HSSP100B2: Health: Science, Society and Policy
Introduction to Epidemiology, Biostatistics and Population Health
Dr. Lindsay Rosenfeld, Spring 2015
M/W, 2-3.20pm

Professor: Lindsay Rosenfeld, ScD, ScM
Brandeis University
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781-736-3859
Office Hours: Mondays, 1-2pm (email to reserve a slot)

Teaching Assistants: Temitope Odunleye, MBBS, MS candidate
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Office Hours: Tuesdays/Thursdays, 12.30-1.30pm

Course Meeting Location: Heller 163

COURSE DESCRIPTION
This course is an overview of the field and tools of epidemiology. It is designed as an introduction to the topic, enabling students to gain a familiarity with the field, to become conversant in the methods and approaches used by epidemiologists, and to apply epidemiologic principles to issues in public health, medicine, and related fields.

Epidemiology is the study of health at the population level. In contrast to medicine, which is the study of health at the individual level, epidemiology looks at the causes and outcomes of disease and health in groups of people. Epidemiology is the science underlying public health and is used by individuals in almost all arenas of health. Epidemiology can be used to address issues of environmental health, medicine, injuries, psychiatric disorders, genetics, and social disparities, among other topics. Statistical methods are often used to investigate the epidemiology of a disease or health issue, and the course will introduce biostatistical concepts as part of the science of population health. The goal of the course is to enable students to become informed and intelligent consumers of epidemiologic literature and to provide a basis for further studies and careers in the health and public health fields. Each course concept builds on the next and requires students to be actively engaged in course readings, class discussions, and lecture, as well as careful critical thinking, attention to detail, and thoughtful participation in-class and on assignments. We aim to create an interactive course environment but each unit requires the study of core concepts prior to each class as we build our ability to discuss exciting issues in epidemiology!

The course will emphasize understanding and interpretation. Assignments will focus on applying epidemiologic concepts to issues and understanding the use of the methods of this field. Quantitative reasoning underlies understanding of many epidemiologic concepts, so quantitative methods will be a component of the course. Written and verbal communication is
a critical component of understanding and interpretation, so these skills will be emphasized equally with quantitative skills. Clear written and oral expression of concepts is of the utmost importance. Keep in mind, it is not enough to be able to verbally explain the course content or “solve” the calculations; you must take the time to demonstrate your knowledge in clear, specific, and concise written responses on homework and exams. In epidemiology, precise wording is critical and correct phrasing can be the difference between an accurate and inaccurate interpretation. There are no prerequisites for this course; all concepts will be fully introduced and explained so that students from all academic backgrounds will be able to fully participate in and benefit from the course. Math at the level of high school algebra will be used in the course and is assumed to be understood by all students.

This course is a core requirement in the “Health: Science, Society and Policy” (HSSP) major and minor and fulfills the University quantitative reasoning requirement.

DISABILITY STATUS
If you are a student with a documented disability on record at Brandeis University and wish to have an accommodation made for you in this class, please see me immediately (within the first two weeks of the start of class) to discuss how to proceed.

ACADEMIC INTEGRITY
Academic integrity is central to the mission of educational excellence at Brandeis University. Violations of University policy on academic integrity may result in failure in the course or on the assignment, and could end in suspension from the University. If you are in doubt about the instructions for any assignment or exam in this course it is your personal responsibility to ask for clarification.

Please make sure to read the full academic integrity policy.
http://www.brandeis.edu/studentaffairs/srcs/ai/top10students.html
Also, read this useful Brandeis resource: Top 10 Ways To Promote Academic Integrity
http://www.brandeis.edu/studentaffairs/srcs/ai/top10students.html

Plagiarism: Each student is expected to turn in work completed independently, except when assignments specifically authorize collaborative effort. Collaborations must be noted in writing on the first page of any assignment in which collaborations are permitted. Failure to note collaborations will be considered plagiarism. You must cite sources with proper citation whenever they are used, whether those sources are published or unpublished (e.g., internet web sites). Assignments that appear to be instances of plagiarism may be returned to the student for revision, considered incomplete, or reported to the university, at the discretion of the professor. Such behavior will also be considered a serious deficiency in grading pertaining to the particular assignment. If you are unsure about what constitutes plagiarism it is your personal responsibility to ask for clarification.

COURSE MATERIALS
Book: Friis, Robert H., Epidemiology 101, Jones and Bartlett, 2010
The book may be obtained at the bookstore or your favorite bookstore - and is also on reserve at the library.

**LATTE:** This will be our main platform for course communication. LATTE will have the most up-to-date course news including information on readings, course cancellations (e.g. due to weather), lectures, activities, and “epi in the news”. We expect you to be active on LATTE.

*These are excellent epidemiologic textbook resources.*
Merrill, Introduction to Epidemiology, Jones and Bartlett, 2011
Merrill, Fundamentals of Epidemiology and Biostatistics, Jones and Bartlett, 2013
Aschengrau and Seage, Essentials of Epidemiology in Public Health, Jones and Bartlett, 2008.
Gordis, Epidemiology, 5th edition, 2013

**CLASS PERFORMANCE AND EXPECTATIONS**

Classroom etiquette:
- Cell phones off.
- Please do not attend class if you are ill. As a courtesy to the learning community, please let your TA know you’ll be absent, **before** the start of class, when at all possible.
- Come to class prepared and on-time.
- Class participation, including asking questions and active listening is **expected**. Respect of fellow students and instructors is of utmost importance at all times to create a collaborative, productive learning environment.
- Homework is due at the start of class on the day it is due. No exceptions. Type-written, stapled and according to the format described in this syllabus.

*See the “HSSP100b Highlights Document” posted on LATTE for a course overview as well as homework and exam dates.*

**Homework assignments:** Homework assignments are an opportunity to practice the concepts covered in class. They will include practice with calculations, interpretation of epidemiologic concepts, and writing about epidemiologic topics (not necessarily all in each assignment). **You may consult with other students in the class in the completion of these assignments but you must each turn in your own copy of the completed work, and you must indicate on the first page anyone with whom you consulted during your completion of the assignment.** Failure to indicate collaborators in writing will be considered an instance of plagiarism and handled as described above. Please keep in mind that you and your collaborators might receive different grades on an assignment on which you collaborated because each student writes his or her own homework, and the final written responses may be different. As noted above, writing in epidemiology is an important part of accurately conveying the information.

There will be **6 written homework assignments**. Homework assignments will be made available to you on the course website, usually one week before the due date. **Paper copies of all completed homework assignments must be submitted in-class by the start of class on the due**
date. LATE HOMEWORKS WILL NOT BE ACCEPTED. If something unforeseen arises and you will not be able to submit your homework in-class on the due date, you must email the professor, preferably with the assignment attached, prior to the start of class. Model homework assignments will be posted on the course web site as examples. Homework must be type-written, stapled, 11-point, Arial font, double-spaced, and 1 inch margins. Pay close attention to specified page limits on each homework. Points will be deducted or sections will be unread if these specifications are not followed. Part of completing the assignment is doing so as outlined. Concise and precise writing is a crucial component of public health.

We highly recommend working on homeworks with your classmates before writing them up on your own, attending office hours to ask questions about homeworks or to clarify concepts from class or readings, and attending homework review sessions to ensure you understand the course concepts covered by the assignments. We have seen that when students diligently pursue all of these actions, they are more likely to have a high success rate in the course.

Exams: There will be 3 in-class exams during the semester. Each exam may include any material (e.g. lectures, readings) and homework covered since the prior exam. There will be no final exam during the exam period. The last exam is cumulative and will be on the last day of class. All exams will be closed-book though you may bring one single-sided page of notes (on 8 ½ x 11 paper) and a calculator [not your phone] to assist you during the exam, if you choose. You must write your name on your notes page and turn it in with your exam. There are no makeups for exams, with the exception of documented medical excuses. If you arrive late, you must complete the exam during the time allotted.

General expectations: In this course, we will treat you as the professionals you are – and we expect to be treated in the same manner. We are all busy colleagues with many obligations and expectations of our time. We each set this class time aside for intellectual engagement and we all must come prepared to use the time efficiently and respectfully by finishing the readings before class, engaging in class discussion, actively listening or participating in presentations, and completing homeworks and exams in a rigorous manner. This syllabus, and LATTE, contain the terms of our working relationship; we all must make every effort to adhere to what is outlined and advise of any changes well ahead of due dates and the like to make the most out of this collaborative learning environment.

Class participation: Class participation, including active listening and class discussion/questions, is expected. Participation includes, but is not limited to: a short personal essay due on the 1st day of class, CITI training, “epi in the news” submissions on our LATTE forum, pop concept quizzes, etc.

Short Essay – Due on the 1st Day of Class, Monday, January 12, 2015: In 1/2 - 1 page, please describe why you are part of the HSSP major/minor. Also, please explain what you hope to learn this semester in HSSP100B. Include at least 1 line at the end of your narrative that highlights something related to epidemiology or public health that you either recently saw (or remember from the past) from the news or pop culture or the like (e.g. article, film, workshop,
event). For example: Last week, I watched the movie Contagion
http://www.imdb.com/title/tt1598778/ with friends; it describes the outbreak and
investigation of an infectious disease.

_CITI training:_ Complete CITI training course and upload certificate by April 22, 2015.
You can find the CITI course at: http://www.brandeis.edu/ora/RCR/index.html
https://www.citiprogram.org/

If you have not taken the CITI course previously, you may choose the biomedical or social and
behavioral "track". When you are done, submit the completion certificate via LATTE.

If you have taken the course before - but your certificate has expired, you may follow the
directions to take a "refresher course". When you are done, submit the completion certificate
via LATTE.

If you have previously completed the course and the certificate is not expired, simply submit
the certificate of completion via LATTE.

_Epi in the news:_ One way to keep the class current will be to scope the latest “epi in the news”
from you, your classmates, and the internet. Please post on the LATTE forum “epi in the news”
as part of active class participation: articles, films, workshops, events, etc. – including web links
and pictures when relevant.

_Pop Concept Quizzes:_ A few times throughout the semester, we will participate in short “pop”
concept quizzes in-class. The purpose of these quizzes is to gauge where you are in your
understanding of the material, prior to engaging with the concepts during class time. This helps
us determine if the amount and type of reading is appropriate as well as if planned lectures and
class activities are meeting class needs. These quizzes will not be about memorizing facts from
the assigned readings but rather are meant to gauge whether concepts are clear from an
engaged reading of the material.

**Grading:**

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<thead>
<tr>
<th>Homework assignments</th>
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<tbody>
<tr>
<td>Homeworks #1-5 @ 6% each</td>
<td>30%</td>
</tr>
<tr>
<td>Homework #6</td>
<td>15%</td>
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<tr>
<td>Exams: 3 in-class exams @ 15% each</td>
<td>45%</td>
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<tr>
<td>Class participation</td>
<td>10%</td>
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<tr>
<td><strong>Total:</strong></td>
<td><strong>100%</strong></td>
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**Note:** There may be changes to the course schedule during the semester and some readings
may be announced closer to the assigned dates. Updates will be announced in-class, via email
and/or and posted to LATTE. Please make sure to keep track of updates, additions, and
modifications to the schedule, topics, and assigned readings. LATTE will serve as the most up-
to-date version of course activities. *It is your responsibility to keep track of announced changes.*

**Useful References/Links**

**What is Public Health?**
http://www.whatispublichealth.org/

**What is epidemiology?**
http://yes-competition.org/yes/epidemiology-resources.html

**YES Competition Epidemiology Glossary**
http://yes-competition.org/yes/epidemiology-resources/glossary.html

**YES Competition Links to Epidemiology Resources**
http://yes-competition.org/yes/epidemiology-resources/links.html

**Epidemiology as a Liberal Art**
http://yes-competition.org/yes/epidemiology-resources/epidemiology-liberal-art.html

**Epiville**
http://epiville.ccnmtl.columbia.edu/

**Epiville Epidemiology Glossary**
http://epiville.ccnmtl.columbia.edu/glossary.html

**Study Design 101**
http://www.gwumc.edu/library/tutorials/studydesign101/index.html

**Study Design Review, HHS IRB Guidebook**
http://www.hhs.gov/ohrp/archive/irb/irb_chapter4.htm

**Overview of Analytic Studies**