

**Dept. Epidemiology and Population Health  
Faculty of Health Sciences**

**Epidemiology & Biostatistics  
EPHD 203 (3 credits)  
Fall 2017/2018**

**COURSE SYLLABUS**

**Course Instructor**

Khalil El Asmar  
Instructor in Biostatistics  
Office : Van Dyck Bldg. / room: 334B  
Office hours : By appointment  
Office extension: 4567  
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**Class time and location**

**Common Lecture for BOTH lab sections**

Friday 14:00-16:00 Nabil Boustany (Van Dyck) Auditorium

**Lab sessions**

Lab	Tuesdays	15:00 - 17:00	Room 103. Van Dyck
Lab	Thursdays	15:00 - 17:00	Room 103. Van Dyck

**Course Description**

An introductory course offered to undergraduates covering the basic principles of Epidemiology and Biostatistics. This course introduces students to the types and sources of epidemiological data, common measures of morbidity and mortality, the design and analysis of various epidemiological study designs, and the main biases and issues that threaten data validity. The course also covers exploratory data analysis, and introduces students to statistical techniques commonly used in the analysis of epidemiological data. The students will learn how to run basic statistical analyses on SPSS and interpret statistical output. The lab sessions for the epidemiology sessions will be in the form of discussion of practice questions or articles, and computer lab sessions will mainly introduce students to statistical analysis using the statistical package SPSS.

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

1. Identify and apply the rubrics of epidemiology for describing public health problems
2. Differentiate between various measures of morbidity and mortality
3. Identify and evaluate key sources of epidemiological data
4. Describe and compare various epidemiologic study designs
5. Calculate and interpret common measures of association
6. Summarize, organize, and interpret epidemiological data
7. Apply basic probability concepts
8. Apply basic principles of statistical inference
9. Carrying out hypothesis testing
10. Run basic analysis using SPSS
11. Interpret statistical output generated on SPSS
12. Recognize ethical issues in all stages of epidemiological research

**Course Structure**

The course consists of a series of lectures and complementary lab sessions. For sessions that include critical reading of published articles, the articles will be uploaded on Moodle, a week prior to their application. The students are expected to read the paper and assigned book chapter beforehand. All assignments should be turned in as a hardcopy on the scheduled dates. NO delays or exceptions in submission will be made.

## **Recommended book(s)**

### ***Reference for Epidemiology***

Gordis L. Epidemiology. Philadelphia: Pennsylvania, WB Saunders Co.; 2008 4<sup>th</sup> edition.

### ***Reference for Biostatistics***

Lisa M. Sullivan: Essentials of biostatistics in Public Health, 2<sup>nd</sup> Edition, Jones and Barlett Learning, 2011.

## **Student Evaluation**

<b>Assessment</b>	<b>Percent</b>	<b>Linked to which objectives?</b>
Attendance and Class Contribution	5%	All learning objectives
3 assignments (15% each)	45%	LO#1 - #2 - #4 -#5- #6- #9- #10- #11- #12
Exam I	25%	LO#1 - #2 - #3- #4 -#5- #6- #7
Exam II	25%	LO#4 -#5- #6- #7-#8 -#9- #11- #12

**Exams/assignments** Students are expected to take the examinations on the agreed upon scheduled date and time. Make up examinations are not allowed except under very unusual and convincing circumstances. Students who fail to take the examinations on the scheduled date without a written permission of the course instructor will receive a grade of F on the examination. Students are expected to attend all assigned lab sessions and to successfully complete all lab assignments. Failure to do so will be reflected in the overall course evaluation.

**Absenteeism** Students who miss more than one-fifth of the sessions of any course in the first ten weeks of the semester are dropped from the course

**Cheating and Plagiarism** Cheating and plagiarism will not be tolerated. Review the Student Code of Conduct in your handbook and familiarize yourself with definitions and penalties. If you're in doubt about what constitutes plagiarism, ask your instructor because it is *your* responsibility to know. The American University of Beirut has a strict anti-cheating policy. Penalties include failing marks on the assignment in question, suspension or expulsion from University and a permanent mention of the disciplinary action in the student's records.

**Cell phones** Cell phones must be turned off or put on silence and left in purses or bags during class. Leaving the room to answer a cell phone is not tolerated. In the unlikely case of an emergency situation which necessitated that you pay attention to a cell phone, please inform the instructor and arrangements can be made.

### **Students with Special Needs**

AUB strives to make learning experiences accessible for all. If you anticipate or experience academic barriers due to a disability (such as ADHD, learning difficulties, mental health conditions, chronic or temporary medical conditions), please do not hesitate to inform the Accessible Education Office. In order to ensure that you receive the support you need and to facilitate a smooth accommodations process, you must register with the Accessible Education Office (AEO) as soon as possible: [accessibility@aub.edu.lb](mailto:accessibility@aub.edu.lb); +961-1-350000, x3246; West Hall, 314'.

**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 Trudi Hodges 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).

## FALL 2017-2018 SCHEDULE

Lecture date	Lecture topic
Lab 1 date	Lab topic
Lab 2 date	

Tues. Sept 4	<b>Introduction to the course and the syllabus – short session.</b>
Th. Sep 6	
Frid. Sept 8	<b>Lect #1 Intro to Epidemiology and its Rubrics</b>
Tues. Sept 12	<i>Application on Rubrics &amp; historical applications of epidemiology</i>
Th. Sep 14	
Frid. Sept 15	<b>Lect #2 Measures of Morbidity and Mortality</b>
Tues. Sept 19	<i>Application on Measures of Morbidity &amp; Mortality/discussion – ASSIGNMENT #1 (due today)</i>
Th. Sep 21	
Frid. Sept 22	<b>Lect #3 Source of epidemiological data *Hijra New Year Holiday (Probably)</b>
Tues. Sept 26	<i>Discussion of an article on death certification in Lebanon</i>
Th. Sep 28	
Frid. Sept 29	<b>Lect #4 Cross sectional study designs</b>
Tues. Oct 3	<i>Introduction to SPSS</i>
Th. Oct 5	
Frid. Oct 6	<b>Lect #5 Summarizing Epidemiological Data/Descriptive Statistics</b>
Tues. Oct 10	<i>Discussion of article on Cross-sectional studies – ASSIGNMENT #2 (due today)</i>
Th. Oct 12	
Frid. Oct 13	<b>Lect #6 Probability/Normal Distribution/CLT</b>
Tues. Oct 17	<i>Handwritten application on probability</i>
Th. Oct 19	
Frid. Oct 20	<b>Exam 1 (on Lectures 1-5)</b>
Tues. Oct 24	<b>REVIEW OF EXAM 1 KEY</b>
Th. Oct 26	
Frid. Oct 27	<b>Lect #7 Case control studies: Design &amp; Analysis (ORs)</b>
Tues. Oct. 31	<i>Application on Case-control studies</i>
Th. Nov. 2	
Frid. Nov 3	<b>Lect #8 Hypothesis testing: independent t-test, one-way ANOVA chi-square</b>
Tues. Nov 7	<i>SPSS Application on HT: independent t-test, one-way ANOVA, chi-square</i>
Th. Nov 9	
Frid. Nov 10	<b>Lect #9 Cohort studies: Design &amp; Analysis (ORs, and RRs)</b>
Tues. Nov 14	<i>Application on Cohort studies</i>
Th. Nov 16	
Frid. Nov 17	<b>Lect #10 Comparing different study designs + Ethics + Common Biases in Epidemiology</b>
Tues. Nov 21	<i>No labs this week – Take home assignment #3 (due Friday November 24<sup>th</sup>)</i>
Th. Nov 23*	
Frid. Nov 24	<b>Lect #11 Experimental Study Designs / Paired t-test</b>
Tues. Nov 28	<i>SPSS Application on HT of two dependent samples</i>
Th. Nov 30	
Frid. Dec 1*	<b>Exam 2 (on Lectures 6-11)</b>
Tues. Dec 5*	<i>(in case Friday Dec 1 is a holiday, then Exam 2 will take place on an alternate date for all students)</i>
Th. Dec 7	