Instructor
Jane Schroeder
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Classroom: 3100 Hooker Center

Time: Tues. & Thurs. 12:30 – 1:45

Office Hours: To be determined

Course Description
This course is intended for cancer epidemiology students, students considering cancer epidemiology as a substantive focus, and students who wish to be informed consumers of cancer epidemiology research. We will begin by covering fundamental concepts in cancer biology and pathogenesis, descriptive epidemiology, and the interpretation and design of etiologic studies. The majority of lectures will focus on current knowledge regarding the epidemiology and biology of specific cancers, including pathogenic mechanisms, risk factors, major studies, information sources, and public health issues. The principle goals are to provide a broad overview of the field, and to develop basic knowledge and skills needed to understand and evaluate published research. Course requirements include class participation, assigned readings, midterm and final exams (both take-home), and presenting a formal 30min. talk concerning a cancer or risk factor not covered in other lectures or leading a discussion (with readings and questions provided in advance) concerning a topic or issue not covered elsewhere in the course. Co-requisite: EPID 710 (preferred) or EPID 600 (with permission). A basic understanding of cellular/molecular biology is strongly recommended.

Course Goals
- Provide a broad overview of cancer epidemiology, with an emphasis on surveillance, etiologic research, screening and survivorship
- Provide basic substantive knowledge concerning major cancers and risk factors
- Develop background knowledge and skills needed to understand and interpret cancer epidemiologic research
  - Cancer surveillance and descriptive statistics
  - Stage, grade and histologic subtypes
  - Information sources and major studies
  - Basic study design issues
  - Biologic basis and multifactorial nature of etiology and pathogenesis
  - Health disparities and social influences on incidence and survival
  - Diagnosis and screening
  - Survivorship and quality of life
Required Text
Fundamentals of Cancer Epidemiology, Second Edition
Philip C. Nasca & Harris Pastides
Jones and Bartlett Publishers, 2008
• Information on required readings is included in the Course Schedule. Links to other required readings will be provided or posted on the website at least 5 days in advance.

Supplemental/Recommended Reading
Cancer Epidemiology, Third Edition
David Schottenfeld, Joseph F. Fraumeni
Oxford University Press, New York, 2006

Textbook of Cancer Epidemiology
Hans-Olav Adami, David Hunter & Dimitrios Trichopoulos
Oxford University Press, New York, 2002

Class Website (Blackboard)
Lecture slides will be posted in the Documents folder of the EPID770 Blackboard site. If you have problems accessing the site, please let me know. You will receive an email notification when slides or other materials are posted to the site. In general slides will be posted at least 24 hours in advance so that you will have time to print them out before class. If slides are posted less than 24 hours prior to class I will provide printed copies in class.

Class Requirements, Exams and Grading
1. Class participation 15%
   • Read required material prior to lectures
   • Ask questions, participate in discussions, and provide feedback on student-led classes
     o I do not take attendance at lectures, but missing more than a few lectures will affect your class participation grade. When possible, please let me know in advance if you will not be able to attend class because of religious holidays, travel or other scheduling conflicts.
     o Written feedback on presentations/discussions by other students is required and will count toward up to half of your participation grade.

2. Midterm exam 30%
   • Open book, take home, multiple choice & short answer
   • Distributed Thurs. Oct. 2, due Tues. Oct. 14 (before start of class)

3. Final exam 35%
   • Open book, take home, multiple choice & short answer
   • Comprehensive, including all lecture material and required readings and at least one question related to each student discussion/presentation session
   • Distributed Tues. Dec. 2, due no later than 5 pm Thurs. Dec. 11

4. Student Presentations 20%
   • Topic and date requests due Thurs. Oct. 2, topics and dates assigned Oct. 7
   • See Student Presentation Guidelines for additional information
**Final Course Grades**
Final grades are determined based on a weighted average of all your individual grades for class participation, exams and your discussion/presentation as follows:

- **H** 92 – 100
- **P** 80 – 91.9
- **L** 70 – 79.9
- **F** <70

**Policy for Late Assignments**
Under some circumstances, extensions may be provided. If an extension is needed because of a scheduling conflict (e.g., travel to attend a meeting), it must be requested in advance.

- Ten points per business day (or fraction thereof) will be deducted from your total grade for overdue midterm exams.
- Ten points per business day (or fraction thereof) will be deducted from your total grade for the discussion/presentation if any required materials are not provided when due, including reading assignments or discussion questions that must be provided prior to your session (see Student Discussion/Presentation Guidelines).
- Twenty points per business day (or fraction thereof) will be deducted from your total grade for overdue final exams. Final grades for the class must be turned in to the registrar by Monday Dec. 15 by 3 pm; consequently, you will receive a grade of Incomplete for the class if I do not receive your final exam before 3 pm Sunday Dec. 14. Exams may be turned in by email (preferred) or put in my mailbox. I will send an email acknowledging receipt of your exam.
- Business days are Monday – Friday, not including official University holidays.

**Recommended Journals**
Students with an interest in cancer epidemiology should begin reading (or at least scanning the contents of) cancer epidemiology journals on a regular basis. These journals may also be good sources of material or papers for your student discussion/presentation session. Journals vary with regard to their focus, but the following are all worth checking out:

- Cancer Epidemiology, Biomarkers & Prevention (CEBP)
- Nature Reviews Cancer
- Journal of the National Cancer Institute (JNCI)
- Cancer Research
- Cancer
- Carcinogenesis
- International Journal of Cancer
- British Journal of Cancer
- Cancer Causes and Control

General journals (American Journal of Epidemiology (AJE), Epidemiology, Journal of the American Medical Association (JAMA), and New England Journal of Medicine (NEJM)) also include papers relevant to cancer epidemiology.

If you are interested in a specific cancer you should also become familiar with specialty journals (e.g., Prostate, Blood, Breast Cancer Research and Treatment) relevant to it.
Student Presentation Guidelines

Overview
The student presentation/discussion sessions are your opportunity to focus on a cancer not covered in regular lectures, and on a related topic that is of specific interest to you. These sessions also provide an opportunity to improve your presentation and public speaking skills. Your presentation should include information on the descriptive epidemiology of the cancer you are covering and what is known about the biology and pathogenesis of the cancer. The rest of your presentation can focus on a topic of your choice that is relevant to that cancer, such as known or putative risk factors, cancer subtypes relevant to etiology or prognosis, screening, major studies, health disparities, treatment, survival, advocacy organizations, or a study design or methodologic issue of particular importance to the cancer you are presenting. You will also be required to provide feedback concerning presentations and discussions led by other students.

Topic requests and approval
You can choose from the following cancers for your presentation:
- Brain cancers
- Thyroid cancer
- Testicular cancer
- Mesothelioma
- Ovarian cancer
- Bone cancers
- Renal cell cancer
- Nasopharyngeal cancer
- Endometrial cancer
- Bladder cancer
- Kaposi’s sarcoma
- Myeloid leukemias
- Hodgkin’s lymphomas
- Melanoma*
- Non-melanoma skin cancers (basal cell and squamous cell carcinomas)*
- Neuroblastoma, Retinoblastoma, Wilms’ tumor (two of three)**
- Rhabdomyosarcoma, Hepatoblastoma, Teratoma (two of three)***
- Leiomyosarcomas and leiomyomas (smooth muscle tumors, including uterine fibroids)

* Students presenting melanomas and non-melanoma skin cancers will need to coordinate their presentations to avoid overlap. These topics will be presented on the same day if possible.
** Students presenting childhood cancers (neuroblastoma, retinoblastoma, Wilms’ tumor and rhabdomyosarcoma, hepatoblastoma, teratoma (two of three from each list) will need to coordinate their presentations to avoid overlap. These topics will be presented on the same day if possible.

A topic request form indicating your top 10 choices and preferred dates (posted in the Student Discussion/Presentation folder on the class website) will be due before class on Oct. 2. If you are interested in presenting a cancer that is not on the list above, please contact me before the form is due so I can approve or disapprove your request. Some overlap with material discussed in lectures will be acceptable if your presentation/discussion involves a synthesis of information across lecture topics, or you address the topic from a novel perspective, but you should discuss
any potential overlap with lecture topics with me in advance. I’d also be happy to discuss what you plan to cover in your presentation even if you are not concerned about overlap, but this is not required. You may cover material related to research that you are involved in, but your presentation must consist primarily of new material that clearly differs from any talks or presentations that you have given in the past. I hope to have a final schedule for the student presentations, including topics and dates, by Oct. 7. You may change the date of your presentation after the final schedule is posted if you find someone who is willing to switch dates with you.

Lecture format
- 20 - 25 min. presentation with power point slides or overheads
  - one-third to half of the presentation should consist of information on descriptive epidemiology and biology/pathogenesis
- 5 - 10 min. for questions or discussion (after or during your talk, as you prefer)
- Copies of lecture slides or overheads must be available to the class at least 24 hours prior to your session
- Citations for references, websites and other information sources must also be provided (on slides/overheads or in a separate document)

NOTE: Because two students will be presenting during a lecture period you must observe the time limits described below; in order to provide sufficient time to the other student scheduled for the same day, I will end your session after 30 min., regardless of whether you have completed the material you planned to cover.

Grading
Your presentation will count toward 20% of your grade. Points will be assigned as shown below. Classmate peer reviews will be taken into account when grades are assigned.

Lecture format
- Material covered: 25%
- Presenter's understanding of the material covered: 25%
- Slides (or other audio-visual aids) and citations: 25%
- Responses to questions/discussion: 15%
- Presentation style: 10%
# EPID770 Schedule 2008

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Readings

1 - 2. Introduction, Defining Cancer (Aug. 19 & 21)
Required
- Nasca & Pastides: pg. 29 – 47; pg. 446 (2nd paragraph) – 448

Supplemental

Pathology Websites
- The Internet Pathology Lab. for Medical Education, FSU: http://library.med.utah.edu/WebPath/webpath.html
- Virtual Slidebox: FR Dee, T Leaven, Iowa State Univ: http://www.path.uiowa.edu/virtualslidebox/
- Pathweb, UConn School of Medicine: http://pathweb.uchc.edu/
- Pathopic (Germany): http://alf3.urz.unibas.ch/pathopic/intro.htm
- PERLjam Pathology Images (great name, fair site): http://erl.pathology.iupui.edu/

Required
- Nasca & Pastides: pg. 1 – 23 (up to migrant studies)

Supplemental
• Wingo PA, Jamison PM, Hiatt RA, Weir HK, Gargiullo PM, Hutton M, et al. Building the infrastructure for nationwide cancer surveillance and control—a comparison between the National Program of Cancer Registries (NPCR) and the Surveillance, Epidemiology, and End Results (SEER) Program (United States). Cancer Causes Control 2003;14(2):175-93.
• Warren JL, Klabunde CN, Schrag D, Bach PB, Riley GF. Overview of the SEER-Medicare data: content, research applications, and generalizability to the United States elderly population. Med Care 2002;40(8 Suppl):IV-3-18.

Major Cancer Surveillance Reports and Databases
• Cancer in North America (CINA): Data from US and Canadian cancer registries that meet NAACCR high data quality criteria. Interactive database: http://www.cancer-rates.info/naaccr/
• State Cancer Profiles: An interactive database supported by the NCI and CDC http://statecancerprofiles.cancer.gov/.
• United States Cancer Statistics (USCS): Published annually by the NPCR and NCI-SEER in collaboration with the NAACCR: http://apps.nccd.cdc.gov/uscs/.

Additional Information Sources
• American Cancer Society: http://www.cancer.org/docroot/home/index.asp
• Behavioral Risk Factor Surveillance System (BRFSS): State-based system of health surveys with information on screening, health care access, tobacco use and other cancer risk factors, established by the CDC in 1984 [http://www.cdc.gov/brfss/]

• International Association of Cancer Registries: Information concerning the IACR, as well as a listing of reports published by member registries worldwide: [http://www.iacr.com.fr/]

• International Agency for Research on Cancer (IARC): [http://www-dep.iarc.fr/]

• North American Association of Central Cancer Registries (NAACCR): [http://www.naaccr.org/]

• National Cancer Institute (NCI): [http://www.cancer.gov/]

• National Center for Health Statistics: Mortality Data from the National Vital Statistics System [http://www.cdc.gov/nchs/deaths.htm]

• National Program of Cancer Registries (NPCR): [http://www.cdc.gov/cancer/npcr/]

• NCI-SEER Program: [http://seer.cancer.gov/]
  SEER Coding and Staging Manuals: [http://seer.cancer.gov/tools/codingmanuals/]
  Registrar training materials and links: [http://seer.cancer.gov/training/]
  Statistical Resources: [http://seer.cancer.gov/resources/]
  SEER-Medicare Database: [http://healthservices.cancer.gov/seermedicare/]


5 – 6. Carcinogenesis (Sept. 2 & 4)
Required

Supplemental

7. Study Designs (Sept. 9)
Required

Supplemental
• Olshan et al. (2000). "GSTM1, GSTT1, GSTP1, CYP1A1, and NAT1 polymorphisms, tobacco use, and the risk of head and neck cancer." CEIP 9(2): 185-91.
• Begg et al. (2006). "A design for cancer case-control studies using only incident cases: experience with the GEM study of melanoma." Int J Epidemiol 35(3): 756-64.

Study Websites
• ACS Cohort Studies:
• Nurses Health Study: http://www.channing.harvard.edu/nhs/
• Health Professionals Follow-Up Study: http://www.hsph.harvard.edu/hpfs/
• European Prospective Investigation into Cancer and Nutrition: http://www.iarc.fr/epic/
• Women's Health Initiative: http://www.nhlbi.nih.gov/whi/
• Atherosclerosis Risk in Communities (ARIC): http://www.cscc.unc.edu/ARIC/
• Long Island Breast Cancer Study Project: http://epi.grants.cancer.gov/LIBCSP/
• Carolina Breast Cancer Study: http://cbcs.med.unc.edu/
• North Carolina Colorectal Cancer Study: http://www.unc.edu/cgibd/POPS/NCCCS/
• North Carolina – Louisiana Prostate Cancer Project (PCaP): 8 – 9. Lung Cancer (Sept. 11 & 16)
  Supplemental: TBA

10 – 11. Colorectal Cancer (Sept. 18 – 23)
  Required: Nasca & Pastides: pg. 485 – 492, 497 – 498 (cancer screening)
  Supplemental: TBA

12 – 13. Breast Cancer (Sept. 25 & 30)
  Supplemental: TBA

14 – 15. Prostate Cancer (Oct. 2 & 7)
  Required: Nasca & Pastides: pg. 371 – 374, 494 – 496
  Supplemental: TBA

16. Cervical Cancer (Oct. 9)
  Required: Nasca & Pastides: pg. 296 – 303, 499 – 502
  Supplemental: TBA

17. Liver Cancer (Oct. 14)
  Required: TBA
  Supplemental: TBA

18 – 19. Gastric & Esophageal Cancers (Oct 21 & 23)
  Required : TBA
  Supplemental: TBA

  Required: Nasca & Pastides: 304 – 312, 335 – 342, 448 - 450
  Supplemental: TBA
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Revised 09/15/08

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