

TSCI 6105
Topics In Cancer Prevention

FALL 2016

CLASS DAYS and TIME: Fridays – 11:00 AM to 12:00PM

CLASSROOM: AL&TC Building Room 2.211

COURSE FACULTY: Michael J. Wargovich, Ph.D.

OFFICE LOCATION and HOURS: MCD 5.542, M-F from 8-5PM by appointment only

EMAIL: wargovich@uthscsa.edu

TELEPHONE: 210-567-8230

COURSE DESCRIPTION AND OBJECTIVES

This course address current topics in cancer prevention science through a series of didactic lectures and discussions with cancer prevention faculty. Topics span the continuum of cancer prevention from basic cancer epidemiology and carcinogenesis, to cancers of special relevance in South Texas and interventions. An exposure to prevention clinical trials and disparity research will also be presented. Consent of instructor is required for registration.

Pre-requisites – None

Semester credit hours – 1 Credit hour

By the end of this course, each student should be able to:

- Have a thorough understanding of the discipline of cancer prevention
- Have an introduction to cancer epidemiology.
- Understand what the causes and prevention of common cancers.
- Have an introduction to prevention strategies.
- Understand cancer disparities, outcome research, and prevention clinical trials.

COURSE ORGANIZATION

The main teaching modalities used in this course include:

- 1) The course will use a combination of PowerPoint lectures, reading assignments, and class discussion.

Materials – Two textbooks will be made available in CANVAS as pdfs to enrolled students. Handouts from lecturer PowerPoints may be provided as a pdfs in CANVAS at the lecturer’s discretion.

Computer Access – Students are required to have a laptop computer that can connect to and operate over a wireless network.

Software required:

- Microsoft Office Suite (A personal copy of the latest version can be purchased at The UTHSCSA bookstore at student pricing with a student ID)

Laptops with an Apple based Operating System must be able to also operate using a Windows based Operating System. It may be necessary to purchase Windows (student pricing available at The UTHSCSA bookstore with a student ID) and virtualization software.

All laptops will connect to The UTHSCSA network via the HSCwave broadcast wireless connection. Authentication for wireless use is based on The UTHSCSA domain username and password.

Verification of proper operation **prior** to the start of class is highly recommended.

Assistance is available thru the IMS Service Desk

- Telephone: 567-7777
- E-mail (ims-servicedesk@uthscsa.edu)

Assistance is also available at the IMS Student Support Center (ALTC 106).

Reading Assignments – Individual lectures will have reading assignments that are listed in the individual class section of this syllabus.

ATTENDANCE

Attendance at scheduled classes and examinations is crucial to meeting course objectives. Therefore, regular attendance in class is expected of each student.

- Attendance is defined as being present within 15 minutes after the scheduled beginning of the class and until 15 minutes before the scheduled ending of the class.
- Excused absences may be granted by the Course Director in cases such as formal presentations at scientific meetings, illness, or personal emergency.
- Excused absences are considered on an individual basis and require electronic communication with the Course Director to request an excused absence. The e-mail request to the Course Director for consideration of an excused absence must provide details regarding the circumstances and specific dates.
- It is expected that students will provide *advanced notice* of absence for scheduled events.
- If a student has excessive unexcused absences in a given course, they will automatically receive a grade of *unsatisfactory* unless *makeup* has been approved by the Course Director.
- Makeup of absences (both excused and unexcused) is allowed at the discretion of the Course Director.
- Allowable unexcused absences will be determined by the credit hours of the course as follows:

Course Semester Credit Hours	Allowable Unexcused Absences
3.0	3
2.0	2
1.0	1

TEXTBOOKS

Required: Textbooks will be provided to students via CANVAS for downloading.

- 1) Fundamentals of Cancer Prevention, David S. Alberts, Lisa M. Hess (Eds), 2d edition Springer 2008
- 2) Food, Nutrition, Physical Activity, and the Prevention of Cancer: A Global Perspective World Cancer Research Fund

Recommended: None

GRADING POLICIES AND EXAMINATION PROCEDURES

Grading System

Grading for the course will be determined through two open book examinations, a mid-term, and a final. The combined scores of the mid-term and final, participation in class will be used to assess the final grade for the course, either Satisfactory (S) or Unsatisfactory (U). To achieve a grade of S, the two examinations must average > 70%.

Both examinations will be graded on the following grade scale:

A = 90-100% B = 80-89% C = 70-79% F = < 69%

REQUESTS FOR ACCOMODATIONS FOR DISABILITIES

In accordance with policy 4.2.3, **Request for Accommodation Under the ADA and the ADA Amendments Act of 2008 (ADAAA)**, any student requesting accommodation must submit the appropriate request for accommodation under the American with Disabilities Act (ADA, form 100). to his/her appropriate Associate Dean of their School and a copy to the ADA Coordinator. Additional information may be obtained at <http://uthscsa.edu/eeo/request.asp>.

ACADEMIC INTEGRITY AND PROFESSIONALISM

Any student who commits an act of academic dishonesty is subject to discipline as prescribed by the UT System Rules and Regulations of the Board of Regents. Academic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an exam for another person, signing attendance sheets for another student, and any act designed to give unfair advantage to a student or the attempt to commit such an act. Additional information may be obtained at <http://catalog.uthscsa.edu/generalinformation/generalacademicpolicies/academicdishonestypolicy/>

TITLE IX AT UTHSCSA

Title IX Defined:

Title of the Education Amendments of 1972 is a federal law that prohibits sex discrimination in education. It reads “no person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance.”

University of Texas Health Science Center San Antonio’s Commitment:

University of Texas Health Science Center San Antonio (UTHSCSA) is committed to maintaining a learning environment that is free from discriminatory conduct based on gender. As required by Title IX, UTHSCSA does not discriminate on the basis of sex in its education programs and activities, and it encourages any student, faculty, or staff member who thinks that he or she has been subjected to sex discrimination, sexual harassment (including sexual violence) or sexual misconduct to immediately report the incident to the Title IX Director.

In an emergency, victims of sexual abuse should call 911. For non-emergencies, they may contact UPD at 210-567-2800. Additional information may be obtained at <http://students.uthscsa.edu/titleix/>

EMAIL POLICY

All correspondence with the student will be achieved only through their student livemail address, CANVAS, and the course director UTHSCSA e-mail address as listed above.

USE OF RECORDING DEVICES

With instructor's permission

ELECTRONIC DEVICES

Cell phones must be turned off during all class meetings and exams. Computers and electronic tablets are allowed only for participating in classroom activities (*e.g.*, viewing slides presented in lecture or conference materials). No texting, tweeting, emailing, web-surfing, gaming, or any use of electronic devices that is not directly connected with classroom activities is permitted.

TENTATIVE CLASS SCHEDULE
TSCI 6105
Topics in Cancer Prevention
Fall 2016

WEEK	DATE	TOPIC	Assignment	Instructor and Modality
Week 1	8/26	Introduction and Overview		WARGOVICH
Week 2	9/2	Basic Carcinogenesis		KUMAR
Week 3	9/9	Cancer Epidemiology		CUNNINGHAM
Week 4	9/16	Chemoprevention		WARGOVICH
Week 5	9/23	SPECIFIC CANCER: Infectious		LONG-PARMA
Week 6	9/30	SPECIFIC CANCER: Breast		KAKLAMANI
Week 7	10/7	SPECIFIC CANCER: Pediatric		TOMLINSON
Week 8	10/14	Preventive Strategy: Diet		PATEL
Week 9	10/21	MID-TERM		WARGOVICH
Week 10	10/28	CANCER IN TEXAS		CHALELA
Week 11	11/4	Biomarkers - Prostate		THOMPSON
Week 12	11/11	SPECIFIC CANCER: GI		TENNER
Week 13	11/18	Preventive Research: Animal Models		MORRIS
Week 14	11/25	THANKSGIVING (NO CLASS)		
Week 15	12/2	DISPARITY AND DISSEMINATION Research		HOLDEN
Week 16	12/9	ETHICS IN CANCER PREVENTION		TENNER
Week 17	12/16	FINAL EXAM		WARGOVICH

**TSCI 6105 – Topics in Cancer Prevention
Fall 2016**

INDIVIDUAL CLASS INFORMATION

(Including but not limited to Learning Objectives and Assignments)

WEEK 1:

Date:	08/26/2016
Room:	ALTC 2.211
Instructor(s):	Michael Wargovich, PhD
Topic:	Introduction and Overview
Learning Objectives:	<p>Cancer prevention is a complex discipline ranging from basic laboratory research through clinical trials. An overview of the course will be presented and expectations set.</p> <ol style="list-style-type: none"> 1. Have a global understanding of causes of cancer and its prevention 2. Recognize the signs and symptoms of cancer 3. Become familiar with most common cancers 4. Understand present cancer trends and future risks 5. Overview of course
Materials:	None
Assignment(s):	<p>Download the two recommended e-texts for the course.</p> <ol style="list-style-type: none"> 1. Fundamentals of Cancer Prevention, David S. Alberts, Lisa M. Hess (Eds), 2nd edition, Springer 2008 2. Food, Nutrition, Physical Activity, and the Prevention of cancer: A Global Perspective, World Cancer research Fund
Reading(s):	<ol style="list-style-type: none"> 1. Fundamentals of Cancer Prevention, David S. Alberts, Lisa M. Hess (Eds), 2nd edition, Springer 2008, Chapter 1-2, pgs. 1-71. 2. Food, Nutrition, Physical Activity, and the Prevention of cancer: A Global Perspective, World Cancer research Fund, Chapter 1-3, pgs. 4-62.

WEEK 2:

Date:	09/02/2016
Room:	ALTC 2.211
Instructor(s):	A Pratap Kumar, PhD
Topic:	Basic Carcinogenesis
Learning Objectives:	<p>The basic aspects of carcinogenesis will be presented.</p> <ol style="list-style-type: none"> 1. History of Carcinogenesis 2. Carcinogenic factors 3. Gene-environment interactions 4. Genes involved in carcinogenesis 5. Cancer prevention and carcinogenesis
Materials:	None
Assignment(s):	None
Reading(s):	None

WEEK 3:

Date:	09/09/2016
Room:	ALTC 2.211
Instructor(s):	Joan Cunningham, PhD
Topic:	Cancer Epidemiology
Learning Objectives:	<p>Cancer epidemiology sets the framework for intervention trials in humans.</p> <ol style="list-style-type: none"> 1. Understand the history and development of cancer epidemiology 2. Recognize and interpret the most common statistical methods used in cancer epidemiology 3. Identify tools to understand and describe trends and variation in cancer burden 4. Describe future trends in cancer epidemiology research and collaboration
Materials:	None
Assignment(s):	None
Reading(s):	None

WEEK 4:

Date:	09/16/2016
Room:	ALTC 2.211
Instructor:	Michael Wargovich, PhD
Topic:	Chemoprevention
Learning Objectives:	<p>Chemoprevention is a strategy for intervening on cancer early to prevent primary cancer or recurrent cancer. Natural products and drugs will be highlighted as illustrations.</p> <ol style="list-style-type: none"> 1. History of Chemoprevention 2. Types of Agents 3. Chemoprevention Drug Development
Materials:	None
Assignment:	None
Reading:	<ol style="list-style-type: none"> 1. Fajardo, Alexandra M., and Piazza, Gary A., Chemoprevention in gastrointestinal physiology and disease. Anti-inflammatory approaches for colorectal cancer chemoprevention. <i>Am J Physiol Gastrointest Liver Physiol</i> 309: G59–G70, 2015. doi:10.1152/ajpgi.00101.2014. http://rw3kt2qh5l.search.serialssolutions.com/?sid=Entrez:PubMed&id=pmid:26021807

WEEK 5:

Date:	09/23/2016
Room:	ALTC 2.211
Instructor:	Dorothy Long-Parma, PhD
Topic:	Specific Cancer: Infectious
Learning Objectives:	<p>The lecture will focus on hepatocellular cancer and strategies for prevention and screening.</p> <ol style="list-style-type: none"> 1. Have a general understanding of Hepatocellular Carcinoma (HCC) burden of disease in the U.S. 2. Become familiar with specific viral causes of HCC: Hepatitis B and C (HBV/HCV) 3. Describe current strategies targeting HBV/HCV for prevention of Hepatocellular Carcinoma 4. Describe disparities in HCC screening and strategies for improvement.
Materials:	None
Assignment :	None
Reading(s) :	<ol style="list-style-type: none"> 1. Download the Updated Action Plan (2014-16) for the Prevention, Care and Treatment of Viral Hepatitis https://aids.gov/pdf/viral-hepatitis-action-plan.pdf 2. Singal, AG, El-Serag HB, Hepatocellular carcinoma from epidemiology to prevention: translating knowledge into practice <i>Clin Gastroenterol and Hepatol</i> (2015) 13:2140-51 http://ac.els-cdn.com/S1542356515011131/1-s2.0-S1542356515011131-main.pdf?_tid=eaa843ea-3954-11e6-a05e-00000aab0f6b&acdnat=1466694935_5450d2c0d8fbb8dd2e0a79573a3a09d3 3. <u>Goebel M¹, Singal AG, Nodora J, Castañeda SF, Martinez E, Doubeni C, Laiyemo A, Gupta S.</u> How can we boost colorectal and hepatocellular cancer screening among underserved populations? <i>Curr Gastroenterol Rep</i> (2015) 17:22. http://download.springer.com/static/pdf/69/art%253A10.1007%252Fs11894-015-0445-1.pdf?originUrl=http%3A%2F%2Flink.springer.com%2Farticle%2F10.1007%2Fs11894-015-0445-1&token2=exp=1466695687~acl=%2Fstatic%2Fpdf%2F69%2Fart%25253A10.1007%25252Fs11894-015-0445-1.pdf%3ForiginUrl%3Dhttp%253A%252F%252Flink.springer.com%252Farticle%252F10.1007%252Fs11894-015-0445-1*~hmac=f29b1a49c8d065035e52c8b17834decd1a2edd90e50b090b604cb5ac187800f2

WEEK 6:

Date:	09/30/2016
Room:	ALTC 2.211
Instructor(s):	Virginia Kaklamani, MD
Topic:	Specific Cancer: Breast
Learning Objectives:	Breast cancer is a major cancer affecting women. The types of breast cancer, their etiologies, and clinical course will be discussed. <ol style="list-style-type: none"> 1. Risks for developing breast cancer 2. Preventing breast cancer through chemoprevention 3. Surgical approaches to breast cancer prevention
Materials:	None
Assignment(s):	None
Reading(s):	None

WEEK 7:

Date:	10/07/2016
Room:	ALTC 2.211
Instructor:	Gail Tomlinson, MD
Topic:	Specific Cancer: Pediatric Cancers
Learning Objectives:	Breast cancer is a major cancer affecting women. The types of breast cancer, their etiologies, and clinical course will be discussed. <ol style="list-style-type: none"> 1. Be familiar with Pediatric cancer predisposition syndrome for which surveillance is beneficial in enhancing cancer early detection 2. Know the familial ramifications of Li-Fraumeni Syndrome 3. Understand the process and ethical considerations of genetic testing in children
Materials:	None
Assignment :	None
Reading(s):	<ol style="list-style-type: none"> 1. Friedman, L R, Saal, H M, David, K L, and Anderson, R R; and the American Academy of Pediatrics; American College of Medical Genetics and Genomics, Technical report: ethical and policy issues in genetic testing and screening of children, <i>Genet Med</i> 2013;15(3):234–245. http://rw3kt2qh5l.search.serialssolutions.com/?sid=Entrez:PubMed&id=pmid:23429433 2. Teplick, A, Kowalski, M, Biegel, J A, and Nichols, K E, Screening in cancer predisposition syndromes: guidelines for the general pediatrician, <i>Eur J Pediatr.</i> 2011 March; 170(3): 285–294. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3086787/

WEEK 8:

Date:	10/14/2016
Room:	ALTC 2.211
Instructor(s):	Darpan Patel, PhD
Topic:	Preventive Strategy: Diet
Learning Objectives:	<p>Two of the more successful intervention strategies in the area of cancer prevention have been modifying dietary habits and implementing exercise.</p> <ol style="list-style-type: none"> 1. Have general knowledge of the benefits of physical activity and diet in cancer prevention 2. Describe the role physical activity and diet have in cancer prevention 3. Understand the role of physical activity and diet in relation to cancer survivorship and quality of life 4. Have basic understanding of the role of phytochemicals in the prevention of cancer 5. Have general knowledge of the physiological mechanisms associated with physical activity and cancer prevention
Materials:	None
Assignment(s):	None
Reading(s):	None

WEEK 9:

Date:	10/21/2016
Room:	ALTC 2.211
Instructor(s):	Michael Wargovich, PhD
Topic:	Mid-Term Exam
Learning Objectives:	Students will demonstrate knowledge of material covered over the first half of the course.
Materials:	None
Assignment(s):	None
Reading(s):	None

WEEK 10:

Date:	10/28/2016
Room:	ALTC 2.211
Instructor(s):	Patricia Chalela, PhD
Topic:	Cancer in Texas
Learning Objectives:	<p>The Lone Star State has some unique aspects to its cancer burden and this lecture will focus on special risk due to health disparities in our population.</p> <ol style="list-style-type: none"> 1. Have a general knowledge of the existence and magnitude of cancer-related health disparities experienced by South Texans. 2. Identify modifiable factors that contribute to differences in incidence, prevalence, morbidity and mortality 3. Describe prevention strategies and key areas where public health efforts should be focused.
Materials:	None
Assignment(s):	None
Reading(s):	Download and read the South Texas Health Status Review. https://ihpr.uthscsa.edu/south-texas-health-status-review

WEEK 11:

Date:	11/04/2016
Room:	ALTC 2.211
Instructor(s):	Ian Thompson, Jr., MD, PhD
Topic:	Biomarkers - Prostate
Learning Objectives:	<p>Prostate cancer is another of the major cancers affecting men in the US. It has also been an ideal arena for the use of cancer biomarkers.</p> <ol style="list-style-type: none"> 1. The participant will describe the primary goal of cancer screening through the use of biomarkers and imaging. 2. The participant will define performance characteristics of importance related to biomarkers and how disease natural history and prevalence influences the impact of screening. 3. The participant will describe how biases can influence outcomes of screening studies.
Materials:	None
Assignment(s):	None
Reading(s):	None

WEEK 12:

Date:	11/11/2016
Room:	ALTC 2.211
Instructor(s):	Laura Tenner, MD
Topic:	Specific Cancer: GI
Learning Objectives:	Colorectal cancer is a common cancer in the US and is increasing across the world. The etiology and strategies for its prevention will be discussed. 1. To identify the difference between germline and somatic mutations in colon cancer and know the more common germline colon cancer mutations 2. To identify the common primary, secondary and tertiary prevention in colon cancer 3. To identify potential future pathways of research for colon cancer prevention
Materials:	None
Assignment(s):	None
Reading(s):	1. Fundamentals of Cancer Prevention, David S. Alberts, Lisa M. Hess (Eds), 2nd edition, Springer 2008, Chapter 12, Colorectal Cancer Prevention, pgs. 291-308.

WEEK 13:

Date:	11/18/2016
Room:	ALTC 2.211
Instructor(s):	Jay Morris, PhD
Topic:	Preventive Research: Animal Models
Learning Objectives:	Basic research has revolutionized the utility of animal models in cancer prevention. Historical models using carcinogens, transgenic animal models, and knockout technologies will be discussed. 1. Understand the differences between ectopic, genetically susceptible, and conditional cancer models. 2. Describe the various methods of application of carcinogens to induce cancer in animal models. 3. Understand the various methods for prevention intervention applications in animal models.
Materials:	None
Assignment(s):	None
Reading(s):	None

WEEK 14:

Date:	11/25/2016
Room:	N/A
Instructor(s):	N/A
Topic:	Thanksgiving Holiday (No Class)
Learning Objectives:	None
Materials:	None
Assignment(s):	None
Reading(s):	None

WEEK 15:

Date:	12/02/2016
Room:	ALTC 2.211
Instructor(s):	Alan Holden, PhD
Topic:	Disparity and Dissemination Research
Learning Objectives:	How to deal with cancer disparity in prevention of cancer and how prevention research progresses from the laboratory to public health will be discussed. <ol style="list-style-type: none"> 1. To know the CDC definition of “disparity” 2. To identify the most important factors involved in the existence of cancer disparities 3. To identify successful and potential future pathways for the reduction/elimination of cancer disparities
Materials:	None
Assignment(s):	None
Reading(s):	None

WEEK 16:

Date:	12/09/2016
Room:	ALTC 2.211
Instructor:	Laura Tenner, MD
Topic:	Ethics in Cancer Prevention
Learning Objectives:	Ethical issues in Cancer Prevention Medicine 1. To be able to define Clinical Equipoise and Therapeutic Misconception 2. Understanding the difficulties surrounding informed consent. 3. Understanding the ethical implications of genomic testing
Materials:	None
Assignment:	None
Reading(s):	1. Truog RD. Patients and Doctors — The Evolution of a Relationship. <i>New England Journal of Medicine</i> 2012; 366:581-5. http://rw3kt2qh5l.search.serialssolutions.com/?sid=Entrez:PubMed&id=pmid:22335734 2. Carter, S. M., and et.al, Screening for Cervical, Prostate, and Breast Cancer Interpreting the Evidence, <i>American Journal of Preventive Medicine</i> , 2015;49(2):274–285. http://rw3kt2qh5l.search.serialssolutions.com/?sid=Entrez:PubMed&id=pmid:26091929 3. Colgrove, J., The Ethics and Politics of Compulsory HPV Vaccination, <i>The N Engl J Med</i> , 2006 Dec 7; 355(23):2389-2391. DOI: 10.1056/NEJMp068248. http://rw3kt2qh5l.search.serialssolutions.com/?sid=Entrez:PubMed&id=pmid:17151362 4. Andorno, N., and Jüni, P., Abolishing Mammography Screening Programs? A View from the Swiss Medical Board, <i>N Engl J Med</i> 2014; 370:1965-1967 http://rw3kt2qh5l.search.serialssolutions.com/?sid=Entrez:PubMed&id=pmid:24738641

WEEK 17:

Date:	12/16/2016
Room:	ALTC 2.211
Instructor(s):	Wargovich, PhD
Topic:	Final Exam
Learning Objectives:	Students will demonstrate knowledge of material covering the second half of the course.
Materials:	None
Assignment(s):	None
Reading(s):	None