UGPH-GU 9030L01
Epidemiology for Global Public Health

NYU London

Course Information

- Thursdays 9am-12pm
- NYUL, Bedford Square, room 102

Course Overview and Goals

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

1. Discuss the evolution and current role of epidemiology as an approach to assessing public health problems worldwide, including infectious diseases, chronic diseases, and mental health priorities.
2. Describe epidemiological approaches to defining and measuring health problems in defined populations around the globe.
3. Distinguish how epidemiological studies are designed, implemented, analyzed, and presented.
4. Apply concepts of testing and screening to a range of global public health problems.
5. Analyze cause and effect relationships through use of epidemiological criteria.
6. Evaluate ethical considerations in epidemiological and other scientific investigations in human populations worldwide.
7. Formulate search strategies and conduct searches on a global disease/health-related priority.

Critically appraise the epidemiological research literature

Course Requirements

Grading of Assignments

The grade for this course will be determined according to these assessment components:

Assignments/ Activities	Description of Assignment	% of Final Grade	Due
Class participation	Active contribution to discussion sessions and practicals	10%	By end of course
Four homework pieces	Full details will be given in class	10% each	Please see schedule below
Group work – factsheet and presentation	Working in small groups to produce a factsheet and presentation on one of the given disease topics for an audience of their student peers.	15%	Please see schedule below
Mid term exam	Multiple choice and short answer questions	15%	
Final test	Multiple choice and short answer questions	20%	

Failure to submit or fulfill any required course component results in failure of the class

Grades

Letter grades for the entire course will be assigned as follows:

Letter Grade	Percent	Description
A	Example: 93.5% and higher	Excellent work showing thorough knowledge and understanding of the various epidemiological concepts, with excellent use of scientific language and clear logical explanations of their meaning. Course assignments should reveal a considerable degree of independent reading and research and use of primary reference material.
B	Example: 82.5% - 87.49%	Good work with good general knowledge and understanding of the various epidemiological concepts, accurate use of scientific language and ability to describe what they mean in a clear manner. Coursework should display ability to use primary reference material.
C	Example: 72.5% - 77.49%	Satisfactory work, broadly correct both factually and analytically, with some explanation and reasoning: the work will typically demonstrate a basic understanding of the topic.
D	Example: 62.5% - 67.49	Passable work, showing a general, superficial knowledge and understanding of the topic, but lacking satisfactory use of scientific language or adequate analysis or reasoned explanations.
F	Example: 59.99% and lower	Unsatisfactory work in assessed criteria.

Course Materials

Required Textbooks & Materials

Essential - Epidemiology, Leon Gordis, fifth edition. ISBN 9781455737338

Optional Textbooks & Materials

A dictionary of Epidemiology edited by Miguel Port. 6th edition. ISBN 9780199976737

Resources

- **Access your course materials**: NYU Classes (nyu.edu/its/classes)
- **Databases, journal articles, and more**: Bobst Library (library.nyu.edu)
- **NYUL Library Collection**: Senate House Library (catalogue.libraries.london.ac.uk)
- **Assistance with strengthening your writing**: NYU Writing Center (nyu.mywconline.com)
- **Obtain 24/7 technology assistance:** IT Help Desk (nyu.edu/it/servicedesk)

Course Schedule

Session/Date	Topic	Assignment Due
Session 1:	Lecture - Introduction and course overview: Historical overview and some basic epidemiological concepts	Discussion - Fact sheet assignment [fact sheets to be handed in 7 March, presentations on 14 March, slots to be assigned]
Session 2:	Lecture – Crude and adjusted rates and key concepts in infectious disease epidemiology Discussion –worked examples of measures covered in lecture	
Session 3:	Lecture – Vital statistics and other morbidity and mortality measures Discussion –worked examples as covered in lecture	
Session 4:	Lecture - Screening Discussion –worked examples as covered in lecture	Issue Homework 1 (Screening), due in 7 March
Session 5:	Lecture – Randomised controlled trials Discussion – worked examples as covered in lecture	Factsheets due in Homework 1 (screening) due in
Session 6:	Lecture – Descriptive epidemiology: data sources: study design ecological and cross sectional studies Discussion –worked examples as covered in lecture	FACTSHEET PRESENTATIONS

Session/Date	Topic	Assignment Due
Session 7:	Lecture – Statistical analyses in epidemiology – with case control and cohort studies Discussion –worked examples as covered in lecture	Issue Homework 2 (case control/cohort), due in 4 April
Session 8:	Midterm Exam	
Session 9:	Lecture – review of key points covered so far and survival analysis Discussion – survival analysis example	Homework 2 (case control/cohort) due in
Session 10:	Lecture – Bias, confounding and causality Discussion practical examples	Issue homework 3 (bias and confounding), due in 25 April
	Midterm break	
Session 11:	Lecture – Outbreak investigations Discussion – Outbreak exercise	Issue homework 4 (outbreaks), due in 2 May Homework 3 (bias and confounding) due in
Session 12:	Lecture - Quantifying disease burden at a national and global level. Cost effectiveness analyses Discussion – Practical exercise Course revision	Homework 4 (outbreaks) due in
Session 13:	Lecture - Ethical issues in epidemiological research Discussion practical examples Course revision	
Session 14:	End of term exam	
Final Assessment:	Feedback on exam and individual course performance	

Co-Curricular Activities

- None

Classroom Etiquette

NYUL Academic Policies

Arrive on time, active participation in class discussion session and questions if points in lectures are unclear.

Attendance and Tardiness

- Key information on NYU London's absence policy, how to report absences, and what kinds of absences can be excused can be found on our [website](http://www.nyu.edu/london/academics/attendance-policy.html) (http://www.nyu.edu/london/academics/attendance-policy.html)

Assignments, Plagiarism, and Late Work

- You can find details on these topics and more on this section of our NYUL [website](https://www.nyu.edu/london/academics/academic-policies.html) (https://www.nyu.edu/london/academics/academic-policies.html) and on [the Policies and Procedures section of the NYU website](https://www.nyu.edu/academics/studying-abroad/upperclassmen-semester-academic-year-study-away/academic-resources/policies-and-procedures.html) for students studying away at global sites (https://www.nyu.edu/academics/studying-abroad/upperclassmen-semester-academic-year-study-away/academic-resources/policies-and-procedures.html).

Classroom Conduct

Academic communities exist to facilitate the process of acquiring and exchanging knowledge and understanding, to enhance the personal and intellectual development of its members, and to advance the interests of society. Essential to this mission is that all members of the University Community are safe and free to engage in a civil process of teaching and learning through their experiences both inside and outside the classroom. Accordingly, no student should engage in any form of behaviour that interferes with the academic or educational process, compromises the personal safety or well-being of another, or disrupts the administration of University programs or services. Please refer to the [NYU Student Conduct Policy](#) for examples of disruptive behavior and guidelines for response and enforcement.

Disability Disclosure Statement

Academic accommodations are available for students with disabilities. Please contact the Moses Center for Students with Disabilities (212-998-4980 or mosescsd@nyu.edu) for further information. Students who are requesting academic accommodations are advised to reach out to the Moses Center as early as possible in the semester for assistance.

Instructor Bio

Prof Nick Andrews is deputy head of the Statistics Unit at Public Health England in the UK and the Statistician responsible for work in the Immunisation Department. In this role he has worked extensively on post licensure vaccine safety, impact and effectiveness assessment, clinical trials and correlates of protection. He is currently a partner in European projects on vaccine safety and effectiveness as well as a member of the World Health Organization (WHO) global advisory committee on vaccine safety. Recently he assisted WHO in determining the best way to implement any licensed ebola vaccines. He is also a project lead on a research collaboration on using electronic health records for vaccine assessment with the London School of Hygiene and Tropical Medicine (LSHTM). He lectures at the LSHTM, NYU in London and on vaccine courses internationally. He has over 300 publications with more than half of these in the vaccine field.

Dr Jo Southern (MSc PhD MFPH) is a Clinical Scientist working with the pharmaceutical industry in the management of clinical trials and studies of vaccines. She has two decades of experience in conducting large programmes clinical research funded by the

UK Department of Health, in specific areas of interest including paediatric vaccines and infectious diseases.