Course:
Applied Epidemiology KAHS 6460 3.0

Course Webpage:
http://www.yorku.ca/htamim/kahs6460/

Term:
Fall Semester, 2008-2009

Course Instructors:
Hala Tamim, PhD
Bethune College Room: 359
Extension: 33338
Office hours: Tuesdays 1:00 – 2:00 p.m. or by appointment

E-mail: htamim@yorku.ca

Time and Location:
Friday 11:30-2:30 p.m., Bethune 225

Course Description:
This course will focus on the methods used in epidemiology and public health research. Specific topics examined in this course include study design (e.g., surveys, case-control, cohort, randomized controlled studies) and an overview of epidemiologic approaches. Popular health status measures will be explained, including incidence, prevalence, odds ratios, and relative risks. Issues relating to confounding, selection bias, misclassification bias, and effect modification will be emphasized. Furthermore, the course will provide an overview of the principles of research design in the health related field.

Course Objectives:
By the end of the course, the student is expected to:
- Understand the basic epidemiologic language
- Develop a clear understanding of the benefits and limitations of specific epidemiologic study designs
- Understand the various biases encountered in epidemiologic designs
- Be acquainted with different analytic techniques
- Be familiar with all the steps required for writing a research proposal
- Critically evaluate health related research

Required Text:
Ann Aschengrau, George R Seage. Essentials of Epidemiology in
Other suggested texts:

- Hennekens: Epidemiology in Medicine, (Little, Brown and Company), 1987

Evaluation:

Class participation
10%

Exam
15%

Presentation of special topic in epidemiology
20%

Presentation of the final research proposal
20%

Written report of the final research proposal
35%

November 7 and November 14, students will present an assigned special topic in epidemiology (10 minutes presentation).

By the third week of classes, students are expected to have identified, from the main research topics below, a research question(s) for the research proposal they will be working on throughout the course. Students have the choice to work on the proposal individually or in groups of two. If working in groups of two, only one report and one presentation are expected to be submitted for evaluation (both students would then get the same grade for both the final report and presentation).
Research topics:
1) Effect of physical activity during pregnancy on pregnancy outcomes
2) Characteristics of Canadian teen pregnancies
3) Injury risk from childhood physical activities
4) Risk factors for falls
5) Characteristics and risk factors for car crashes among young people.

IMPORTANT INFORMATION FOR STUDENTS:
All students are expected to familiarize themselves with the following information, available on the Senate Committee on Curriculum & Academic Standards webpage (see Reports, Initiatives, and Documents) -
http://www.yorku.ca/secretariat/senate_cte_main_pages/ccas.htm

Tentative course Schedule:

Two make-up sessions will be scheduled on October 3.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
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<tbody>
<tr>
<td>Sep 12</td>
<td>An overview of epidemiology and research design</td>
<td>Chapter 1</td>
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<tr>
<td></td>
<td>Formulation of a study objective(s)</td>
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<td></td>
<td>Rationale of study</td>
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<tr>
<td>Sep 19</td>
<td>NO CLASS</td>
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<tr>
<td>Sep 26</td>
<td>NO CLASS</td>
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<tr>
<td>Oct 3</td>
<td>Measures of disease frequency and measures of health status and measurement approaches</td>
<td>Chapters 2 to 5</td>
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<td>Study design: Descriptive studies</td>
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<td>Overview of Stats Canada (scott library- 1:30-2:30-Rm531)</td>
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<tr>
<td>Oct 10</td>
<td>Pubmed search and refworks (11:30-1pm)</td>
<td>Chapter 8</td>
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<td>Study design: Cohort studies</td>
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<td>Oct 15</td>
<td>Study design: Case-control studies</td>
<td>Chapter 9</td>
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<td>Oct 17</td>
<td>Study design: Randomized controlled trials</td>
<td>Chapter 7</td>
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<td>Oct 24</td>
<td>Biases I</td>
<td>Chapters 10 and 11</td>
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<td>Oct 31</td>
<td>Biases II</td>
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<td>Effect Modification</td>
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<td>Nov 5</td>
<td>Data collection and management</td>
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<td>Nov 7</td>
<td>Selected topics in epidemiology</td>
<td>Presentations- selected topics in epidemiology</td>
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<tr>
<td>Nov 14</td>
<td>Selected topics in epidemiology</td>
<td>Presentations- selected topics in epidemiology</td>
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<td>Nov 21</td>
<td>Exam</td>
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<td>Nov 28</td>
<td>Presentations of research proposals</td>
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