<table>
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<th>Date</th>
<th>Topic</th>
<th>Assignment Due</th>
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<td>1/22</td>
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<td>for understanding nutrition research</td>
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<td>Exercise #1</td>
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<td>Inflammation and biomarkers of nutrient status</td>
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<td>3/15</td>
<td>(Friday, last day of term)</td>
<td>Exercise #6</td>
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NUTRITION EPIDEMIOLOGY
International Health 222.647
Instructor: Dr. Laura E. Caulfield
(Tues. & Thurs., 3:30-4:50, 3rd Qtr., Rm.W4019)

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Course Overview

This course will review methodological issues related to the use and interpretation of nutrition data in the context of clinical, epidemiological, and programmatic research design. A conceptual framework is presented for understanding and making decisions regarding different assessment techniques, and problems in data collection, analysis and interpretation of nutrition data are discussed.

Student performance will be evaluated by six homework exercises (90%) and class participation (10%). The homework assignments are weighted according to the number of points assigned. You may discuss the homework exercises with other students, but students are expected to do their own work. Discussion is an important component of this class; students are expected to attend and ask questions and contribute to the class.

There are no required textbooks for this course. Readings are assigned for each lecture as background or as examples in the literature of the method/methodological issues discussed in class. These are available from the CoursePlus web site for this course. Copies of the slides (more or less) will also be posted on the web site, as will copies of the homework exercises. Homework exercises should be submitted into the drop box, but can be printed off and submitted in hard copy if preferred.

I will be audiotaping the lectures and making them available to you on the web site.

As part of Homeworks 2-6, you will asked to choose one of the readings in that session, read it and answer questions based on your reading of the article. Choices are provided to allow the student to select a paper of interest to them.

Recommended Texts
Nutriture, nutrition and nutritional status: a conceptual framework for understanding nutrition research
January 22-24, 2019

Objectives:

1) to provide overview of course

2) to provide conceptual framework relating nutrition, nutriture and nutritional status, and thus a framework for examining dietary intakes and indicators of nutritional status as they relate to disease risk in epidemiologic research

3) to provide background information in nutrition necessary to understand the course material

4) to provide brief experience in the taking of dietary data (DHQ)

Exercise I: dietary intake assessment and reaction sheet (due by January 24, 2019). There is no reading assignment and critique for this exercise.

Statistical methods for assessing indicator performance
January 29-31, 2019

Objectives:

1) to become familiar with concepts of clinical epidemiology as they are applied in nutrition epidemiology

2) to be able to define and use sensitivity, specificity, positive and negative predictive values, ROC curves, normalized distance measures

3) to provide practice in using statistical criteria for comparing the performance of indicators of nutritional status for various applications

Exercise II: comparing indicators of nutritional status (due February 5, 2019 before class). Choose one of the readings in CoursePlus in this session to read and answer the final homework section.
Measurement issues:
Bias, imprecision, reliability
February 5 - 7, 2019

Dietary measures, validity and reliability
February 12 - 14, 2019

Complex issues
February 19, 2019

Objectives:

1) To understand the concepts of validity, accuracy and reliability as they relate to nutritional epidemiology

2) To have an appreciation for the levels and sources of measurement error inherent in nutritional assessment

3) To have the experience of estimating measurement error

Exercise III: Assessing and interpreting measurement error I (due February 14, 2019). Choose one of the readings on anthropometry or biochemical indicators in CoursePlus in this session to read and answer the final homework section.

Exercise IV: Assessing and interpreting measurement error II (due February 26, 2019). Choose one of the readings on dietary methodologies or biomarkers of dietary intake in CoursePlus in this session to read and answer the final homework section.
Implications of measurement error  
February 21 – February 26, 2019

Objectives:

1) To understand the implications of measurement error on:
   a) study design and execution
   b) prevalence estimates
   c) measures of association

Exercise V: implications of measurement error (due March 7, 2019). Choose one of the readings in CoursePlus in this session to read and answer the final homework section.

Issues in the analysis and interpretation of nutrition data  
February 28 – March 14, 2019

Objectives:

1) to develop an understanding of the complexity of analyzing and interpreting nutritional data

2) to develop an understanding of the biological and statistical issues in energy adjustment

3) to have experience in interpreting nutritional data

Exercise VI: interpreting nutrient-disease relationships (due FRIDAY March 15, 2019 by midnight). Choose one of the readings in CoursePlus in this session to read and answer the final homework section.