Syllabus: NSC 531; Nutrition and Cancer (2 credits)

Description of Course:
This course will take a “bench to bedside” approach in discussing the impact of nutrition on cancer.

Locations and Times:
Location: Forbes 110
Times: Meets Tuesdays and Thursdays for the first 10-12 weeks of the semester from 11:00am-12:15pm (subject to change).

Instructor Information:
Kirsten H. Limesand, PhD
Shantz 421
(520) 626-4517
limesank@u.arizona.edu
Office hours: By appointment
Web information including course homepage or instructor’s homepage

Course Objectives and Expected Learning Outcomes:
Upon completion of Nutrition and Cancer, participants will have a fundamental understanding of how particular nutrients impact tumor promotion or prevention, the mechanisms of action, and translatability of these findings to the clinic. Individual performance will be measured with two exams, participation in topic discussions and with oral and written reports.

Topics:
Topics to be discussed have been divided into three major subheadings: Tumor promoting agents, Tumor suppressing agents, and Chemoprevention. These divisions will highlight the role of different nutrients in oncogenesis.

Course Methodology and Teaching Format:
This course will be taught as a lecture series with material available on the web site (http://d2l.arizona.edu).

Required Texts:
No textbook is required; however there will be required reading assignments for most lectures.

Suggested: (The following journals are great resources for cancer-related papers.)
1. Cancer Cell
2. Nature Reviews Cancer
3. Cell Death and Differentiation
4. Oncogene
5. Genes, Chromosomes and Cancer
6. Cancer Research
7. Cancer Epidemiology Biomarkers and Prevention
8. Nutrition and Cancer

Additional references:

Required or Special Materials:
No special tools or supplies will be required.

Required/Recommended Knowledge:
An understanding of basic biochemistry (BIOC 462 or equivalent) and cell biology (MCB 410 or equivalent) is required for this course. Prior coursework/exposure in signal transduction pathways would be beneficial.

Grading Policy:
Each student enrolled in NSC 531 will be evaluated with two exams, participation in topic discussions and with oral and written reports. The two exams are worth 100 points each (~60% of the grade). Students will be responsible for class participation on weekly topic/manuscript discussions worth 50 points. Reading assignments on these dates must be completed before class in order to receive full credit.

Finally each student will volunteer/ be assigned one side of a debate topic. The purpose of debates is to improve presentation skills and nurture the skill of “thinking on one’s feet”. A series of debate topics will be provided by the instructor and additional topic suggestions should be made to the instructor before February 3rd. All suggested debate topics must be approved by the instructor. Students are responsible for the reading material listed for the instructor chosen topics and may add additional materials through literature searches. The oral portion of debates will be structured by a 5-10 minute “opening statement” by each presenter and up to 10 additional minutes for rebuttal. The written portion of the debate topic should be 3-5 typed single spaced pages (not including references) presenting the facts of both sides of a chosen debate topic. The combination of written and oral portions of the debate assignment is worth 100 points.

All exams must be completed during the designated class period. Topic discussions will be evaluated for the student’s preparation and participation in class. Written reports will be due approximately 3 working days prior to oral presentations to allow the instructor to read them. More details on scheduling will be presented in class. Students will be responsible for completion of course work on the timeline provided unless prior arrangements are made or they will receive no points for the exercise.
Extra credit points will be given for students attending seminars pertaining to cancer and writing a one page summary including the significant findings of the seminar and potential implications to nutritional science. Seminars sponsored by the students' home Department are not eligible for extra credit since graduate students in these programs are expected to attend. For example, Nutritional Sciences graduate students can not use the Department of Nutritional Sciences seminars and Cancer Biology students can not use the Cancer Biology or Colloquium seminar series. Each student can obtain 5 points for each seminar which will be added to their total score. A maximum of 5 seminars will be allowed per student.

**Determination of Grades:**

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<tbody>
<tr>
<td>Exam 1</td>
<td>100 pts</td>
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<td>Exam 2</td>
<td>100 pts</td>
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<tr>
<td>Debate presentation</td>
<td>100 pts</td>
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<tr>
<td>In class discussions</td>
<td>50 pts</td>
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<td><strong>Total</strong></td>
<td><strong>350 pts</strong></td>
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**Score** | **Grade**
--- | ---
90-100 | A
80-89 | B
70-79 | C
60-69 | D
0-59 | E

**Late Work Policy:**
In general, late assignments will not be accepted. If you know you can not get an assignment done by its due date, please come see me ahead of time, and we will try and work something out.

**Attendance Policy:**
The topics we cover in class are complex, and a few of them will not be discussed in textbooks. I strongly encourage students to attend all lectures.

**Incomplete grade policy:**
Incomplete grades will be given only in special circumstances as outlined in university policy. See: [http://catalog.arizona.edu/2002-03/policies/grade.htm](http://catalog.arizona.edu/2002-03/policies/grade.htm)

**Classroom Behavior:**
Please silence all cell phones and pagers during class.
The Arizona Board of Regents' Student Code of Conduct, ABOR Policy 5-308, prohibits threats of physical harm to any member of the University community, including to one's self. See: [http://policy.web.arizona.edu/~policy/threaten.shtml](http://policy.web.arizona.edu/~policy/threaten.shtml).

**Academic integrity:**
Students are encouraged to discuss course materials together and to study together, but all graded assignments should be an independent effort. Students are expected to adhere to The University of Arizona Code of Academic Integrity as described in the UA General Catalog. See: http://w3.arizona.edu/%7Estudpubs/policies/cacaint.htm

Confidentiality of Student Records:
http://www.registrar.arizona.edu/ferpa/default.htm

Special needs and Accommodations:
In you anticipate the need for reasonable accommodations to meet the requirements of this course, you must register with the Disability Resource Center and request that the DRC send me official notification of your accommodation needs as soon as possible. Please plan to meet with me by appointment to discuss accommodations and how my course requirements and activities may impact your ability to fully participate. The DRC contact information is as follows: 1224 East Lowell St Tucson, AZ 85721; Phone: (520) 621-3268; V/TTY Fax: (520) 621-9423; Email: uadrc@email.arizona.edu

Office Hours:
Office hours will be by appointment to try and accommodate everyone’s schedules. Please email me (limesank@u.arizona.edu) to arrange a time. Also, feel free to email me with any questions.

Subject to Change Notice:
Other than the grading or attendance policies, the course syllabus is subject to change at the discretion of the instructor.
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1/10 (Thurs.)</td>
<td>Overview of course; Hallmarks of cancer</td>
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<tr>
<td>1/15 (Tues.)</td>
<td>Cancer models; The “omics” of nutrition and cancer research</td>
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<tr>
<td>1/17 (Thurs.)</td>
<td>Obesity and risk of cancer</td>
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<td>1/22 (Tues.)</td>
<td>Bio-active food compounds</td>
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<tr>
<td>1/24 (Thurs.)</td>
<td>Tumor promoting agents-basic science</td>
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<td>1/29 (Tues.)</td>
<td>Tumor promoting agents-clinical/translational</td>
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<td>1/31 (Thurs.)</td>
<td>Tumor promoting agents-biomarkers for diagnosis</td>
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<tr>
<td>2/5 (Tues.)</td>
<td>Review for Exam, Basics of public speaking and Choose debate topics</td>
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<td>2/7 (Thurs.)</td>
<td>No class- work on debate topic</td>
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<tr>
<td>2/12 (Tues.)</td>
<td>Exam 1</td>
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<tr>
<td>2/14 (Thurs.)</td>
<td>Tumor suppressing agents-basic science</td>
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<td>2/19 (Tues.)</td>
<td>Tumor suppressing -clinical/translational</td>
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<td>2/21 (Thurs.)</td>
<td>Malnutrition following cancer therapy</td>
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<tr>
<td>2/26 (Tues.)</td>
<td>Overview of Prevention and Chemoprevention</td>
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<td>2/28 (Thurs.)</td>
<td>Applications of Prevention and Chemoprevention</td>
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<td>3/5 (Tues.)</td>
<td>Metastasis-theories and mechanisms</td>
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<td>3/7 (Thurs.)</td>
<td>Metastasis-clinical/translational</td>
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<td>3/12&amp;14</td>
<td>Spring Break! No Class!</td>
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<td>3/19 (Tues.)</td>
<td>Student Centered Learning- Debates</td>
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<td>3/21 (Thurs.)</td>
<td>No class</td>
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<td>3/26 (Thurs.)</td>
<td>Student Centered Learning- Debates</td>
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<tr>
<td>3/28 (Thurs.)</td>
<td>Student Centered Learning- Debates</td>
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4/2 (Tues.)  Open class; Review for Exam
4/4 (Thurs)  Final Exam; Evaluation