FALL 2016

EE301

Introduction to Linear Systems

Dr. Jonckheere

This is an introductory course on signals and linear systems. Signals are the fundamental primitive concept; systems will be defined as devices mapping an "input signal" to an "output signal." Formulation will be both continuous-time and discrete-time. Sampled data signals will also be covered. We will begin with Fourier analysis of signals over the doubly infinite time $(-\infty,+\infty)$ interval and then proceed to Laplace analysis of signals over the semi-infinite interval $[0,\infty)$. As illustrative applications, we will discuss surface electromyographic (sEMG) and cardiac (ECG) signals.

Instructor

Dr. E. Jonckheere
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Meetings

Tu. & Th.
11:00-12:20
ZHS 252

Office hours

Tu. & Th. 1:30-3:30 p.m.

Discussions /Labs

Good news: A third discussion session/Lab session has just been added

???	???	Lab	12:00-1:50 pm	Wednesday	???	OHE230
30459R	001	Lab	4:00-5:50 pm	Wednesday	45 of 45	OHE230
30541R	001	Lab	6:00-8:00 pm	Wednesday	31 of 45	OHE230

Teaching Assistants

Miguel Moscoso
EEB403
Office hours: Mo, 9:00-11:00 a.m.
mmoscoso@usc.edu

Wayne Weiyi Chen
EEB 412
(213) 740-4125
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Office hours: Wed, 2:00-4:00 p.m.

Pavez Carvelli, Eduardo Hernan
EEB441
Office hours: Tu, 4:00-6:00 o.m.
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Graders

Yihao Xia
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Jieshen Chen
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Grading policy

100% if method is correct and result is correct
50% if method is correct but result wrong

Here I want to emphasize that it is important to get the correct result. It is not good enough to have an embryonic solution. I'll make sure that numerics the midterms/finals are easy

In case of grading dispute, please, try to resolve the issue with the grader. If you cannot reach an agreement with the grader, then you come to me for arbitration.

Format

One **homework** per week; posted on the blackboard on Thursday evening and due following Thursday;
two midterms (Th. September 22 and Th. October 27);
one final (Tuesday, December 13, 8-10 a.m.)

Homework collection policy

For reasons I explained in class, I want *all* homework to be on my desk before class starts. The grader will then come to pick them up soon after class starts. So, be on time!

Weights

homework	10%
Midterm 1	20%
Midterm 2	20%
Final	50%
total	100%

Textbook

Alan V. Oppenheim,
Alan S. Willsky,
Signals & Systems, 2nd Edition,
Prentice Hall Signal Processing Series,
1983
ISBN 0-13-814757-4

Topics & Schedule

Topics	Chapters in textbook	Schedule
Signals and Systems	1	09/2016
Convolution	2	09/2016
Fourier Series	3	09/2016
Continuous-Time Fourier Transform	4	10/2016
Discrete-Time Fourier Transform	5	10/2016
Sampling	7	11/2016
The Laplace transform	9	11/2016
The z-Transform	10	11/2016
Special Topics	8 and/or 11	12/2016

Relevant to signals over $(-\infty,+\infty)$
Relevant to signals over $[0,+\infty)$
Relevant to both classes of signals

Cell phone policy

Students are kindly asked to refrain from using cells phone during class and turn them off before class starts. If a student needs to have his (her) cell phone on because of a potential emergency or other urgent matter, please ask instructor's approval to keep your cell phone on.

Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards*https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct/.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* http://equity.usc.edu/ or to the *Department of Public Safety* http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men* http://www.usc.edu/student-affairs/cwm/ provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* http://dornsife.usc.edu/ali, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.htmlprovides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information http://emergency.usc.edu/*will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.