

PubH 6387- Section 001 Cancer Epidemiology – Spring 2009

Credits:	2
Meeting Days:	Monday
Meeting Time:	12:20 – 2:15 p.m.
Meeting Place:	2120 Weaver Densford Hall, TCEASTBANK
Instructor:	Kristin Anderson, PhD
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Office Hours:	Generally after class or by appointment (contact Dr. Anderson or Millie Woodbury, 624-4386). I enjoy talking to students, so don't hesitate to contact me.

I. Course Description

Epidemiologic aspects of cancer. Theories of carcinogenesis, patterns of incidence/mortality, site-specific risk factors. Issues of cancer control/prevention.

II. Course Prerequisites

PubH 6320, 6330 or permission of the instructor

III. Course Goals and Objectives

- An understanding of cancer epidemiology as a large field that includes: population burden, surveillance, etiology, prevention and control, access to care, screening, diagnosis, treatment, survivorship and palliative (end-of-life) care.
- Knowledge of the general principles of the molecular and cellular basis of carcinogenesis
- Knowledge of cancer surveillance and cancer screening, and their relation to cancer prevention
- Identification of various aspects of pathologic and morphologic classification of malignancies and the implications for epidemiologic research
- Description of international patterns in cancer incidence and mortality
- Knowledge of the public health implications of cancer

- Critical evaluation of different methodological approaches used to study etiologic hypotheses in cancer research
- Knowledge of the major known and hypothesized associations between cancer and nutrition, hormones, reproduction, occupation, tobacco, alcohol, chemical exposures and radiation
- Identification of some of the presently known associations and hypotheses relating to the genetics of cancer
- Knowledge of epidemiologic characteristics and risk factors for selected cancers, including some of the following: lung, breast, colon, pancreas, endometrium, cervix, as well as cancer in children and young adults.

IV. Methods of Instruction and Work Expectations

Teaching will be in lecture format, seminar-type group discussions that will involve student input. There will be assigned readings. Readings should be completed prior to class. Students should post written questions and answers, based on the readings, on the electronic bulletin board prior to class on the readings. Students will be instructed to create their own questions with answers or they will be assigned questions.

You are a very diverse group of students. Diversity is strength in our society at large and also here at the University of Minnesota. In this class, we will ask you to maintain an open mind to the differences around you, and we encourage you to place positive value on those differences. Although we may disagree on a particular point, we will strive to be respectful to each other.

In epidemiology, it is often the case that there is not necessarily a right answer or only one approach to a research question. Sometimes, we must choose among various alternatives the one that would seem to be most appropriate for the problem posed. Sometimes we choose the best answer, given the alternatives, although it is not necessarily the only answer. This can be particularly aggravating for students, who might prefer that all questions have either right or wrong answers. And it is this reason that makes epidemiology a difficult subject to teach and to learn. Because epidemiology is immersed in the gray areas of human health, it is possible that you may pose a question that we are unable to answer immediately, or if we answer it, we may change our mind upon further reflection. We also expect that some of you will come up with answers that had not occurred to us. We welcome such an exchange of ideas and look forward to learning from you.

V. Course Text and Readings

Course Readings/Helpful links: Required text: Fundamentals of Cancer Epidemiology by Nasca and Pastides, Second Edition; other selected readings on specific topics will be posted on the website throughout the semester. The course website has a “helpful links” page which includes a “course Lib” with URLs for many commonly used sources of cancer information. You will be expected to visit and use these sources throughout the course.

Other sources for information. Additional reading material may be sought from textbooks such as Cancer Epidemiology and Prevention (Schottenfeld and Fraumeni); Human Cancer: Epidemiology and Environmental Causes (Higginson, Muir, Munoz); Cancer Epidemiology: Principles and Methods (dos Santos Silva) and Textbook of Cancer Epidemiology (Adami, Hunter, Tricholpoulos).

VI. Course Outline/Weekly Schedule – partial listing

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|---------------|---|
| Jan 26 | Introduction and Overview K. Anderson; Reading: “Descriptive Epidemiology”, in Textbook, Nasca |
| Feb 2 | Cancer Registration and Coding - Dr. Sally Bushhouse, Dir of the Minnesota Cancer Surveillance System (MCSS) and K. Anderson Reading: Dos Santos Silvs, Ch 17 (see Website) |
| Feb 9 | Cancer Screening and Cancer Control, Dr. Carin Perkins, MCSS |

Student Written Questions and Answers/ Examples

Prior to each class session, students will read the required material and may be assigned a question to answer for class or they will be assigned to do one of the following: 1) write one question, with an answer, on the subject matter particularly relevant to epidemiologists; 2) highlight or expand upon the material in class with an example of an issue particularly relevant to epidemiologists. The questions and examples should be posted on the bulletin board or assignment tool as directed. Students are encouraged to be creative in this process. Include graphs, tables or other data for illustration. Questions can be in any format, e.g., multiple choice, true-false, fill in the blank, short answer or essay. Complete answers must accompany the questions. All sources of information for the questions or examples should be cited. Textbooks in cancer epidemiology have example questions. Students may use such questions as examples, but they may not be simply copied fulfill the assignment. Students may embellish or modify existing questions; if so, they must provide the original question with full information on the source. Questions should be designed to address the course learning objectives. Students are encouraged to work together to refine and clarify their questions or examples, but each student is responsible for handing in their own work. If students plan to miss a class, the questions/examples must be submitted early to receive credit. The instructor will grant exceptions for illness or emergencies.

Student Presentations

Fact sheet (20%) and its presentation (5%)

This project involves (1) developing a fact sheet for everyone in the class; and (2) presenting the fact sheet findings informally in small groups of approximately 4-6 people. Its purpose is to allow students to explore a topic in cancer epidemiology and share it with other students. Students should choose a topic from one of the broad areas listed below. Students can choose other topics as well, but should seek approval from the instructor. Ideally, students are encouraged to pick a topic not covered in class, or an aspect of a topic that was not covered in-depth in class. The fact sheet will allow students to succinctly (15 minutes) educate others about their topic.

The goal of this project is to share evidence-based information. For example, a very appropriate presentation would be to present a graph or table along with some bullet points that identify key facts and issues and a short (< 10 citations) reference list for further information. The student could use a graph or table from a reliable source (it does not have to be created by the student). During the 15 minute presentation, the student will inform his or her colleagues about the topic with an emphasis on the epidemiologic issues.

What is the product of this project? Students should produce a 2-page fact sheet for everyone in the class. If a student needs more than 2 pages, fine. Even though the students will present in small groups it is important that the information they have be shared with everyone. The presentation should be well-organized and can be no more than 15 minutes (i.e., a 10-minute presentation and 5 minutes for questions). The presentation is intended to give students experience in preparing information for brief dissemination and an opportunity to share findings with others. It is suggested, given the size of the class, that the students prepare their presentations to highlight about 5 major points (almost like bullet-points) that can be briefly conveyed to the class. These are informal presentations—no PowerPoint. Just sit down, introduce yourself and your topic, and share information.

Students must choose their topic and inform Dr. Anderson by March 2, 2009.

Possible topics: (Other topics can be used with prior approval from instructor.)

1. Cancer Prevention strategies in high-risk families and populations. Choose one (or several) of the topics below. Address: What are the methods available? What are the data? When are these appropriate to use?
 - A. Colorectal cancer: HNPCC; FAP
 - B. Rare syndromes: e.g. MEN2; NF, Li-Fraumeni
 - C. Breast cancer: eg, BRCA1 and 2
2. Proteomics/genomics: Applications to cancer epidemiology
3. Cancer services: screening and treatment for the uninsured and underinsured.

4. Cancers or preneoplastic conditions not covered in class, e.g., testicular cancer, Hodgkin lymphoma, myeloproliferative disorders, etc.
5. Infectious disease and cancer (other than those covered in class) for example:
 - A. HTLV1
 - B. AIDS-related cancers
 - C. Helicobacter pylori (Stomach cancer)
 - D. Epstein-Barr virus (Head and Neck cancers or Burkitt's lymphoma)
 - E. Hepatitis B and C (Liver cancer)
6. Global Health: What are the leading issues for cancer control in some part of the developing world (e.g., cervical ca in Thailand; or stomach ca in S. America)?
7. Epidemiologic issues regarding exposure assessment – discuss the problems, new methods, etc. for assessment of: dietary intake, multiple gene effects, or other exposures.
8. Use of tissue/pathology specimens in epidemiologic research
9. Gene-environment interaction and cancer: eg. Bladder cancer and aromatic amines
10. Obesity and cancer – epi issues in assessing associations and possible mechanisms
11. Obesity and cancer – the population burden in the U.S.
12. Occupational associations and cancer, for example: Asbestos and mesothelioma, aromatic amine dyes and bladder cancer, vinyl chloride and liver cancer or benzene and leukemia.
13. Cancer and radiation exposure, for example: Cancers in Hiroshima after the atomic bomb, thyroid cancer after Chernobyl or radon gas and lung cancer.
14. Pregnancy after cancer: what are the issues?

VII. Evaluation and Grading

Quizzes

There will be two take-home quizzes where answers are generally found through class readings and web-based materials in the course. Students will be given one week and two weekends to complete the quizzes.

Manuscript Critiques

Students will be asked to critique two specified published papers and fill out a critique form on each.

Final

The final exam will be a take-home exam based on the questions that students post on the discussion board throughout the course, course discussions, student presentations and web-based materials.

Student performance requirements: 35% - (take home quizzes and critiques: 15% for each quiz and 5% for critique assignment); 5% - student participation and discussion; 10% - questions and answers posted on the web site prior to lectures or in class quizzes (based on readings); 25% - student presentation; 30% - final exam (This includes concepts that are learned throughout the course, but will be focus on material not covered by previous quizzes.)

Course grading may be taken either as A/F or S/N. The minimum A/F equivalent for an S grade is a C; the requirements will be identical for students taking the course A/F and S/N. Epidemiology students must take the course A/F.

NOTE: CORE COURSES FOR SPH STUDENTS ONLY

Of those courses designated as part of the public health core, students may take only one on a pass-fail basis (S/N). To receive a passing grade (S), students must achieve a performance level equivalent to a "C" letter grade or better unless the instructor specifies a higher level of performance in the syllabus (effective Fall 2001).

Grading Criteria

<http://www.umn.edu/usenate/policies/uniformgrading.html> :

S/N option must complete all assignments to a C- level (70%) and letter grade will be determined by total effort as follows:

A= 95-100 points	(4.0) Represents achievement that is outstanding relative to the level necessary to meet course requirements
A-= 90-94 points	
B+= 87-89 points	
3.0)	Represents achievement that is significantly above the level necessary to meet course requirements
B-= 80-82 points	
C+= 77-79 points	
C= 73-76 points	(2.0) Represents achievement that meets the minimum course requirement
C-= 70-72 points	

F (or **N**) – Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I

S – Achievement that is satisfactory will be expected to complete all assignments and receive a minimum of 73 points to receive a passing score (achievement required for an S is at the discretion of the instructor but may be no lower than a 70%).

Incomplete Contracts

A grade of incomplete "I" shall be assigned at the discretion of the instructor when, due to extraordinary circumstances (e.g., documented illness or hospitalization, death in family, etc.), the student was prevented from completing the work of the course on time. The assignment of an "I" requires that a contract be initiated and completed by the student before the last day of class, and signed by both the student and instructor. If an incomplete is deemed appropriate by the instructor, the student in consultation with the instructor, will specify the time and manner in which the student will complete course requirements.

Extension for completion of the work will not exceed one year (or earlier if designated by the student's college). For more information and to initiate an incomplete contract, students should go to:

www.sph.umn.edu/grades.

University of Minnesota Uniform Grading and Transcript Policy

A link to the policy can be found at onestop.umn.edu.

Course Evaluation

Beginning in fall 2008 the SPH will collect student course evaluations electronically using a software system called CoursEval. The system will send email notifications to students when they can access and complete their course evaluations. Students who complete their course evaluations promptly will be able to access their final grades just as soon as the faculty member renders the grade. All students will have access to their final grades two weeks after the last day of the semester regardless of whether they completed their course evaluation or not. Student feedback on course content and faculty teaching skills are important means for improving our work. Please take the time to complete a course evaluation for each of the courses for which you are registered.

VIII. Other Course Information and Policies

Grade Option Change (if applicable)

For full-semester courses, students may change their grad option, if applicable, through the second week of the semester. Grade option change deadlines for other terms (i.e. summer and half-semester) can be found at onestop.umn.edu.

Course Withdrawal

Students should refer to the Refund and Drop/Add Deadlines for the particular term at onestop.umn.edu for information and deadlines for withdrawing from a course. As a courtesy, students should notify their instructor and, if applicable, advisor of their intent to withdraw.

Students wishing to withdraw from a course after the noted final deadline for a particular term must contact the School of Public Health Student Services Center at sph-ssc@umn.edu for further information.

Student Conduct, Scholastic Dishonesty and Sexual Harassment Policies

Students are responsible for knowing the University of Minnesota, Board of Regents' policy on Student Conduct and Sexual Harassment found at www.umn.edu/regents/polindex.html.

Students are responsible for maintaining scholastic honesty in their work at all times. Students engaged in scholastic dishonesty will be penalized, and offenses will be reported to the Office of Student Academic Integrity (OSAI, www.osai.umn.edu).

The University's Student Conduct Code defines scholastic dishonesty as "plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis."

Plagiarism is an important element of this policy. It is defined as the presentation of another's writing or ideas as your own. Serious, intentional plagiarism will result in a grade of "F" or "N" for the entire course. For more information on this policy and for a helpful discussion of preventing plagiarism, please consult University policies and procedures regarding academic integrity: <http://writing.umn.edu/tww/plagiarism/>.

Students are urged to be careful that they properly attribute and cite others' work in their own writing. For guidelines for correctly citing sources, go to <http://tutorial.lib.umn.edu/> and click on "Citing Sources".

In addition, original work is expected in this course. It is unacceptable to hand in assignments for this course for which you receive credit in another course unless by prior agreement with the instructor. Building on a line of work begun in another course or leading to a thesis, dissertation, or final project is acceptable.

If you have any questions, consult the instructor.

Disability Statement

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have a documented disability (e.g., physical, learning, psychiatric, vision, hearing, or systemic) that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact Disability Services to have a confidential discussion of their individual needs for accommodations. Disability Services is located in Suite 180 McNamara Alumni Center, 200 Oak Street. Staff can be reached by calling 612/626-1333 (voice or TTY).