Mel and Enid Zuckerman College of Public Health  
University of Arizona  

Nutritional Epidemiology  
EPI 645 - Spring 2011

**Time:** Tuesdays 12:30pm –3:15 pm  

**Location:** A-122 Drachman Hall  

**Instructor:**  
Elizabeth T. Jacobs, Ph.D. – Course Director  
626-0341  
jacobse@u.arizona.edu  
Arizona Cancer Center – Room 4985A  

**Office Hours:** By appointment  

**Teaching Assistant:** Not applicable  

**TA Office Hours:** Not applicable  

**Course Description:** Overview of the current issues and methods in assessing nutritional status in epidemiological studies. Issues and methods used in international studies and of chronic disease nutrition will be covered.  

**Course Prerequisites:** EPID 573A. Statistics helpful.  

**Course Learning Objectives:**  
- Become familiar with basic concepts in nutritional epidemiology, focusing on methods used in the study of nutrition-disease associations  
- Understand the strengths and limitations of different dietary and nutritional assessment methods.  
- Become familiar with current trends in nutritional epidemiology.  
- Learn how to read and interpret scientific literature in the field of nutritional epidemiology, and to prepare scientific reports on topics in nutritional epidemiology  

**Course Notes:** Course materials can be found on the D2L course page.  

**Recommended Texts/Readings:** See each class assignment.  

**Course Requirements:**  
Students are expected to attend each class and participate in class discussions. This is a very interactive class that requires input from all students. All assignments are required to be completed on or before the due date, and are to be handed in during the class period. Please do NOT email assignments. If you need to turn an assignment in early, please drop it off at my office prior to the scheduled class. A penalty of one point will be deducted for each day that an assignment is late, with one additional point being deducted if it is turned in after the class period during which it is due.  

**Grading/Student Evaluation:** Class participation 20%; Assignments 80%  

**Grading Scale:**
A: 89.5-100
B: 79.5-89.4
C: 69.5-79.4
D: <69.5

**Class Attending/Participation:**
All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students (or Dean’s designee) will be honored. Please arrive in class on time. Late arrivals are distracting to other students as well as to the instructor, and may result in deduction of participation points.

**Course Schedule:**

**Jan. 18**  Nutrition and Disease  Dr. Jacobs

**Jan. 25**  Dietary Intake Assessment/Arizona Food Frequency Questionnaire  
**Introduce assignments # 1 & 2**  Dr. Jacobs

Readings:

**Feb. 1**  Introduction to Dietary Recommendations & Establishment of Nutritional Guidelines  Dr. Jacobs

Readings
- Yates AA  J Nutr 131:(4s):1331s-1334s 2001
- Murphy SP  Public Health Nutr 5:843-849 2002

**Feb. 8**  Nutritional Surveillance Systems and Interpretations of Nutritional Guidelines  Dr. Jacobs

ASSIGNMENT #1 DUE

Readings:
- Putnam et al.  Food Review 25(3): 2-17
- NCHS NHANES Analytic and Reporting Guidelines 2005
- Food Survey Article  Ag Research March 2001

**Feb. 15**  Non-Nutritive Food Constituents  Dr. Thomson

Readings:
- Amagase  J Nutr 716S-725S, 2006
Biochemical Indicators of Intake

ASSIGNMENT # 2 Due

Enjoy a reading-free week!

Nutrition Among the Elderly

Readings:
Staveren et al. AJCN 59 (suppl): 21-3S, 1994

International Nutrition

ASSIGNMENT #3 DUE

Readings

SPRING BREAK

Part I: Communicating Science
Part II: Nutritional Intervention Trials

Offit PA. Vaccine 22: 1-6 2003

Fortification of the Food Supply (in-class debate)

ASSIGNMENT #4 DUE

Readings:
Shane, B. Am J Clin Nutr 77:8-9, 2003
Eicholzer Lancet 367: 1352-61, 2006

Anthropometric and Body Composition Measurements

Readings:
**Apr. 12**  The Epidemic of Obesity  

**Readings:**  
*Ogden*. NCHS Data Brief, CDC, November 2007  

**Apr. 19**  Vitamin D Adequacy vs. Danger of Sunlight Exposure  
(in-class debate)  

**Readings:**  
*Holick* M. *Am J Clin Nutr* 87 (suppl): 1080S-6S. 2008  
*Jacobs and Scragg* Compl Nutr Aust: 3: 7-9 2008  

**Apr. 26**  In-class presentations  

**May 3**  In-class presentations  

**Academic Integrity:** Students are expected to abide by the University of Arizona Code of Academic Integrity found at [http://w3.arizona.edu/~studpubs/policies/cacaint.htm](http://w3.arizona.edu/~studpubs/policies/cacaint.htm). In this course, if plagiarism or other cheating is detected on an assignment, it will result in automatic failure for that assignment as well as a written warning and a report to the Section Head, the Dean of the College of Public Health, and the Dean of Students. A second offense will result in automatic course failure and a report to the Section Head, the Dean of the College of Public Health, and the Dean of Students. This policy is in place for this class because scientific writing is a fundamental skill at both the undergraduate and graduate level in this field, and for this course. Plagiarism or other cheating demonstrates that the skills necessary for this course have not been mastered by the student, and thus the assignment will be automatically failed on the first violation, and the class will be automatically failed on the second.

If you feel you are unsure as to what might constitute plagiarism, please see me after class and/or set up an appointment so we can discuss it. There are also numerous resources at the University of Arizona, including the writing lab, to help you understand and avoid plagiarism. Plagiarism can occur when a student copies text word-for-word without quoting, fails to paraphrase, or fails correctly reference materials used for preparing a written assignment. This includes fictitious or incorrect references.

**Classroom Behavior:** Students are expected to be familiar with the UA Policy on Disruptive Behavior in an Instructional Setting found at [http://hr2.hr.arizona.edu/dos/pol_disrupt.htm](http://hr2.hr.arizona.edu/dos/pol_disrupt.htm) and the Policy on Threatening Behavior by Students found at [http://hr2.hr.arizona.edu/dos/pol_threat.htm](http://hr2.hr.arizona.edu/dos/pol_threat.htm). In this class, academic debate is encouraged; however, respect for everyone else in the classroom is expected.
**Laptops and Electronic Devices:** Much like on an airplane during takeoff and landing, laptops and other electronic devices can interfere with this class, so please turn them off. Phones can be left on vibrate if needed, but no phone calls or texting are permitted during class. Laptops should not be used during the class period, unless there is a documented need for their use. For most lectures, hard copies of class notes will be distributed. You may use your laptops prior to the beginning of class or during the break.

**Grievance Policy:** [http://grad.arizona.edu/Current_Students/Policies/Grievance_Policy.php](http://grad.arizona.edu/Current_Students/Policies/Grievance_Policy.php)

**Disability Accommodation:** Students who are registered with the Disability Resource Center must submit appropriate documentation to the instructor if they are requesting reasonable accommodations: [http://drc.arizona.edu/instructor/syllabus-statement.shtml](http://drc.arizona.edu/instructor/syllabus-statement.shtml)

**Syllabus Changes:** Information contained in the course syllabus, other than the grade and absence policies, may be subject to change with reasonable advance notice, as deemed appropriate.

**ASSIGNMENTS**

First, a word about class participation. As you can see from the grade breakdown, class participation is an imperative part of this class. Please come to each class session prepared to discuss the readings, as this will account for a full 30% of your grade.

**Assignments:** 70% of course grade

**Assignment #1 Due February 8, 2010**

10 points

**Dietary Guidance: MyPyramid.gov**

This assignment is meant to familiarize you with online resources from the USDA to help consumers with dietary choices. Log onto the Mypyramid.gov website and enter My Pyramid Tracker. You'll need to enter appropriate age, gender, email and self-selected password information to establish your account. Enter your day’s food and beverage intake and activities.

To turn in:  
1) Copy of your nutrient intake results.  
2) Copy of your activity results.  
3) A brief summary review of the experience of using the Mypyramid.gov resources. How ‘user-friendly’ is the resource for consumers? What did you learn? Although there is no right or wrong to an opinion, as an investigator your review should be well-written, using correct grammar and spelling.

**Assignment #2 Due February 22, 2010**

15 points

**Dietary Assessment Techniques**

1) Collect 3 days of food records on yourself (Monday, Wednesday, and Saturday) and enter information using Nutrition Data System (NDS). The report you will need to select is called the "Averaged Nutrient Totals Report". Follow guidelines on handout to make these records as accurate as possible.

2) Complete 1 online AFFQ on self.
Turn in one copy of summary of food record information and the "Average Nutrient Total Report". The AFFQ data will be sent to me electronically and I will then send it to you.

More info:
URL for The Arizona Diet, Behavior, and Quality of Life Assessment Center, where you will enter your food record and recall data, and have your FFQ scanned:
http://www.azcc.arizona.edu/research/shared-services/bmss

This URL is your gateway for important information including references on assessment validity.

Address of for The Arizona Diet, Behavior, and Quality of Life Assessment Center:
2601 N. Campbell Ste #109
Tucson AZ 85719

DATES AND TIMES FOR DATA ENTRY:

Tuesday, February 8th from 3:00 PM-6:00 PM
Wednesday, February 9th from 10:00 AM-3:00 PM
Tuesday, February 15th from 3:00 PM-6:00 PM
Wednesday, February 16th from 10:00 AM-3:00 PM

I will send your AFFQ data in STATA or EXCEL format to you individually as an email attachment, as you will need this information for subsequent assignments.

Assignment #3 Due March 8, 2010 10 points

Write a 1-page report that compares the dietary results from your AFFQ to those from your diet records. The report should include whether one method over- or under-estimates intake, and which you believe is more reflective of your diet.

Assignment #4 Due March 29, 2010 15 points

Folate Fortification Argument

Write a three-page argument regarding the appropriateness/inappropriateness of folate fortification of the food supply to prevent neural-tube defects. For this assignment, you must choose a side (either folate fortification is good or it is bad). Please use 5 recent journal articles as references in addition to the ones that were assigned for class.

Assignment #5 In-class presentations, April 26th and May 3rd 20 points

Reporting Nutritional Epidemiology Results

For this assignment, you and a partner will prepare a 20-minute presentation for the class, to include visual aids. The overall concept for this assignment is to find an article regarding nutritional epidemiology in the media (old timey newspaper or online), and to critique its accuracy After finding the news article, you will then find the scientific article on which the
news story was based in a scientific journal, and critique the article. Your presentation must include the following elements:

1. The title and basic idea of the news article
2. The rationale, objectives, methods, results, and conclusions of the scientific article
3. A comparison of the news article and the scientific article and whether the news article accurately reflected the scientific article
4. How the news article might have been improved
5. To reiterate, the article that you choose must be related to NUTRITIONAL EPIDEMIOLOGY. This can include clinical trials or observational studies, but it must be related to nutrition.
6. It is a good idea to have a fairly recent article, within the last calendar year
7. If you can find discussions of the article online you can add that information to your presentation.
8. BRING YOUR NEWS ARTICLE TO ME NO LATER THAN 2 WEEKS BEFORE YOUR PRESENTATION FOR APPROVAL. This is to ensure that no two groups present on the same article and thereby put everyone to sleep.

Your presentation will be followed by a 5-minute question and answer period. Please bring your presentation on a USB drive.