

MEDI 419: Cancer Immunotherapy

Immunotherapy for cancer treatment has become a popular and important topic of study, and has been refined over recent years as our understanding of the interactions between tumors and the immune system improves. This seven week course will provide a brief background of the relationship between tumors, their microenvironment, and the immune system, before diving into the history of the earliest immune therapies, and making our way through the progression and development of newer therapeutic approaches. This course will focus on different ways to train our immune system to recognize and attack cancer cells, including vaccines, chimeric antigen receptor therapy, antibody therapy, adoptive cell transfer, oncolytic viruses, as well as clinical trials and other more theoretical methods which are still being developed with current research. This course will provide a current overview of immunotherapeutic approaches to treating cancer for those with a working knowledge of cancer and immunology.

Learning Objectives

- Describe how the immune system detects tumors, and how cancer cells can evade this detection
- Explain why various mechanisms of immune escape are exploitable with therapeutic targeting
- Discuss the benefits and fallbacks of immunotherapies from past and present
- Demonstrate where the field requires improvement moving into the future

Credits: 2

Class Type: Graduate Course

Prerequisites:

Familiarity with basic immunology is strictly required; prior college-level coursework in immunology is highly encouraged.

Program: Biology, Genetics, and Medicine