

MEDI 340: Underlying Genetics of Cancer

Cancer as a genetic disease has been the focus of many cancer researchers of the past decade. Today, with the ability to sequence genomes and analyze our genetic code at extremely high depth, new cancers with underlying genetic predispositions are continuing to be discovered. This course will place a special focus on such cancers, driven either due to hereditary factors (such as familial breast cancer and others) or due to specific genetic aberrations (fusion driven cancers). Students taking this course can expect an in-depth insight to the effect of such genetic aberrations to the onset and development of malignancies in individuals. Throughout, the course aims to provide a framework for better understanding the role of genetics in not just cancer but also human biology.

Learning Objectives

- Explain how certain cancers are driven by hereditary factors and its implications.
- Describe how aberrant genes drive malignant transformation.
- Explain how various signaling cascades affect different aspects of malignancy.
- Develop a theoretical and practical framework on the applicability of this knowledge in therapeutic interventions.

Credits: 2

Class Type: Graduate Course

Prerequisites:

IMMU 101

MEDI 339

The above course(s) with specific knowledge of tumor suppressors, oncogenes and major signaling pathways.

Program: Biology, Genetics, and Medicine

Availability: Spring 2022

Session: Session B