

To graduate students of ECE about ECE 521

Course ECE 521 Linear Systems and Control will be offered in Fall 2021.

I am encouraging you to take that course.

The subject is a foundation for many other graduate courses in Electrical Engineering.

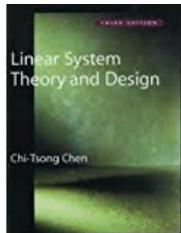
It is a core course for the degree program MS in Electrical Engineering.

ECE 521 is eligible for the PhD TQE exemption. See terms and details in ECE website

(“Outstanding students may be exempt from the TQE if they obtain at least an A in two designated courses”. ECE 521 is one of those courses.)

Course ECE 521 will teach you mathematical and computational tools (MATLAB) needed for control, communications and signal processing. Anyone interested in controlling a robot or designing an algorithm for a self-driving car will need to use principles and tools that are built on the foundation provided by Linear System Theory in the State-Space version. That is what the focus of ECE 521 is. Once you learn this, you will be prepared to take more advanced courses.

The course will teach you modeling of physical systems, concepts of controllability, stability and the design of optimal control and estimation. The course is MATLAB – based and that will provide graphical illustrations of system dynamics. I will be teaching this course using a combination of lectures, computer work in class, and projects. I taught this course several times.



The textbook will be “Linear System Theory and Design” by C.T. Chen, 3rd edition.

It is a nice compact textbook, time-tested at many universities. It includes MATLAB.

[There is a 4th edition, but it is more expensive.].

It is to your advantage to take this course this coming Fall, as this will prepare you for more advanced courses offered in the MS EE program.

Andre Manitius,

Professor, ECE Department