OVERVIEW AND SYLLABUS
CAMB 512 – CONCEPTS IN CANCER BIOLOGY
Spring 2021
11:30-1:00
Thursdays via zoom

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 a unique question to each group. The purpose of the discussion group is to then devise an answer. Each group will have a leader/presenter assigned. 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. Extended absences may effect participation and final grades.

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

COURSE DIRECTORS:

Peter Choi, Choip@email.chop.edu
Kathrin Bernt, berntk@email.chop.edu
Karin Eisinger, karineis@pennmedicine.upenn.edu
Todd Ridky, ridky@pennmedicine.upenn.edu
David Feldser, , dfeldser@upenn.edu

Additional attending faculty

Sandra Ryeom, sryeom@upenn.edu

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Thur, Jan 20	T-cell based immunotherapy	Joe Fraietta
Thur, Jan 28	Aging and Cancer	Pat Morin
Thur, Feb 4	Cancer Biology in the Post-Genomics Era	Peter Choi
Thur, Feb 11	Functional Genomics- Precision Oncology	David Schultz
Thur, Feb 18	Myeloid cells as targets for cancer immunotherapy	Greg Beatty
Thur, Feb 25	Cancer Is A Disease Of Development Gone Awry	Ben Stanger
Thur, Mar 4	Genomic identification of Translocations in cancer	Kris Bosse
Thur, Mar 11	**********No Class (Spring break)**********	
Thur, Mar 18	Intro to Cancer metabolism	Katy Wellen
Thur, Mar 25	Tumor Cell Heterogeneity in Cancer	Arjun Raj
Thur, Apr 1	Autophagy in Cancer	Donita Brady
Thur, Apr 8	Mechanisms of Resistance	Irfan Asangani
Thur, Apr 15	Cancer Associated Fibroblasts	Ellen Pure
Thur, Apr 22	Angiogenesis and Cancer	Sandra Ryeom
Thur, April 29	Physical Sciences of Cancer	Paul Janmey
Thur, May 6	Cancer and the Microbiome	Joe Zackular