

Course Outline
SE 420: Digital Control Systems
Term: Fall 2023

Instructor: Dušan M. Stipanović

Lectures: Tuesdays and Thursdays 8.00-9:20am in 203 Transportation Building and via Canvas

Office hours: Tuesdays 9:20am-10:20am in 214 TB and via Zoom

Email: dusan@illinois.edu

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Course material: Canvas (<https://canvas.illinois.edu>)

Lab Instructor: Daniel J. Block

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Lab location and hours: 3075 ECE Building, MW 2:00-4:50pm

Teaching Assistant: Saeid Bayat

Email: bayat2@illinois.edu

Text: *Lecture Notes* partially based on *Digital Control of Dynamic Systems*, Third Edition, G. F. Franklin, D. J. Powell, and M. L. Workman, Addison-Wesley, 1998. Pdf of the lecture notes is available and can be downloaded from Canvas (<https://canvas.illinois.edu>).

Topics:

- Introductory Digital Control
- Discrete Systems Analysis
- Sampled-Data Systems
- Discrete Equivalents
- Design Using Transform Techniques
- Design Using State-Space Methods
- Discrete-Time Systems: Special Topics

Grade composition (subject to changes):

- One midterm exam on Thursday 10/12/2023, 15%.
- Final exam: 30%.
- Homework problems: 35%.
- Lab assignments: 20%.

Fall 2016 lecture video recordings: available via Canvas

General information: Late assignment submissions will not be accepted, in general.