

Our classes are in person.

The syllabus can be found at [website](#); check this syllabus every week for updates to reading assignments.

This graduate course will focus on reinforcement learning (RL) algorithms and sequential decision making methods with special attention to how these methods can be used in digital health. RL is the area of machine learning which is concerned with sequential decision making. We will focus on the areas of sequential decision making that concern both how to select optimal treatment actions as well as how to evaluate the impact of these actions.

Digital health is an area that lies within multiple scientific disciplines including: statistical science, computer science, behavioral science and cognitive neuroscience. This makes for very exciting interdisciplinary science! Smartphones and wearable devices have remarkable sensing capabilities allowing us to understand the context in which a person is at a given moment. These devices also have the ability to deliver treatment actions tailored to the specific needs of users in a given location at a given time. Figuring out when and in which context, which treatment actions to deliver can assist people in achieving their longer term health goals.

Recommended Prerequisites: The equivalent of stat210 and compsci181.

iPad Tablet: Some students will benefit from a tablet and stylus so that they can take notes.

Group assignment can be found [here](#) (updated on Feb 5th, 2024).