

EE2000: SIGNALS AND SYSTEMS

LECTURE #0

Introduction to Signals and Systems

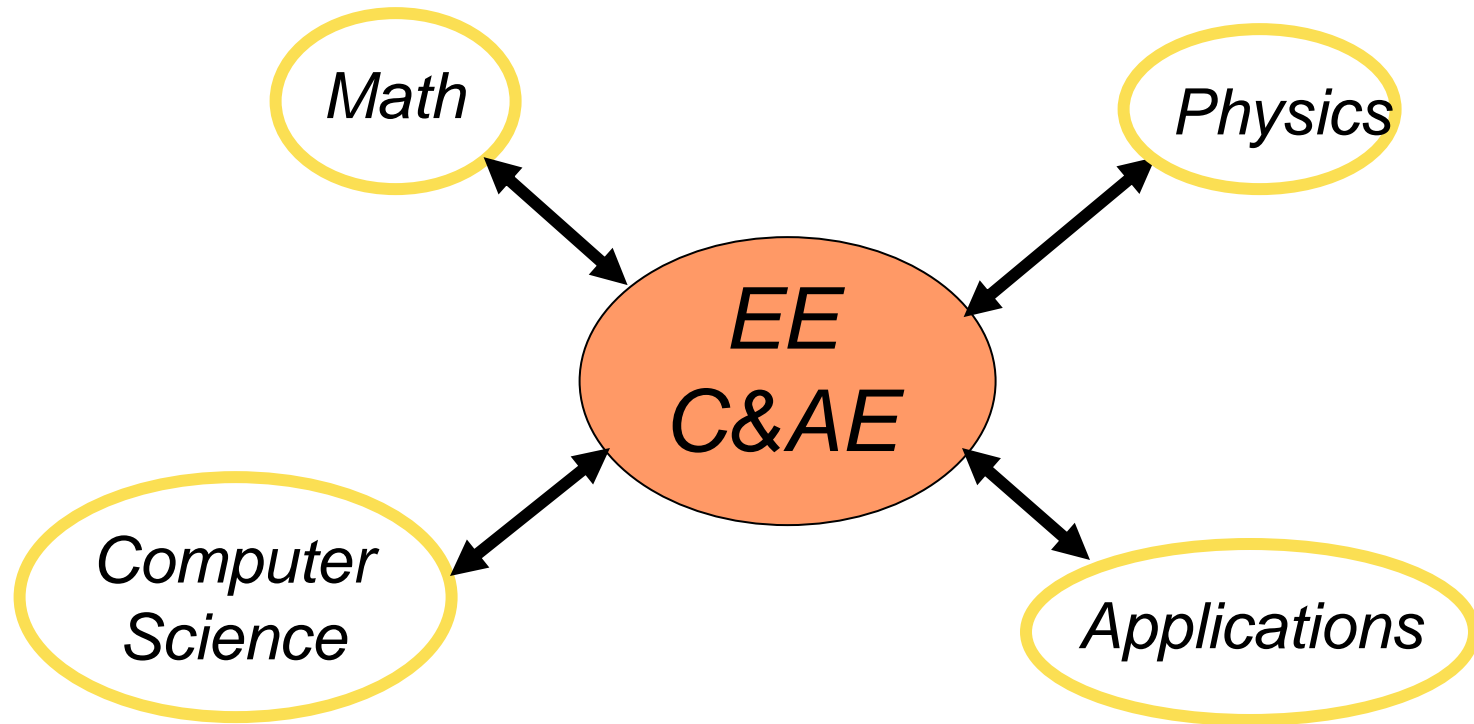
Reading Assignments

- This Lecture:
 - EE2000 General Information,
 - Introduction to Signals and Systems
- Reading:
 - Signals and system and digital technologies
Chapter 0: Sec. 0.1 and 0.2 [2]
 - Introduction to MATLAB
Chapter 0: Sec. 0.5 [2]

Course Objective

- This course develops the student's understanding of mathematical transform techniques and their use in modeling the behavior of both continuous-time and discrete-time systems.
- It also develops the students' ability to apply system concepts and transform techniques in formulating and solving engineering problems

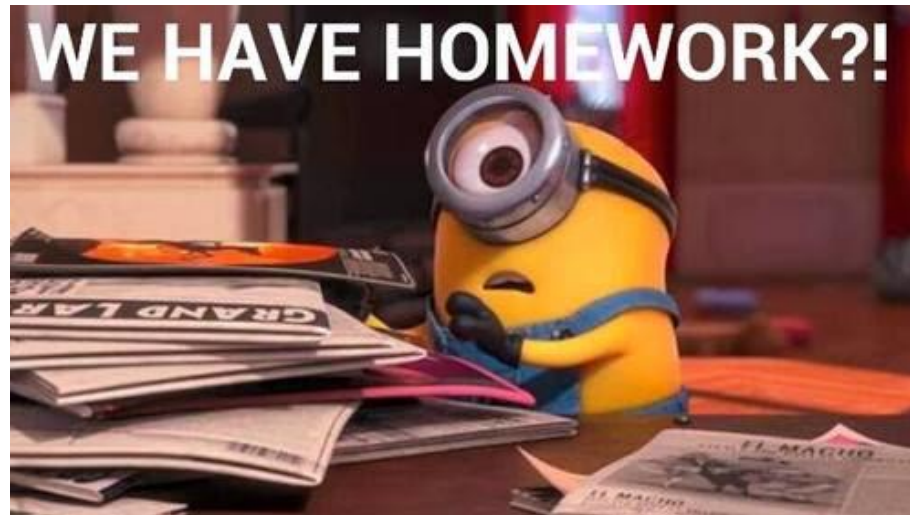
Converging Fields



Signals and systems provide a unifying language across fields.

Course information

- Lecture: about 15 lectures for 6 chapters
- Homework: 14 assignments
 - assigned weekly (except the first week) but NOT be graded
 - encouraged to work on groups of 3-4



Course information

- Labs: 3 lab sessions with Matlab
- Where: Engineering practice center, Bldg. A Nguyen Hien st.
- Lab report must be turn in on Fri, Jan 1, 2021
- You may discuss with others, but
 - turn in your own assignment,
 - discuss, but do your own work.
 - lab report found to be too similar (practically identical) will be given a zero score for all parties involved.

Textbook:

- [1] Jingxian Wu (2020). Systems and Signals. ELEG3124 Lecture Slides. University of Arkansas.
- [2] Luis F. Chaparro (2011). *Signals & Systems Using MATLAB*. Academic Press.

Reference book:

- [2] B.P. Lathi, *Linear Systems and Signals*, 2nd Ed. Oxford University Press, 2005.

Grading

- Midterm 30%
 - Midterm #1 (45 min, In class): taken from the HW
 - Midterm #2 (45 min, In class): taken from the HW
 - No makeup quizzes, except in extraordinary circumstances,
- Labs 20%
- Final 50%,

Resources

Course materials (Slides, Homework, Lecture Notes, Labs, etc) can be found at:

<https://bit.ly/32xEwCI>

Tentative schedule

- Week 2: Ch. 1 Continuous-Time Signals
- Week 3: Ch. 1 Continuous-Time Signals
- Week 4: Ch. 2 Continuous-Time Systems
- Week 5: Ch. 2 Continuous-Time Systems
- Week 6: Ch. 2 Continuous-Time Systems (**Midterm #1**)
- Week 7: Ch. 3 Fourier Series
- Week 8: Ch. 3 Fourier Series
- Week 9: Ch. 3 Fourier Series

Tentative schedule

- Week 10: **Mid-term break**
- Week 11: Ch. 4 Fourier Transform
- Week 12: Ch. 4 Fourier Transform (**Midterm #2**)
- Week 13: Ch. 5 Laplace Transform
- Week 14: Ch. 5 Laplace Transform
- Week 15: Ch. 5 Laplace Transform
- Week 16: Ch. 6 Discrete-Time Signals and Systems
- Week 17: Review

The above schedule is subject to change without prior notice.

Work hard



Instructor Introduction



Dr. Do Thi Tu Anh

- **Education**

- B.S. in Automatic Control: Hanoi University of Science and Technology
- M.Eng. in Control Engineering: Chulalongkorn University, Thailand
- Ph.D. in Control Engineering and Automation: Hanoi University of Science and Technology

- **Teaching Experience**

- Signals and Systems
- Automatic control theory I&II
- Introduction to Electrical Engineering

A young girl with brown hair in two braids is lying on her stomach in a lush green field. She is holding a magnifying glass over a small green plant. A single yellow dandelion is visible in the grass to her right. The background is a soft-focus green field.

An investment in knowledge
pays the best interest.

Benjamin Franklin

@NetvestInsight

Getting to know you



http://butchbellah.com/wp-content/uploads/2012/08/get_to_know_your_audience.jpg

Thảo luận theo cặp

1. Theo nhóm em, làm thế nào để có thể đạt được điểm B+ trở lên cho môn học này?
2. Theo nhóm em, làm thế nào để việc tự học đạt hiệu quả?
3. Theo nhóm em, các kĩ năng làm việc nhóm bao gồm những kĩ năng gì?





SPECIFIC



MEASURABLE



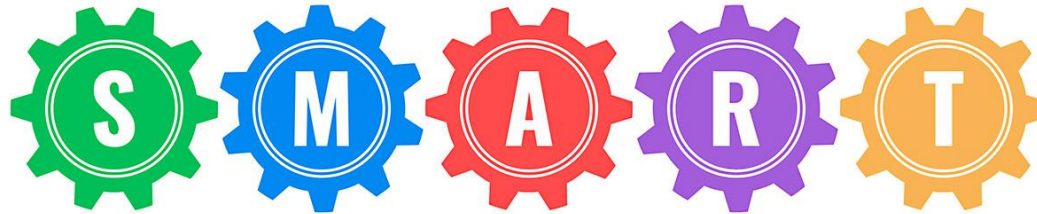
ACHIEVABLE



RELEVANT



TIME-BOUND



SPECIFIC

MEASURABLE

ACHIEVABLE

RELEVANT

TIME-BOUND

Hãy viết xuống 3 mục tiêu SMART của em từ nay đến hết học kỳ 20201 (hết tháng 1/2021).