



Course title and number	Introduction to Electronic Noise, ECEN-489
Term (e.g., Fall 200X)	Fall 2017
Meeting times and location	2 x 75 minutes, weekly

Course Description and Prerequisites

Surveying the elements of electronic noise including concept, theory, measurements, analysis and design. Focusing on creative pictures and examples.

Prerequisites: ECEN 214 with a grade of C or better; junior or senior classification.

Learning Outcomes

After successful completion of this course the students will be able to:
Understand basic notions and tools of noise analysis and design;
Carry out the noise analysis of a circuitry;
Design simple schemes to measure voltage of current with the required accuracy;
Characterize the noise bandwidth and noise factor of an amplifier.

Instructor Information

Name	Laszlo Kish
Telephone number	847-9071
Email address	Laszlo.Kish@ece.tamu.edu
Office hours	1 hour after classes; or ad-hoc; or appointment
Office location	WEB 235 E

Textbook and/or Resource Material

Electronic handouts (*without problem solutions*) are provided. Together with the notes taken during class attendance, the material is sufficient for preparation.
Textbook (optional): C.D. Motchenbacher, J.A. Connelly, Low-Noise Electronic System Design (Wiley and Sons)

Grading Policies

First exam 40% (7th week)
Second exam 40%, (final week)
Homework (20%), HW must be submitted during the first class of the week.
Missed HW, *or late by more than a week* without authorization: 0%,
Late HW, *by less than a week*, without authorization: -20%
Bonus up to 10%, via activity at class: questions (crazy ones, too!), comments, answers, solutions, etc.

A: $\geq 90\%$
B: 80-89.9999%
C: 60-79.9999%
D: 40-59.9999%
F: $< 40\%$

Attendance and Make-up Policies

Attendance is not compulsory but highly recommended because problems solutions are given only during class on the whiteboard. Students with authorized absence from exams will be able to write a make-up exam, which will have no overlap with the original exam.

(See website link to student rule 7 <http://student-rules.tamu.edu/rule07>).

Course Topics, Calendar of Activities, Major Assignment Dates

Week	Topic	Required Reading
1	Noise vs. signals	handouts
2	Statistics, correlation, spectrum	handouts
3	Spectral changes in linear systems	handouts
4	Thermal (Johnson) noise	handouts
6	Shot noise	handouts
7	Midterm exam preparation and exam	
8	1/f noise	handouts
9	Circuits with multiple noise sources	handouts
10	Noise bandwidth	handouts
11	Noise in devices and amplifiers	handouts
12	Noise figure	handouts
13	Noise measurements and analysis	handouts
14	Second exam preparation and exam	

Other Pertinent Course Information

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services in 701 West Campus Blvd, 1224 TAMU, College Station, Texas 77843-1224, or call 845-1637. For additional information visit <http://disability.tamu.edu>.

Academic Integrity

For additional information please visit: <http://aggiehonor.tamu.edu>

“An Aggie does not lie, cheat, or steal, or tolerate those who do.”

