

EE 3202: Signals and Systems - I

Time: TTh 9:35-10:50am.

Room: 633 Mudd.

Text: B.P. Lathi, *Signal Processing and Linear Systems*, Berkeley-Cambridge Press, 1998.

Prerequisite: EE 3201 or consent of instructor. Corequisite: Math 1210.

Instructor: X. Wang (Email: wangx@ee.columbia.edu, Phone: 854-6592).

Office Hours: Thursday 4:00 – 6:00pm, 717 Schapiro.

Grading:

$$\begin{aligned} \text{Numeric Grade (NG)} &= \text{homework} \times 20\% + \text{1st midterm} \times 20\% + \text{2nd midterm} \times 20\% + \text{final} \times 40\% \\ \text{Letter Grade} &= \begin{cases} A^+ : 95 - 100; & A : 90 - 94; & A^- : 85 - 89; \\ B^+ : 80 - 84; & B : 75 - 79; & B^- : 70 - 74; \\ C^+ : 65 - 69; & C : 60 - 64; & C^- : 55 - 59; \\ D^+ : 50 - 54; & D : 45 - 49; & D^- : 40 - 44; \\ & F : 0 - 39. \end{cases} \end{aligned}$$

Course Outline:

1. Introduction.
2. Time-domain analysis of continuous-time systems.
3. The Fourier series and Fourier transform.
4. Frequency-domain analysis of continuous-time systems.
5. The Laplace transform and the transfer function representation.
6. State-space representation and analysis.

References:

1. E.W. Kamen and B.S. Heck, *Fundamentals of Signals and Systems*, 2nd Ed., Prentice Hall, 2000.
2. Ziemer, Tranter, and Fannin, *Signals and Systems: Continuous and Discrete*, 4th ed., Prentice-Hall, 1998.
3. Jackson, *Signals and Systems*, Addison-Wesley, 1991.
4. Chen, *Systems and Signal Analysis*, 2nd ed., Oxford, 1994.
5. Haykin and Van Veen, *Signals and Systems*, Wiley, 1999.
6. Philips and Parr, *Signals, Systems, and Transforms*, 2nd ed., Prentice-Hall, 1999.
7. Carlson, *Signal and Linear System Analysis*, Wiley, 1995.
8. Soliman, *Continuous and Discrete Signals and Systems*, 2nd ed., Prentice-Hall, 1998.
9. Denbigh, *System Analysis and Signal Processing*, Addison-Wesley, 1998.
10. Lindner, *Signals and Systems*, WGB McGraw-Hill, 1999.
11. Oppenheim and Wilsky, *Signals and Systems*, 2nd ed., Prentice-Hall, 1997.