

**Cancer Epidemiology**  
**Population Health Sciences 750**  
3 credits

**When:** Spring 2011 (1/18/2011-5/5/2011), 9:30-10:45 AM Tuesdays and Thursdays

**Where:** 758 WARF building, 610 Walnut Street, UW-Madison campus

**Audience:** This course is intended for students in health-related disciplines interested in cancer etiology, prevention, and control.

**Goals:** The goal of this course is that the learner will gain an appreciation for:

1. the unequal burden of cancer among populations and variations across time and geography,
2. the distinctive features of the biology of cancer and carcinogenesis that have implications for epidemiologic research including evaluations of cancer screening,
3. the major risk factors for several common and emerging types of cancer, and
4. the challenges to conducting epidemiologic studies of cancer etiology, prevention, detection, and survival.

**Instructor:** Amy Trentham-Dietz, PhD  
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Population Health Sciences  
WARF Room 701  
263-1946, *trentham@wisc.edu*

I will use email and the course website to communicate with students throughout the semester. Please check your **@wisc.edu** email and the website regularly. I will read email messages from students daily, Monday-Friday. No promises about weekends or when I am out of town.

**Prerequisites:** Familiarity with basic biological and epidemiologic concepts is desirable.

**Reading Materials:** Reading materials will be distributed through the course website. Recommended but not required textbooks are listed towards the end of this syllabus.

**Collaborative Environment:** I will assume that your assignments are representative of your own work. Individual written assignments must be in your own words and should not be identical to another student's work. Statements of fact should be accompanied by a published reference; statements without references are assumed to be your own conclusions. Please refer to the Dean of Students Office (75 Bascom Hall) or this website if you have questions about student misconduct:

<http://www.wisc.edu/students/saja/misconduct/misconduct.html>

I encourage students to discuss course material and content with each other, although if you seek to "claim credit for the work or efforts of another without authorization or

citation”, this will fall under misconduct as defined by chapter 14 of the University of Wisconsin System Administrative code.

The UW–Madison is committed to creating a dynamic, diverse and welcoming learning environment for all students and has a non-discrimination policy that reflects this philosophy. Disrespectful behaviors or comments addressed towards any group or individual, regardless of age, race/ethnicity, sexuality, gender, religion, ability, or any other difference is deemed unacceptable in this course, and will be addressed publicly by the professor.

### **Assessment & Grading:**

1. Assignment 1: Web-quiz on the patho-biology of cancer (3% of course grade). Must be completed on the course website by 1/25/2011 before midnight.
2. Assignment 2: Mini-paper comparing cancer rates between the U.S. and another country (7%). Must be uploaded to the drop box on the course website before midnight on 2/1/2011.
3. Assignment 3: Summarize the publications assigned for required reading before a lecture and distribute the handout in class (10%). The student is expected to present their summary in about 5 minutes in class. The due date depends on the lecture you select between 2/3/2011 and 3/22/2011, including 2/3, 2/10, 2/17, 2/22, 3/1, 3/3, 3/10, or 3/22. Please upload your handout to the course website dropbox the night before the lecture.
4. Assignment 4: A presentation covering the descriptive epidemiology of one cancer site (25%). The cancer site for this assignment is the same as for assignment 5, and can be selected from: stomach, bladder, small intestine, testis, CNS/brain, kidney, pancreas, sarcoma, or liver cancer. Due 3/29/2011 or 3/31/2011, depending on your selected presentation date. Please upload your Powerpoint presentation to the course website dropbox the night before your presentation.
5. Assignment 5: An R03 grant application for a hypothetical proposal in the NIH format with these components:
  - a. Your biosketch (5%). Due 2/8/2011.
  - b. Title, Relevance/Narrative (2%). Draft due 2/15/2011.
  - c. Specific Aims (5%). Draft due 2/22/2011.
  - d. Abstract (10%). Draft due 4/12/2011.
  - e. Research Strategy (25%)
    - i. Significance (5%). Draft due 3/8/2011.
    - ii. Innovation (5%)
    - iii. Approach (15%)
  - f. Peer review of another student’s grant application (5%)

Note that a complete grant packet including the biosketch, title, relevance, specific aims, abstract, etc. is due on 4/21/2011 before midnight. Draft versions of grant components required to be submitted on earlier dates will be returned to students with feedback. The final copy due on 4/21 is expected to be a revision.

The remaining 3% of the course grade is given for attendance at guest lectures on 2/1, 2/15, 2/24, 3/8, 3/24, 4/14, and 4/26 (1/2% for each lecture; 1/2% extra credit if all 7 lectures are attended).

Please use the course website drop box to submit all assignments. Please upload only Word, PDF, or Powerpoint files. Talk to me as soon as possible if this will be a problem.

Assignments 2 and 3 must be typed with 11 or 12 size font, single line spacing (1.0), and 1" margins. Assignment 5 must follow NIH guidelines for formatting.

Grades will be assigned as: A 93.0-100; AB 87.0-92.9; B 80.0-86.9; BC/C/etc <80. I reserve the option to lower the grade cut-off points, however I will not raise the cut-offs.

Students must make every effort to notify me within the first two weeks of class of the specific dates on which you may need to miss class for religious observances.

Homework assignments and projects that are completed late will have a decreased possible maximum score by 1% for each day late. For example, if a perfectly completed Assignment 2 is handed in 2 days late, then it could receive a maximum score of 5 out of 7 percentage points of the *total course grade*.

**Learn@UW (aka D2L, Desire2Learn):** Course information, required readings and other helpful materials will be distributed on the course website at <https://learnuw.wisc.edu>

All students are expected to routinely log into the course site. The course site will contain the updated syllabus as well as other critical course information. I've done my best to make the on-line sites as helpful as possible, but they are constantly under development as I add function and content. If you notice inconsistencies or misspellings, if you have trouble accessing anything, or if you would like to propose improvements, please email me ([trentham@wisc.edu](mailto:trentham@wisc.edu)).

**Readings:** No textbooks are required reading for this course. Required and recommended readings, mostly journal articles and book chapters, will be available on the course website. Please check the course website routinely for these materials.

<b>PHS 750 Class Schedule Spring 2011</b>			
<b>Tues</b>	<b>Topic</b>	<b>Thurs</b>	<b>Topic</b>
1/18	Course overview, introductions, online presentations	1/20	Cancer defined Magnitude of the problem
1/25	Epidemiologic study designs Measures of burden <a href="#">Assignment 1 due (webquiz)</a>	1/27	Cancer prevention: then and now
2/1	Tobacco <b>Lecturer: Nathan Jones</b> <a href="#">Assignment 2 due (international rate comparison)</a>	2/3	Lung cancer
2/8	Grant writing for cancer <a href="#">Assignment 5a due (biosketch)</a>	2/10	Breast cancer
2/15	Cancer genetics <b>Lecturer: Shaneda Warren Andersen</b> <a href="#">Assignment 5b due (title, relevance)</a>	2/17	Cervical cancer
2/22	Colorectal cancer <a href="#">Assignment 5c due (draft aims)</a>	2/24	Physical activity <b>Lecturer: Lisa Colbert</b>
3/1	Biomarkers	3/3	Screening
3/8	Prostate cancer <b>Lecturer: Halcyon Skinner</b> <a href="#">Assignment 5e.i draft due</a>	3/10	Ovarian and endometrial cancer
<b>Spring break (3/12-3/20)</b>			
3/22	Obesity	3/24	Diet <b>Lecturer: Julie Mares</b>
3/29	<a href="#">Student presentations* (4)</a>	3/31	<a href="#">Student presentations* (4)</a>
4/5	Thyroid cancer	4/7	Childhood cancers
4/12	Melanoma <a href="#">Assignment 5d due (abstract)</a>	4/14	Health disparities and cancer. <b>Lecturer: Ana Martinez-Donate.</b>
4/19	Biomarkers	4/21	Advocacy and community participation in cancer research <a href="#">Assignment 5e due (strategy)</a>
4/26	Cancer survivorship <b>Lecturer: Whitney Witt</b>	4/28	Cancer prevention and control
5/3	<a href="#">Grant reviews (5f)</a>	5/5	<a href="#">Grant reviews (5f)</a>

## **Recommended (but not required) books:**

Textbooks of cancer epidemiology in order of my recommendation:

Adami H-O, Hunter D, Trichopoulos D. Textbook of Cancer Epidemiology (Monographs in Epidemiology and Biostatistics). 2<sup>nd</sup> edition. New York: Oxford University Press, 2008

Nascas P, Patides H. Fundamentals of Cancer Epidemiology. 2<sup>nd</sup> edition. Jones & Barlett Learning, 2007

dos Santos Silva I. Cancer Epidemiology: Principles and Methods. 2<sup>nd</sup> edition (revised). World Health Organization, 1999

*The reference books:*

Schottenfeld D, Fraumeni Jr JF. Cancer Epidemiology and Prevention. 3<sup>rd</sup> edition. New York: Oxford University Press, 2006

DeVita Jr T, Lawrence TS, Rosenberg SA. DeVita, Hellman, and Rosenberg's Cancer: Principles & Practice of Oncology. 8<sup>th</sup> edition. Lippincott Williams & Wilkins, 2008

## **Useful websites:**

The National Cancer Institute: <http://www.nci.nih.gov/>

The American Cancer Society: <http://www.cancer.org/>

SEER: <http://seer.cancer.gov/>

See especially the SEER Cancer Statistics Review

Cancer Fact & Figures: <http://www.cancer.org/Research/CancerFactsFigures/index>

CDC Wonder database: <http://wonder.cdc.gov/>

Wisconsin Cancer Reporting System (statewide tumor registry):

<http://www.dhs.wisconsin.gov/wcrs/pubs.htm>

Globocan: <http://globocan.iarc.fr/>