

IMMU 325: The Human Microbiome: New Concepts in Health and Disease

Ever wonder whether the latest headlines about 'good bacteria' are true or just hype? This course will cover the science behind the news and will address how the human microbiome is shaping our understanding of health, disease, and medical treatments. Topics will include current technologies being used to study the microbiome, microbial diversity, mucosal immunity and immunotolerance as well as the impact of diet on the microbiome. The course will explore how dysbiosis of the microbiome contributes to human diseases, such as obesity, diabetes, and cancer. Students will discuss how increased understanding of the microbiome impacts our usage of probiotics, prebiotics, and antibiotics. This course is designed for postdoctoral fellows, postbacs, graduate students, and other individuals who are interested in expanding their understanding of the microbiome and probiotics in health and disease. By the end of the course, students should have an understanding of the integral role of the microbiome in promoting human health and of how dysbiosis contributes to disease.

Learning Objectives

- Identify and compare important constituents of the human microbiome ■ Describe technological methods used in microbiome analysis Assess the effects of probiotics and prebiotics on human health and disease Evaluate the contribution of the microbiome in various human disease states

Credits: 1

Class Type: Graduate Course

Prerequisites:

general knowledge of biology or consent of instructor.

Program: Immunology and Microbiology