

MITOCW | MITRES_10_S95F20_0000_300k

PROFESSOR: So welcome to our Massive Open Online Course, 10.S95x, Physics of COVID-19 Transmission.

The course is organized into five chapters. First, transfer of respiratory pathogens, where we will learn about how viral and bacterial diseases are transmitted through the air through aerosol and other types of droplets.

In the next chapter, part two, we will study airborne transmission in a well-mixed room.

We'll analyze the fluid mechanics of droplet transfer between individuals breathing the same air in a room.

And then in the next chapter, we will describe basic models in the field of epidemiology to describe the spread and transfer of disease.

In the next chapter, 4, we will integrate the disease modeling with airborne transmission to arrive at a safety guideline to limit the indoor airborne transmission of COVID-19.

And we will apply it to COVID-19 through analysis of various spreading events.

And then finally, in Chapter 5, we will go beyond the well-mixed room to discuss the fluid mechanics of ventilation and thermal flows and respiratory flows and understand the limitations and extensions of the analysis leading to the safety guideline.