

College of Public Health & Health Professions

PHC7007

Cancer Epidemiology

Spring 2023 (3 credits)

Monday 11:45-12:35 HPNP G-301A, Wednesday 10:40-12:35

Expect to attend UFHCC seminar on many Wednesdays noon-1pm

Instructor Information

Dr. Volker Mai

- **Office:** Emerging Pathogens Institute, Room 373
- **Email (the most efficient):** Use the e-learning mail in priority
- **Phone:** 273 9398 (please leave a message).
- **Office hours:**
 - o Monday/Wednesday after class
 - o By appointment: send me a mail (through e-learning) if you have conflicts with the office hour times, we will set up an appointment.

Course Overview or Purpose

Cancer epidemiology is designed to help students develop the interdisciplinary skills required for evaluating various existing and hypothetical public health interventions aimed at reducing the burden of cancer in the US and worldwide. The course will familiarize students with various exposures associated with the risk of developing cancer with emphasis on a population perspective. While a focus will be on opportunities for prevention; we will explore cellular mechanisms contributing to the development of various cancers and describe associated pathologies. Cancer epidemiology is taught in a combined lecture and discussion format. Each student, with guidance, will choose a current problem in cancer epidemiology/prevention and, following an initial presentation of the problem, develop an approach to the problem that is discussed in class. After incorporating relevant feedback, the student will present a formal presentation on a prevention approach and submit a term paper that represents a short proposal for a research project. In addition to conventional lectures on fundamental topics of cancer epidemiology relevant scientific papers describing recent advances in the field will be discussed.

Course Objectives and/or Goals

After successful completion of this course, students will be able to:

- 1) Evaluate the impact of various cancers on public health.
- 2) Link molecular mechanisms with specific cancers to identify prevention targets.
- 3) Compare and contrast exposures associated with cancer.
- 4) Compare and contrast major mechanisms of carcinogenicity.
- 5) Evaluate effectiveness of various public health measures to reduce cancer burden.
- 6) Summarize mechanisms of defenses against carcinogenicity.
- 7) Understand the special concern of carcinogen exposure in immune compromised individuals.
- 8) Compare and contrast the genomic basis of carcinogenicity using web-based genome

analysis tools.

- 9) Describe the major mechanisms of cancer treatment failure.
- 10) Develop risk profiles for individuals based on phenotypic predisposition and exposures to risk factors.
- 11) Predict future trends in worldwide cancer rates associated with expected lifestyle changes.

Course Materials

Textbooks: The textbook used in this course is “Textbook of Cancer epidemiology”, Adami, Hunter, Trichopolous 2nd edition, Oxford Press.

Prerequisites: PHC 6001 and PHC 6000 or equivalent or approval by instructor

Course Requirements/Evaluation/Grading

- Midterm exam (in class) 20%
- Final exam (take home) 30%
- Assignments 10%
- Class participation 10%
- Term project 20%
- Presentation 10%

Grading:

93 -100%	A	4.0
90-92.9%	A-	3.67
87-89.9%	B+	3.33
83-86.9%	B	3.0
80-82.9%	B-	2.67
70.0-79.9%	C	2.0
60.0-69.9%	D	1.0
<60%	E	

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar’s Grade Policy regulations at

<http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

WebPage: e-learning. <https://ufl.instructure.com/courses/419639>

Communication: For questions regarding class and textbook content use the Discussion Board. For issues on Homework Assignments and their grading, contact the TA. For all other issues, contact instructor.

- **Discussion Board:** A discussion board is available in e-learning. It is very useful, please post and answer your questions on class content and organization there. Postings and answers are monitored by the instructor to make sure mistakes don’t get propagated. There are several

discussion themes. Please post your questions in the adequate section. The discussion board will also be used for certain graded assignments to prepare for lecture and for the exam study guide.

Topical Outline

Week	Dates	Topic	Reading topic
1	01/08-01/10	Introduction Trends in cancer incidence	ACS cancer statistics (yearly update)
	01/15	MLK – no class	
2	01/17	Cellular aspects of carcinogenesis	P53 tumor suppressor
3	01/22-01/24	Cancer immunology and pathology	Cancer immunity (Nature reviews)
4	01/29-01/31	Infectious causes of cancer	H.pylori and cancer
5	02/05-02/07	Environmental exposures	Cell phone use and risk of brain cancers
6	02/12-02/14	Radiation and occupational exposures	Home radon exposure and lung cancer risk
7	02/19-02/21	Smoking and cancer risk	Effective smoking cessation approaches
8	02/26-02/28	Effects of diet/obesity/exercise on cancer risk Exam 1 TBC	Trends in obesity
9	03/04-03/06	Hormones and carcinogenesis	HRT and breast cancer
10	03/11-03/15	SPRING BREAK	
11	03/18-03/20	Behavioral change in cancer prevention	Increasing physical activity levels through infrastructure
12	03/25-03/27	Health disparities and cancer	Increased burden of cancers in African Americans
13	04/01-04/03	Cancer treatment successes and risk of 2nd cancers	Risk of secondary cancers after childhood cancers
14	04/08-04/10	CAM in cancer prevention and treatment	Alternative methods for preventing and treating cancer
15	04/15-04/17	Future trends in cancer prevention	The 2020 targets in cancer prevention
16	04/22-04/24	Term project presentations	
17	04/29	Final Exam	

Punctuality and Class Etiquette

The class will begin at promptly at the time listed. Please be on time and in place. Please do not forget to shut cell phones off.

Statement of University's Honesty Policy (cheating and use of copyrighted materials)

Academic Integrity – Students are expected to act in accordance with the University of Florida policy on academic integrity (see Student Conduct Code, the Graduate Student Handbook or this web site for more details: www.dso.ufl.edu/judicial/procedures/academicguide.php).

Cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior. We, the members of the University of Florida community, pledge to hold ourselves

and our peers to the highest standards of honesty and integrity.

Policy Related to Class Attendance and Make-up Work

This is an interactive class and students are expected to be present and to participate in all class sessions. Students who know they will need to miss a class session should discuss this with the instructor prior to the date of the class. Students with unexpected absences should discuss needed make-up work with the instructor as soon as they can. Students with an unexcused absence will have a 5% reduction in their final grade. Students who miss more than one class without explanation will not be re-admitted to the class.

Online Synchronous Sessions

Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited

Statement Related to Accommodations for Students with Disabilities

Accommodations for Students with Disabilities

If you require classroom accommodation because of a disability, you must first register with the Dean of Students Office (<http://www.dso.ufl.edu/>). The Dean of Students Office will provide documentation to you, which you then give to the instructor when requesting accommodation. The College is committed to providing reasonable accommodations to assist students in their coursework.

Counseling and Student Health

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the UF Counseling & Wellness Center, 352-392-1575. Visit their web site for more information: <http://www.counseling.ufl.edu/>.

The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services, including primary care, women's health care, immunizations, mental health care, and pharmacy services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: www.health.ufl.edu/shcc

Crisis intervention is always available 24/7 from: Alachua County Crisis Center: (352) 264-6789. From the Crisis Center: “Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.”

Your well-being is important to the University of Florida. The **U Matter, We Care** initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.