Rutgers University, Department of Electrical and Computer Engineering

332:345 — Linear Systems and Signals — Fall 2004

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Office Hours: M3, Th3
Text: Zoran Gajic, *Linear Dynamic Systems and Signals*, Prentice Hall, 2003
Class Home Page:: http://www.ece.rutgers.edu/~gajic/345.html
Teaching Assistants: See 332:347 Lab Syllabus
Laboratory: See 332:347 Lab Syllabus

MEETING	TOPICS	TEXT
1–2	System linearity and time invariance, system response, sampling, system classification	1.1, 1.2, 1.4
3–4	Common signals and impulse delta signal	2.1–2.3
5	Fourier series	3.1
6–8	Fourier transform and its properties	3.2
9	Fourier transform in linear system analysis	3.3
10	Fourier series in linear system analysis	3.4
11	**Exam I**	
12	Laplace transform and its properties	3.5, 4.1
13–14	Inverse Laplace transform	4.2
15	Laplace transform in linear system analysis	4.3
16–17	The Z-transform and its properties	5.1–5.2
18	The Z-transform in linear system analysis	5.3
19	**Exam II**	
20–21	Continuous-time convolution	6.1, 6.2
22	Discrete-time convolution	6.3–6.4
23–26	Introduction to state space analysis	8.1–8.3
27–28	Introduction to linear feedback systems	12.1, 12.3

Grading:
Exam I (Chapters 1–3) = **35%**, Exam II (Chapters 4–5) = **30%**, Final Exam (Chapters 6, 8, 12) = **35%**
$A \geq 90,\ B^+ \geq 82,\ B \geq 75,\ C^+ \geq 67,\ C \geq 60,\ D \geq 50.$

Homework Problems:
1.2, 1.9, 1.10, 1.14, 1.19. (5)
2.4, 2.6, 2.8, 2.20, 2.21, 2.22, 2.26, 2.29, 2.30, 2.38. (10)
3.1, 3.3, 3.6, 3.8, 3.10, 3.11, 3.12, 3.13, 3.18, 3.20, 3.23, 3.24, 3.25, 3.34, 3.37, 3.39, 3.41. (17)
4.7, 4.8, 4.9, 4.11, 4.13, 4.14, 4.16, 4.20, 4.22, 4.25, 4.26, 4.27, 4.28, 4.30, 4.33, 4.37, 4.39, 4.40. (18)
5.4, 5.5, 5.6, 5.7, 5.8, 5.11, 5.12, 5.13, 5.14, 5.15, 5.21, 5.23, 5.24, 5.25, 5.29, 5.33, 5.34, 5.38. (18)
6.2, 6.4, 6.5, 6.6, 6.9, 6.12, 6.14, 6.15, 6.16. (9)
8.3, 8.5ab, 8.6ab, 8.7ab, 8.11, 8.12, 8.13, 8.16, 8.17, 8.21, 8.24 (11)
12.1, 12.2, 12.3, 12.4, 12.12, 12.13, 12.14, 12.15, 12.16 (9)