

Indiana University
School of Public and Environmental Affairs

H322: Principles of Epidemiology
Section 10675
Fall, 2016

COURSE SYLLABUS

Instructor: Dawne DiOrio , M.P.A.
Class: T/R, 6:00 – 7:15 p.m.
Room: Ballantine Hall, Room 310
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Office Hours: By appointment
Teaching Assistant: TBA

Course Overview

The field of epidemiology, its history, methods and contributions to public health is introduced for undergraduate students in health studies. The discipline's applications in health services, health research, public health prevention and control of illness, and community and clinical interventions are examined.

The overall purpose of this course is to introduce students to epidemiology so that they may understand how epidemiology contributes to: (1) assessing the public health importance of diseases; (2) identifying factors that cause diseases; (3) describing the natural history of diseases; and (4) evaluating procedures for studying, preventing and controlling diseases. After completing this course, students should be able to understand the basic concepts, methods, and nomenclature of epidemiology, and the application of these concepts and methods to current public health problems.

Course Goals and Objectives

Students will gain an understanding of the fundamental concepts of epidemiology and its role in public health investigations; as well as an understanding and interpretation of public health data for community health monitoring. Measures of health status, descriptive and analytical epidemiology, and terminology are introduced. Students will practice applying principles learned to critically analyze conclusions communicated by professional and popular media sources concerning health problems.

This course does not require prior knowledge of human diseases or their causal factors, and will briefly introduce etiologic relationships in areas of infectious and chronic diseases as illustrations to common public health problems in community settings. However, students will

be expected to develop a working familiarity with several etiologic relationships in human disease or health conditions. Issues of human subjects' protection, and applications of epidemiologic methods to health management, policy, program planning and evaluation in applied settings are introduced.

Course content will support the Undergraduate Public Health Learning Outcomes (<http://www.asph.org/document.cfm?page=1083#Undergraduate>) identified by the Association of Schools of Public Health by addressing the following competencies:

- 1.2 Describe risk factors and modes of transmission for infectious and chronic diseases and how these diseases affect both personal and population health
- 1.5 Discuss the role of gender, race, ethnicity, and other evolving demographics in affecting population health
- 2.1 Describe how the methods of epidemiology and surveillance are used to safeguard the population's health
- 2.8 Assess the source and quality of health information and data, as related to individual and community health

Required Texts and Reading Material:

1. Friis RH, *Epidemiology 101*, 2010, Sudbury, MA: Jones & Bartlett, available in paperback or as e-text (see <http://www.jblearning.com/catalog/9780763754433/>).
2. **Canvas website:** Selected materials for exercises, guidelines and discussion will be made available to the class through Canvas website.

Students will also need a calculator (non-scientific) for assignments and in-class participation.

Optional Resources:

1. Ipad users are encouraged to download the free app from CDC "Solve the Outbreak";
2. , "Plague, Inc." (\$0.99) game for Android (Google apps, Kindle), iPhone, Ipad Touch, Ipad

Student Evaluation:

Students will be asked to demonstrate understanding of course material through the following activities and assessments:

| Item | Points Possible |
|---------------------|-----------------|
| Class Participation | 145 |
| Syllabus Quiz | 15 |
| Tests (6) | 400 |
| Homework (8) | 240 |
| Final Exercise | 200 |
| Total | 1000 |

Points needed for grade level:

A 900 (90%)

B 800 (80%)

C 700 (70%)

Students will be responsible for learning selected vocabulary from the text and Glossary of Epidemiologic Terms to be provided, and available on the textbook website for student assistance . (<http://publichealth.jbpub.com/essential/friis/epidemiology/index.cfm>) There will also be several homework and miscellaneous assignments from the text or outside material.

Assignments/exercises: Late assignments are not accepted. Students with special circumstances of an emergency nature that prevent them from adhering to due dates should discuss alternate arrangements with the instructor in advance of the due date.

Tests/quizzes: Tests will be given on the dates noted in the schedule. **Four** of these will be of the short answer, multiple choice, true/false nature and will cover content. **Two** of these will require application of the content – one for descriptive epidemiology and the other for analytic epidemiology. It will not be possible to take tests either earlier or later than the assigned date unless due to religious observation per IU policy, IU Athletics excuse, or other emergency with prior arrangement. All or parts of the tests may be administered over Canvas.

Online Content: As specified in the list of each class posted on Canvas in the Syllabus area, there are some classes that will be conducted entirely in an online format. Students should treat these assignments as if they were in-person classes. Completion of online assignments will result in class participation points. Students will need to be organized in their schedules as to which assignment or reading is being addressed in which method to be sure they attend class meetings in person or online as required. A schedule of each class period is given to help students with this.

Mutual Tolerance and Respect

Public health deals with controversial issues from multiple perspectives, and consideration of

these issues may cause disagreements and/or evoke strong personal feelings, depending on our individual experience, histories, identities and world views. Therefore, in all interactions and communications, course participants are expected to exhibit mutual respect and tolerance for one another and for any course guests and members of the community with whom we come into contact. If you feel you have been offended by any content or interactions, you are encouraged to discuss this with the instructor or another faculty member.

Attendance, Preparedness and Participation

Students are expected to read text assignments before class and take an active role in discussions and group activities. Attendance at all in-person classes is mandatory. It is the student's responsibility to sign the attendance sheet for each class. Anyone with more than two unexcused absences will receive zero attendance points for the semester. For an absence to be excused, three conditions must be met: the absence must be unplanned or timing out of student's control; AND absence must be for a very important reason as judged by the instructor AND documentation is provided to the t.a. or instructor before the absence (preferable) or within two days after the absence.

Some course assignments may require working as part of a team. To receive a satisfactory grade, all members must contribute substantively to the work of the group throughout the semester. Much of public health work is done in teams, often to which one is assigned rather than volunteered. Thus, the group work built into the course reflects reality and provides an opportunity to develop teamwork skills related to leadership, collaboration, problem-solving, cooperation, and responsibility. Two classes will be deducted for an unexcused absence when guest speakers are scheduled.

Professionalism Policy: College courses can serve as your first introduction to a professional environment, therefore, it is expected that you will display professional behavior in class; please come to learn. With the exception of emergencies, professional behavior will include, but is not limited to:

- * Arriving for class on time
- * Respecting the learning environment (including professor and classmates) by eliminating the use of electronic devices which are not enhancing your learning of course content (i.e., cell phones, surfing the web, text messaging)
- * Not working on material for another course
- * Not chatting with classmates, sleeping, reading the newspaper, texting, etc.

Academic Honesty

Academic and personal misconduct by students in this class are defined and dealt with according to the procedures in the CODE OF STUDENT ETHICS. Such misconduct, regardless of degree, will not be tolerated and will be referred to the University Office of Student Ethics for possible sanction.

Credibility of Sources

It is critically important that your source material for both this class and college, in general, be derived from credible, authoritative sources. To help students assess whether material is scientifically legitimate and of a quality to be included in written assignments and other research, please review the document on Canvas in Resources entitled, “Assessing Credibility of Sources” and be sure your work conforms to these principles.

Use of Wikipedia: Students are prohibited from using Wikipedia as their primary research source. Please consult the following online resource for further explanation and guidance. <http://www.english.ucsb.edu/faculty/ayliu/courses/wikipedia-policy.html>

Writing Standards

It is expected that students will spend sufficient time reviewing and editing all written documents before submitting them for review and/or grading. All written assignments are required to be free from grammatical and spelling errors. In addition, all written documents should be well-constructed in thought and flow. The instructor reserves the right to: 1) return without the benefit of review any document that is submitted for review and/or grading that violates these standards, and/or 2) reduce the grade of such assignments based upon the frequency and severity of the errors. All documents must be consistent with the *Publication Manual of the American Psychological Association*.

Help with Writing

For free help at any phase of the writing process—from brainstorming to polishing the final draft—call Writing Tutorial Services (WTS, pronounced “wits”) at 855-6738 for an appointment. When you visit WTS, you’ll find a tutor who is a sympathetic and helpful reader of your prose. To be assured of an appointment with the tutor who will know most about your class, please call in advance.

Tutorials are available at the following times and locations.

Call 5-6738 for an appointment:

WTS in the Information Commons on the first floor of the Wells Library

Monday-Thursday 10:00 a.m. to 8:00 p.m.

Friday 10:00 a.m. to 5:00 p.m.

Walk-in tutorials are available when WTS has an opening, but the appointment book often fills in advance.

Walk-in tutorials only:

WTS in the Briscoe, Teter, and Willkie Academic Support Centers

Sunday-Thursday 7:00 p.m. to 11:00 p.m.

Use of electronics in class: Electronics are not permitted in class. This includes cell phones, laptops, tablets, etc. Cell phones are to be off before you come to class. If you have an emergency situation and need to be contacted, set your phone on vibrate so as not to disrupt the class and leave the classroom to take the call. Texting is not permitted in class. Laptops are not allowed in this course, so please do not bring one to class. If you require the use of a laptop

for special purposes related to your learning in this class, please bring the proper documentation from the Disability Services for Students Office to the instructor by the second week of class.

Canvas: Canvas will be used in this course as a communication tool among the students and the instructors in this class. Important information about the course will be posted on Canvas, including grades. Using Canvas is a requirement for this course so be sure you have logged onto Canvas during the first week in this course and make it a habit to check your messages and grades at least once a week, if not, more often. Technical problems with Canvas or your computer do not excuse a student from their responsibility to submit assignments, take quizzes, post in forums, etc. If you are experiencing problems with Canvas or your computer, you must contact UITS (University Information Technology Services) and request assistance. They will assign a ticket number. If you provide me with the ticket number I will work with you to negotiate late submission of assignments. Link to their help page: <http://uits.iu.edu/page/abxl> Alternatively, students may complete assignments on campus using one of the IU student computers. You should save all your submission notices from Canvas in case documentation is requested to give you credit for a missing assignment.

IU Email: The only email used in this course will be your official IU email. It is your responsibility to check this for messages at least twice a week, if not more often, and especially on days we have class. Communications about important class events, class cancellations, changes to assignments and deadlines, etc, will be communicated via Canvas postings and IU email messages. Neglecting to read your email or check Canvas does not relieve you of responsibility for knowing the information communicated.

One Week Rule: It is your responsibility to check your grades on Canvas within a week of posting. You have one week from the date in which a grade is posted on Canvas to discuss any concerns you may have with the instructor. After that time has passed, the grade will remain as posted on Canvas.

In Person and Online Teaching Methods Used: This class will be a combination of traditional, in-person classes with lecture and discussion and online synchronous and asynchronous methods. Students will need to be organized in their schedules as to which assignment or reading is being addressed in which method to be sure they attend class meetings in person or online as required. A schedule of each class period is given to help students with this.

Electronic Submissions: Whatever you submit is what I will grade. This means it is very important for you to check before uploading a document to Assignments to be sure you're choosing the correct document.

Extra Credit: Extra credit opportunities are rarely given and are always offered to the whole class rather than any individual student. Students are expected to do the best work possible on all course assignments.

| Week | Topic(s) |
|------|--|
| 1 | Course Overview, history of epidemiology, terminology |
| 2 | Uses of epidemiology, natural history of disease, common measures of disease |
| 3 | Rates, modes of transmission for infectious diseases |
| 4 | Descriptive epidemiology and common formulas – Test 1 |
| 5 | Data sources and additional epi measures |
| 6 | Practice characterizing your data by person, place, time |
| 7 | Association and Causality – Test 2 |
| 8 | Causality cont. – Test 3 |
| 9 | Analytic Epidemiology, case control and cohort studies |
| 10 | Ethics, Human subjects protection |
| 11 | Monitoring and Surveillance - Test 4 |
| 12 | Epidemiology in health policy |
| 13 | Test 5 |
| 14 | Thanksgiving break |
| 15 | Outbreak Investigation |
| 16 | Social Determinants of Health – Test 6 |

All portions of this syllabus are tentative and subject to change at any time by providing students with proper advanced warning. To the extent possible, the students will be given an opportunity to participate in decision-making regarding syllabus changes.