Course Title: Reproductive and Perinatal Epidemiology

Course Number: EPID 0607

Course Location: Room 206, SPH

Course Date & Time: Tuesday 3:00pm-6:00pm

Course Instructor: Teresa Janevic, MPH PhD
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Office Hours: Monday 4:00pm-6:00pm
Room 209, SPH

Required Course Text: Reproductive and Perinatal Epidemiology
Editors: Germaine Buck Louis, Robert Platt
Oxford University Press, New York, 2011

Course Description:

This course is a survey of major topics in reproductive and perinatal epidemiology from fertility to outcomes of birth. The course focuses on methodological issues in studying reproductive and perinatal outcomes using epidemiologic study designs, while incorporating life course and global health perspectives. The course also critically reviews the literature on major reproductive and perinatal outcomes, and engages in current debates in the literature.

Selected Department Competencies Addressed:

Each Department identifies competencies for each degree offered. The competencies addressed in this course for the MPH for the Department of Epidemiology include:

- Critique epidemiologic literature, assess its strengths and weaknesses and determine if conclusions are supported
- Design, implement and assess data collection systems for public health research
- Appropriately analyze and interpret epidemiologic data, including large national and state level datasets
- Communicate and present study findings to professional audiences

Please visit the Department webpages on the School of Public Health’s website at http://sph.rutgers.edu/ for additional competencies addressed by this course for other degrees and departments.
Course Objectives:

By the completion of this course, students will be able to:

- Be familiar with the physiology of various reproductive and perinatal health outcomes
- Understand unique methodological issues in studying reproduction
- Recognize statistical models frequently used in reproductive and perinatal epidemiology
- Engage in debate on current issues in reproductive health both locally and globally
- Write and present a critical epidemiologic literature review
- Identify state, national, and international data for surveillance of maternal and child health

Course Requirements and Grading:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Due Date</th>
<th>Grade Percentage</th>
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<tr>
<td>Weekly homework</td>
<td>weekly</td>
<td>30%</td>
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<tr>
<td>Article summary presentation</td>
<td>assigned week</td>
<td>5%</td>
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<tr>
<td>Critical literature review proposal</td>
<td>10/8/13</td>
<td>10%</td>
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<tr>
<td>Critical literature review presentation</td>
<td>12/10/13</td>
<td>20%</td>
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<tr>
<td>Critical literature review paper</td>
<td>12/17/13</td>
<td>35%</td>
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Date | Assignment Due
---|-------------------
3-Sep | None
10-Sep | HW1
17-Sep | HW2
24-Sep | HW3
1-Oct | HW4
8-Oct | Proposal due
15-Oct | HW5
22-Oct | HW6
29-Oct | HW7
5-Nov | HW8
12-Nov | HW9
19-Nov | None
26-Nov | NO CLASS
3-Dec | HW10
10-Dec | Presentations
17-Dec | Paper Due

Weekly Homework:
Most weeks (see schedule above), students will be given homework questions on the topic covered in the following week. The goal of the homework is twofold: 1) to gain an
understanding of epidemiologic concepts in the reading assignments, and 2) to stimulate classroom discussion. Homework should be uploaded to Moodle by 3:00pm the day it is due. Homework will be graded. 5 points will be subtracted for each day that the homework is late. For example, for home work turned in from 3:00PM of the Tuesday it is due until midnight Wednesday, there will 5 points deducted. For homework turned in on Thursday (from 12:00AM) there will be 10 points deducted, etc.

**Article summary presentation:**
Each student will sign up for a week in which they will verbally present a summary of the articles for discussion to launch the discussion portion of the class.

**Critical Literature Review Proposal:**
Students should submit a 1-page proposal specifying a specific exposure and outcome that will be reviewed. More details will be handed out on the content of the proposal in class.

**Critical Literature Review Presentation:**
Each student will be asked to deliver a 15-minute presentation of their critical literature review, followed by Q and A. The goal of the presentation is for students to receive feedback from their peers to incorporate into their final paper.

**Critical Literature Review Paper:**
The cumulative assignment is a critical review of the epidemiologic literature on one exposure-outcome topic. Papers are required to be 8-12 pages in length, not including references, tables or graphs. References must be formatted according to the American Journal of Epidemiology style, and font should be 12-point Times New Roman, double spaced with 1 inch margins. Papers must be uploaded to Moodle by 3pm on the due date. Late papers will not be accepted.

**Course Schedule:**

*Note: Readings are subject to change.*

9/3/13
**Week 1: Intro to reproductive and perinatal epidemiology**

**Background Reading:**
- Louis and Platt, Ch. 1 and 2, p. 3-15
9/10/13
Week 2: Induced and spontaneous abortion

Background Reading:
- Wilcox, Ch. 10-11, p. 142-161

Discussion Reading: Does moderate alcohol intake increase the risk of miscarriage?

9/17/13
Week 3: Fertility

Background Reading:
- Louis and Platt, Ch. 3, p. 30-84

Discussion Reading: Do children born from IVF treatment have poorer developmental outcomes?


9/24/13

Week 4: Major complications of pregnancy

Background Reading:
- Louis and Platt, Ch. 6, p. 101-109

Discussion Reading: Smoking and preeclampsia – a perinatal epidemiologic paradox

10/1/13

Week 5: Preterm birth

Background Reading:
- Louis and Platt, Ch. 8, p. 152-167

Discussion Reading: Does treatment of periodontal disease reduce the risk of preterm birth?
- Jeffcoat M, Parry S, Gerlach RW, Doyle MJ. Use of alcohol-free antimicrobial

10/8/13
Week 6: Fetal growth

***LITERATURE REVIEW PROPOSAL DUE***

Background Reading:
- Louis and Platt, Ch. 9, p. 168-185

Discussion Reading: *When are customized fetal growth charts useful for clinical or epidemiologic applications?*

10/15/13
Week 7: Birth weight paradox and fetuses-at-risk

Background Reading:
- Louis and Platt, Ch. 13-14, p. 243-275

Discussion Reading: *When is it dangerous to adjust for or stratify by gestational age?*
10/22/13
Week 8: Fetal origins of disease

Background Reading:

Discussion Reading: Is birth weight associated with risk of Type 2 Diabetes?

10/29/13
Week 9: Stillbirth and infant mortality

Background Reading:
- Louis and Platt, Ch. 12, p. 222
Discussion Reading: Is income inequality associated with infant mortality rates?


11/5/13
Week 10: Severe maternal morbidity and mortality

Background Reading:
- Louis and Platt, Ch. 11, p. 204-221

Discussion Reading: Why can’t we achieve MDG 5 for maternal mortality?

11/12/13
Week 11: Obstetric intervention

Background Reading:
- Louis and Platt, Ch. 8, p. 129-151

Discussion Reading: Does induction of labor increase the risk of autism?


11/19/13
Week 12: Surveillance

Background Reading:

11/26/13

NO CLASS TODAY! THURSDAY CLASSES MEET TODAY INSTEAD. HAPPY THANKSGIVING!

12/3/13
Week 13: Birth defects

Background Reading:
Louis and Platt, Ch. 10, p. 186-203

Discussion Reading: Do SSRIs during pregnancy cause birth defects?
- Jimenez-Solem E, Andersen JT, Petersen M, Broedbaek K, Jensen JK, Afzal S, Gislason GH, Torp-Pedersen C, Poulsen HE. Exposure to selective serotonin
12/10/13
Week 14: Student presentations

No reading or homework assignment.

12/17/13

No class

School of Public Health Honor Code: The School of Public Health Honor Code is found in the student bulletin (sph.rutgers.edu/academics/catalog/index.html). Each student bears a fundamental responsibility for maintaining academic integrity and intellectual honesty in his or her graduate work. For example, all students are expected to observe the generally accepted principles of scholarly work, to submit their own rather than another’s work, to refrain from falsifying data, and to refrain from receiving and/or giving aid on examinations or other assigned work requiring independent effort. In submitting written material, the writer takes full responsibility for the work as a whole and implies that, except as properly noted by use of quotation marks, footnotes, etc., both the ideas and the works used are his or her own. In addition to maintaining personal academic integrity, each student is expected to contribute to the academic integrity of the school community by not facilitating inappropriate use of her/his own work by others and by reporting acts of academic dishonesty by others to an appropriate school authority. It should be clearly understood that plagiarism, cheating, or other forms of academic dishonesty will not be tolerated and can lead to sanctions up to and including separation from the Rutgers School of Public Health.

Policy Concerning Use of Recording Devices and Other Electronic Communications Systems: When personally owned communication/recording devices are used by students to record lectures and/or classroom lessons, such use must be authorized by the faculty member or instructor who must give either oral or written permission prior to the start of the semester and identify restrictions, if any, on the use of mobile communications or recording devices.