activities will span over 5 weeks from October 17 until November 21. During this time, there will be class relief for two weeks to compensate for the time of field visits and to facilitate your work in groups on the service learning project.</p> <p>By the end of the service learning component, students are required to submit a report describing the activities performed and the final output of their work. Students will also present in class their service learning projects. Each group will deliver a 15 minutes presentation followed by 5 minutes of discussion. To assess team effectiveness and ensure fairness in individual students' contribution to the group work, students will be asked to evaluate their team members individually. The peer-evaluation will remain confidential.</p> <p>The various service learning assessment are distributed as follows:</p> <ol style="list-style-type: none"> <li>1. Final report (group – due November 21): 20%</li> <li>2. Presentations (group – due November 21): 5%</li> <li>3. Peer evaluation (individual – due on November 24): 5%</li> </ol> <p>Further instructions and rubrics on the above assessments will be shared in due time.</p>		
<b>Exam 2</b>	<i>TBA by registrar</i>	<i>30%</i>
<p>Exam 2 will include questions based on lectures, required readings, and class exercises. The exam will test students on material covered in <b>sessions 12-27</b>. It will include knowledge-based as well as subjective questions that will assess the students' critical thinking and ability to link course material.</p>		

### Policies and other General Notes:

#### Academic integrity

Education is demanding and you need to properly manage your time. Do not hesitate to use the resources around you but do not cut corners. Cheating and plagiarism will not be tolerated. Review the Student Code of Conduct and familiarize yourself with definitions and penalties. Cheating might earn you a failing mark on the assignment, at the very least. You might fail the course in which you cheated, be warned, suspended or expelled from University and a permanent mention of the disciplinary action might be made in your student records. If you're in doubt about what constitutes plagiarism, ask your instructor because it is *your* responsibility to know. Remember that the American University of Beirut has a strict anti-cheating and anti-plagiarism policy. Do not become a

lesson to others. For further information, kindly visit AUB's Policies and Procedures or <http://pnp.aub.edu.lb/general/conductcode>.

Many students and individuals are using ChatGPT or other artificial intelligence. Responsible use of these media is acceptable, but as for any other source used in academic writing, you must acknowledge all sources. A reference that you have generated through these channels but have not read yourself should not be included in your bibliography, as otherwise that would be plagiarism. You will be asked in your assignment to report if you used such media, and if so, how. In this course, the use of words, images, ideas or content that is created/generated by other people or digital tools such as AI as content created by you is considered academic misconduct. The use of content generated by AI is considered automated plagiarism. Please note that materials generated by digital tools such as AI may be inaccurate or problematic with unknown primary sources as these tools may provide inaccurate information and cite non-existing sources. Beware that the inappropriate use of these digital tools may impact your ability to think independently and creatively.

### **Service Learning Ethics**

The Service Learning component will require that you work off campus with partner institutions and community settings. We ask you to kindly maintain, at all times, a high degree of professionalism, confidentiality in relation to the internal affairs of the hosting organization, respect for others and time, and a proper dress code.

### **Students with Disabilities**

If you have a disability, for which you may request accommodation in AUB classes, consult the website for more information and make arrangements with the Coordinator ([http://www.aub.edu.lb/sao/Pages/Students\\_20with\\_20Special\\_20Needs.aspx](http://www.aub.edu.lb/sao/Pages/Students_20with_20Special_20Needs.aspx)). Also, please see the instructor of this course privately in regard to possible support services that can be provided to you.

### **Writing**

Written communication is essential for communication, health education and behavioral science. You are expected to proofread and spell-check any written documents before submission. Points will be deducted from the grades for low quality writings. You are encouraged to contact AUB's Writing Center, located in Ada Dodge Hall, 2nd floor or West Hall, 3rd floor. Appointments can be booked online: <https://aub.mywconline.com/>, over the phone (Ext. 4077) or by walking in.

### **Non-Discrimination- Title IX- AUB**

AUB is committed to facilitating a campus free of all forms of discrimination including sex/gender-based harassment prohibited by Title IX. The University's non-discrimination policy applies to, and protects, all students, faculty, and staff. If you think you have experienced discrimination or harassment, including sexual misconduct, we encourage you to tell someone promptly. If you speak to a faculty or staff member about an issue such as harassment, sexual violence, or discrimination, the information will be kept as private as possible, however, faculty and designated staff are required to bring it to the attention of the University's Title IX Coordinator. Faculty can refer you to fully confidential resources, and you can find information and contacts at [www.aub.edu.lb/titleix](http://www.aub.edu.lb/titleix). To report an incident, contact the University's Title IX Coordinator Mitra Tauk at 01-350000 ext. 2514, or [titleix@aub.edu.lb](mailto:titleix@aub.edu.lb). An anonymous report may be submitted online via EthicsPoint at [www.aub.ethicspoint.com](http://www.aub.ethicspoint.com).

**Accessible Education Office (AEO):**

The Accessible Education Office (AEO) coordinates academic accommodations and services for all eligible AUB students with disabilities (such as ADHD, learning difficulties, mental health conditions, chronic or temporary medical conditions, and others). If you have a disability for which you wish to request accommodations at the department, faculty or university level, please contact AEO as soon as possible. Once you register with our office, we will assist you in receiving appropriate accommodations and will liaise with your instructors and any related entity to best support your needs. AEO is located in West Hall room 314, and can be reached by phone at 1-350000 ext. 3246 or by email: [accessibility@aub.edu.lb](mailto:accessibility@aub.edu.lb). Information about our services can be found at: <https://www.aub.edu.lb/SAO/Pages/Accessible-Education.aspx>

**Public Health Education Office**

Please refer to the Public Health Education Office Student Portal



**Attendance and Punctuality**

Attendance will not be counted as part of the course grade. However, active participation will be assessed as described above and will constitute 10% of your final grade on the course.

In the event any session is held online, it is very important to connect at least five minutes in advance of time in order to make sure that you do not encounter technical issues and to avoid disruptions and missing important information.

Punctuality also means meeting deadlines. Please read the syllabus carefully and take note of all deadlines and exam dates to be able to plan your time accordingly. Time management is an essential skill that will greatly affect your performance on the course. Late assignments will not be tolerated. Unless I have granted you an extension, late submissions will be penalized 5 points per day late from the total grade (out of 100). If your assignment is late, you will not be able to submit it on Moodle, and therefore you will need to email it to the course coordinator with an explanation of the late submission.

Exams must be taken on their assigned time. Make-up exams will be given only in case of emergencies or major illness (authorized medical report is required).

**Health and wellbeing**

Students should keep an eye to emails from the Expert Committee on COVID-19's – for continuous updates and recommendations. The Counselling Center in the Office of Student Affairs is also offering all services online.

**Detailed course outline:**

Week	Session	Date	Format	Topic	Speaker	Assessment
Week 1	Session 1	Aug 29		Introduction to course and syllabus	Ghina Mumtaz	
	Session 2	Sept 1	Lecture	<b>General Principles of Infectious Disease Epidemiology - Unique Features of Infectious Diseases</b>	Ghina Mumtaz	Exam 1
Week 2	Session 3	Sept 5	Lecture	<b>Global Trends in the Morbidity and Mortality of Infectious Diseases - The Global Burden of Disease Study</b>	Ghina Mumtaz	Exam 1
	Session 4	Sept 8	Discussion	Class discussion on selected readings	Ghina Mumtaz	Exam 1
Week 3	Session 5	Sept 12	Lecture	<b>Emerging and Re-Emerging Infections</b>	Ghina Mumtaz	Exam 1
	Session 6	Sept 15	Discussion	Class discussion on selected readings	Ghina Mumtaz	Exam 1
Week 4	Session 7	Sept 19	Lecture	<b>Prevention and Control of Infectious Diseases - Principles of elimination and eradication</b>	Ghina Mumtaz	Exam 1
	Session 8	Sept 22	Discussion	Class discussion on selected readings	Ghina Mumtaz	Exam 1
Week 5	Session 9	Sept 26	Lecture	<b>Vaccine evaluation</b>	Ghina Mumtaz	Exam 1
	Session 10	Sept 29	Lecture	<b>Infectious Disease Surveillance</b>	Nada Ghosn	Exam 1
Week 6	Session 11	Oct 3	Discussion	Surveillance case study		Exam 1
	Session 12	Oct 6	Lecture	<b>The Epidemiology of Human Immunodeficiency Virus Infection (HIV)</b>	Nesrine Rizk + Ghina Mumtaz	Exam 2
Week 7	Session 13	Oct 10	Discussion	Class discussion on assigned movie (HIV)	Ghina Mumtaz	Exam 2
	Session 14	Oct 13		Exam 1		
Week 8	Session 15	Oct 17	Discussion	Correction of exam 1 + Introduction to Service Learning (SL)	Ghina Mumtaz + Aline Germani	
	Session 16	Oct 20	Lecture	<b>The epidemiology of Tuberculosis</b>	Salim Adib	Exam 2
Week 9	Session 17	Oct 24		Class relief for SL		
	Session 18	Oct 27		Class relief for SL		

Week	Session	Date	Format	Topic	Speaker	Assessment
Week 10	Session 19	Oct 31	Lecture	<b>The Epidemiology of Vector Borne Diseases (VBD)</b>	Nabil Haddad	Exam 2
	Session 20	Nov 3	Discussion	VBD case studies	Nabil Haddad	Exam 2
Week 11	Session 21	Nov 7	Lecture	<b>Anti-Microbial Resistance and Infection Control in Hospital Settings</b>	Fatima Allaw	Exam 2
	Session 22	Nov 10	Discussion	Class discussion on selected readings	Ghina Mumtaz	Exam 2
Week 12	Session 24	Nov 14		Class relief for SL		
	Session 25	Nov 17	Discussion	Discussion on SL fieldwork	Ghina Mumtaz	
Week 14	Session 26	Nov 21	Lecture	SL report due + Presentations of SL projects		SL Report Presentations
	Session 27	Nov 24	Discussion	Class discussion + Review session	Ghina Mumtaz	Exam 2
Week 15	Session 28	Nov 28	Lecture	<b>The Epidemiology of Hepatitis C Virus – Focus on the Middle East and North Africa</b>	Laith Abu-Raddad	Exam 2
		TBA by registrar		Exam 2		

\*SL: Service learning

### List of guest speakers

(Listed by chronological order of the planned sessions)

Name	Position	Affiliation
Dr. Nada Ghosn	Director of the Epidemiological Surveillance Unit	Lebanon Ministry of Public Health (MOPH)
Dr. Salim Adib	Professor of Public Health Practice	Epidemiology and Population Health Department - AUB
Dr. Nesrine Rizk	Assistant Professor of Clinical Medicine with subspecialty in Infectious Diseases Chair of the Antimicrobial Usage Committee	AUBMC
Dr. Fatima Allaw	Clinical Associate Division of Infectious Diseases	AUBMC
Dr. Nabil Haddad	Professor of Parasitology, Entomology, and Epidemiology	Faculty of Public Health – Lebanese University
Dr. Laith Abu-Raddad	Professor of Healthcare Policy and Research Director of Biostatistics, Epidemiology, and Biomathematics Research Core	Weill Cornell Medicine – Qatar Cornell University



**Appendix I. Reinforced – Introduced CEPH competencies**

Introduced competencies: the competency is introduced at a basic level. Instruction and learning activities focus on basic knowledge, skills and entry-level complexity. The competency is **not assessed**

Reinforced competency: The competency is reinforced with feedback; students demonstrate the outcome at an increasing level of proficiency (above the introductory stage). Instruction and learning activities concentrate on enhancing and strengthening existing knowledge and skills, as well as expanding complexity. The competency is **not assessed**

<b>Core Competencies</b>	<b>Introduced</b>	<b>Reinforced</b>
CC1. Apply epidemiological methods to the breadth of settings and situations in public health practice		X
CC3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate		X
CC6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels		X
CC7. Assess population needs, assets and capacities that affect communities' health	X	
CC8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs	X	
CC12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence	X	
CC14. Advocate for political, social or economic policies and programs that will improve health in diverse populations	X	
CC19. Communicate audience-appropriate public health content, both in writing and through oral presentation	X	

<b>HPCH competencies</b>	<b>Introduced</b>	<b>Reinforced</b>
HPCHCC4. Use participatory approaches in community health programs and research	X	

<b>EPHD competencies</b>	<b>Introduced</b>	<b>Reinforced</b>
EBCC6: Interpret and communicate statistical findings in oral and written format		X
EBCC8: Appraise the quality of epidemiological evidence by evaluating studies for bias and other sources of systematic errors		X