

STEVEN HALL: The first problem is right here. I'm going to give you a chance to practice doing a proportional derivative controller. And I've actually written the specifications directly in terms of phase margin and crossover frequency. So you can either imagine that that's the way the specifications are given or that we started with a rise time and peak overshoot and derived these. So your goal is to design a k of s that meets these specifications.

So if everyone could please, form up in groups of two around the room as usual.

I'm Steve Hall, I'm the instructor of 1606, which is Principles of Automatic Control. It's a junior level classical control class, which I've been teaching for about six years. So recitations in 1606 are a little different than most recitations at MIT. In most recitations, the instructor would present a series of problems maybe related to the homework, just to give examples of how the problem should be worked. Sometimes they might have students try some themselves.

In my recitations, it's much more active. Students are always standing up, we work at the board, usually in groups of two. So there might be 10 groups of two spread around the room, each group of two working at a board. A blackboard, a whiteboard, could be a poster board. They're working problems and the TA and I are walking around and helping when we can, answering questions when students have them, and generally just coaching, trying to help the students understand what they're doing and solve the problems. It really is a chance for students to understand what they know and what they don't know and to exercise the skills that they've learned in the class. And if they have problems with those skills, it's a chance for me to help them learn them better.