

**OVERVIEW AND SYLLABUS**  
**CAMB 512 – CONCEPTS IN CANCER BIOLOGY**  
**Spring 2020**  
**11:30-1:00**  
**Thursdays BRB 253**

**COURSE GOALS:** There are several goals for this course. One is to introduce students to basic fundamental principles and emerging concepts in cancer biology. Another is to challenge students to think with considerable depth about how these principles and concepts were shaped through experiment, as well as their implications, limits and caveats. A third is that the lectures, readings, and exams will hone your ability to think clearly and critically about the testing of hypothesis through experimental design and data interpretation. The course aims to provide students with a foundation that will enable them to keep abreast of cancer biology topics through critical appraisal of the literature and seminars.

**COURSE DESCRIPTION:** There are five course directors and at least one of them will attend every session. During each 1.5 hour class faculty will lecture for 45 minutes followed by a 45 minute breakout discussion. During the breakout session students will be separated into three pre-assigned groups and each group will have a student leader/presenter. Each student will also provide a discussion question on the primary paper and hand it in on paper to the attending directors at the start of class. Directors will choose the 9 best questions and assign three unique questions to each group. The purpose of the discussion group is to choose the most interesting/important question and then devise an answer. Each group will have a leader/presenter assigned at the start of class. Student presenters will present the groups findings and are required to produce a 1-2 page written answer to the question/summary of their presentation and email it to the attending course director and lecturer following their presentations. They have one week to email the document. Should a student have to miss a lecture, the student needs to notify the course directors in advance. Each group leader will have 10 minutes to present their question and answer using 1 powerpoint slide displaying a graphical abstract of the assigned paper.

**READING ASSIGNMENTS:** Two weeks prior to their lecture, faculty will assign a review that provides relevant background and one primary research paper. There will be three discussion groups. Each group is responsible for reading these materials before each lecture.

**COURSE GRADE:** The course grade will be based on 40% participation, 25% presentations, 20% 1-2 page write-up summarizing key points of the presentations (group leaders only), and 15% quality of discussion questions posed.

**CANVAS:** The assigned review and primary paper should be posted two weeks prior to each class.

**COURSE DIRECTORS:**

Peter Choi, [Choip@email.chop.edu](mailto:Choip@email.chop.edu)  
Kathrin Bernt, [berntk@email.chop.edu](mailto:berntk@email.chop.edu)  
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David Feldser, , [dfeldser@upenn.edu](mailto:dfeldser@upenn.edu)

**Additional attending faculty**

Sandra Ryeom, [sryeom@upenn.edu](mailto:sryeom@upenn.edu)

## CAMB 512 Concepts in Cancer Biology Spring 2020

11:30-1:00PM Thursdays in BRB 253

Thur, Jan 16	T-cell based immunotherapy	Steven Albelda	TR, KB
Thur, Jan 23	Aging and Cancer	Pat Morin	KE, TR
Thur, Jan 30	Cancer Biology in the Post-Genomics Era	Peter Choi	TR, DF
Thur, Feb 6	Functional Genomics- Precision Oncology	David Schultz	PC, KB
Thur, Feb 13	Myeloid cells as targets for cancer immunotherapy	Greg Beatty	TR, PC
Thur, Feb 20	Special Seminar <u>"One Health": Companion Animal Models In Cancer Biology</u>	Guannan Wang	KE
Thur, Feb 27	Cancer Is A Disease Of Development Gone Awry	Ben Stanger	KE, DF
Thur, Mar 5	***** <b>No Class (Spring break)</b> *****		
Thur, Mar 12	Genomic identification of Translocations in cancer	Kris Bosse	DF, KB
Thur, Mar 19	Intro to Cancer metabolism	Katy Wellen	TR, KB
Thur, Mar 26	Tumor Cell Heterogeneity in Cancer	Arjun Raj	KE,
Thur, Apr 2	Standard of Care: Chemotherapy	Frank Balis	PC, DF
Thur, Apr 9	Mechanisms of Resistance*	Andy Minn (3:30-5)	TR, DF
Thur, Apr 16	Cancer Associated Fibroblasts	Ellen Pure	KE, DF
Thur, Apr 23	Angiogenesis and Cancer	Sandra Ryeom	PC, DF
Thur, April 30	Physical Sciences of Cancer	Paul Janmey	KE, TR
Thur, May 7	Cancer and the Microbiome	Joe Zackular	PC, KB