Basic Cancer Biology

Over two-thirds of all people know someone who has cancer. This course aims at providing students with a more extensive understanding of what cancer is and how it affects the human body. We will discuss the history of cancer research, the many different types of human cancers, and basic chemotherapeutics. The topics will be presented in a basic scientific nature with an emphasis on gaining a broad understanding of the subjects.

Classes will consist of a lecture (2 hours) followed by a class discussion of a recent or classic science paper (30 minutes). Students will be graded on two exams (mid-term and final).

Lectures

1. Introduction to Cancer: Getting down to the basics
2. The Discovery of Oncogenes & Tumor Suppressors
3. The Balance of Cell Growth & Death
4. Our Own Genetic Susceptibility
5. Carcinogens, Tumor Progression & Metastasis
6. The Five Horsemen of Human Cancer
7. Mid-Term Exam
8. Childhood Cancers
9. Skin Cancers
10. Carcinomas of the Ovary, Prostate, Lung, and Testes
11. Sporadic & Familial Breast Cancer
12. Brain Tumors
13. Adult Lymphomas, Leukemias and Rare Cancers
14. Chemotherapeutics
15. Final Exam