CB - CANCER BIOLOGY

CB 7130 Clinical Aspects of Cancer Biology Cr. 1
Cancer Biology Ph.D. students accompany clinicians during rounds in hospital and outpatient clinics, as well as attend clinical conferences, tumor boards and related sessions. Offered for S and U grades only. Offered Spring/Summer.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 7210 Fundamentals of Cancer Biology Cr. 3
The lectures are organized into three thematic blocks including cancer development and pathology, mechanisms of cancer development and progression, and principles of cancer prevention and therapy. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CB 7220 Molecular Biology of Cancer Development Cr. 3
This course will provide a detailed understanding of the molecular mechanisms leading to cancer with emphasis on conceptual foundations and current experimental approaches. The course will include lectures, student-led discussions, and critical reading of literature. Students are required to present and actively participate in discussions. Offered Every Other Fall.
Prerequisite: IBS 7015 with a minimum grade of C and CB 7210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CB 7240 Principles of Cancer Therapy Cr. 2
Continuation of the principles of cancer therapy taught in CB 7210. Concepts relating to tumor biology and the biochemistry and pharmacology of both classic and targeted agents are covered. Offered Every Other Winter.
Prerequisite: IBS 7015 with a minimum grade of C and CB 7210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CB 7300 Special Topics in Cancer Biology Cr. 1-3
This special topics course will provide students with the opportunity for in-depth study of emerging themes and technologies on basic, translational, epidemiologic and clinical topics related to cancer, as well as augment material from other courses in Cancer Biology. Offered Every Term.
Prerequisite: CB 7210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 3 Credits

CB 7410 Cancer Immunology and Immunotherapy Cr. 3
The purpose of this course is to introduce students to fundamental concepts and methodologies in cancer immunology and immunotherapy as well cutting-edge developments in academia and industry in this rapidly progressing field. Upon the completion of the course, the students will become familiar with: how the immune system limits and eradicates cancer; how cancer cells evade immune recognition; how cancer immunity is influenced by host genetics and environmental factors; how cancer immunotherapies are currently performed and monitored in the clinical setting; what are the future developments expected in cancer immunotherapy; and how to critically review the basic and clinical literature in cancer immunology and immunotherapy. Offered Every Other Winter.
Prerequisite: IM 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CB 7430 Cancer Epidemiology Cr. 2
Introduces concepts and methods used in cancer epidemiology research and focuses on the cancer burden in the United States and worldwide, as well as the major causes of cancer. Students will be required to review and provide critical appraisal of selected literature in innovative areas of cancer epidemiologic research. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CB 7460 Mechanisms of Neoplasia: Alterations to Cellular Signaling Cr. 3
This course covers cellular regulatory signal-transduction networks that are often activated inappropriately in malignant cells and impact survival, apoptosis, adhesion, and cell cycle progression. Offered Every Other Fall.
Prerequisite: CB 7210 with a minimum grade of C and IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CB 7500 Introduction to Cancer Biostatistics Cr. 2
This is an introductory masters-level course in biostatistics for students pursing a master's degree in Cancer Biology. The main goal of this course is for the student to be introduced to basic statistical methods utilized in cancer research including experimental design, statistical hypothesis tests, linear regression, and survival analysis. The course will utilize Excel and the PSPP programming environment for instruction. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology; enrollment limited to students in a Master of Science degree.

CB 7510 Journal Club/Seminar Cr. 1
This journal club/seminar format course is required for master's students in the Cancer Biology Graduate Program. Classes will be split between cancer research-focused paper presentations/discussions and seminar presentations. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology; enrollment limited to students in a Master of Science degree.
Repeatable for 2 Credits

CB 7600 Applied Cancer Biostatistics Cr. 2
This course covers concepts and applications of statistical methods and data analysis related to cancer research. Students obtain hands-on exposure to statistical thinking, and data analysis and interpretation through interactive teaching modules. The course enables students to understand basic statistical principles in cancer biology literature, and provides guidance for planning experiments and analyzing data in their own research. Offered Every Other Fall.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 7700 Recent Developments in Cancer Biology Cr. 1
This course is run as a journal club and is designed for students to develop proficiency in critically evaluating original cancer biology literature, to broaden knowledge of current cancer research, and to provide insight into different research strategies. Each student is expected to participate in class discussions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 6 Credits

CB 7710 Individual Studies in Cancer Biology Cr. 1-3
Cancer Biology graduate students pursue experimental research under the guidance of selected faculty. This is the research rotation through which students select their Ph.D. dissertation mentor. Students are required to complete three rotations. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 3 Credits

CB 7800 Rigor and Reproducibility in Cancer Biology Cr. 1
This course will introduce students to basic principles of rigorous and reproducible Cancer Biology research. This includes experimental design and data interpretation, publishing, animal and human research, and other topics relevant to the conduct of research in Cancer Biology. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 7890 Seminar in Cancer Biology Cr. 1
This course provides Cancer Biology students with the opportunity to present their dissertation research to their peers. This class not only provides students with the opportunity to develop their oral presenting skills, but also gives the students a chance to critically evaluate their peers. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 6 Credits

CB 7996 Research Cr. 1-15
Directed study and pre-dissertation research with faculty in the program. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 15 Credits

CB 7999 Master's Essay Cr. 1-4
Review of relevant literature and research summary based on master's research in Cancer Biology. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 4 Credits

CB 8910 Applied Cancer Genomics Cr. 1
This course is designed to provide practical instruction for use of high-throughput technologies and genome-wide data in molecular cancer research. The course will also cover application of transcriptome analysis and single-cell technologies, cancer datasets extraction, databases and visualization tools. Offered Every Other Fall.
Prerequisite: CB 7210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CB 8920 Principles of Translational and Clinical Cancer Research Cr. 1
The goal of this course is for the students to understand the fundamentals of translational and clinical cancer research with emphasis on identifying clinically meaningful research goals and application of laboratory based research into clinical trials. The students will attend a series of lectures from clinical oncology faculty members. Students will work with their clinical mentors to develop translational research projects or correlative end points for a clinical trial concept. Students are expected to present a brief proposal of the project at the end of the course, which will be evaluated by the course director. Offered Fall.
Prerequisite: CB 7310 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 8 Credits

CB 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CB 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CB 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CB 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Course Material Fees: $416.08
Repeatable for 0 Credits