LECTURES: MW 10:00-11:50 am
Room: ALS 4001

INSTRUCTOR: Gabor C. Temes, Professor
3091 Kelley Eng. Ctr.
temes@eecs.oregonstate.edu

OFFICE HOURS: MW 14:00-15:00 pm

PREREQUISITE: Graduate standing in ECE

TA: Vadakkan Kayyil, Ajmal <vadakkaa@oregonstate.edu>;
Hu, Hang <huhan@oregonstate.edu>

TA Office Hours: Thursday 3-4:30 pm(Kelley Atrium)
Friday 3-4:30 pm(Kelley Atrium)

Class Webpage: http://classes.engr.oregonstate.edu/eecs/fall2019/ece580/

TEXT: Lecture notes will be posted on the Web. Parts of the following books will be used:


(Note: It is not necessary to acquire these books. Most are out of print. Lecture notes will be posted on the class website.)

MATERIAL TO BE COVERED (if time permits):

· Network classification: linear/nonlinear, time-varying/invariant, active/passive, lossy/lossless, reciprocal/nonreciprocal, lumped/distributed, dynamic/memoryless, sampled-data/continuous-time networks. Definitions useful in all discussions involving circuits.

· Networks components: R, L, C elements; ideal/perfect/real transformers; op-amps; gyrators; independent/dependent sources. Definitions useful in all discussions involving circuits.

· Network analysis: the incidence matrix; branch relations; nodal analysis; two-port parameters; multiport networks; multiport parameters; scattering relations and parameters; transfer functions; sensitivity analysis. The basis of computer-aided and paper-and-pencil circuit analysis of passive, active R-C, Gm-C and switched-capacitor filters.

· Network synthesis: approximation theory for continuous-time and sampled-data filters; the design of passive, active R-C, Gm-C and switched-capacitor filters. The basics of active, passive and sampled-data analog filters.

MIDTERM EXAMINATION: Wednesday, Oct. 23, 10 - 11:50 am.

FINAL EXAMINATION: Thursday, December 12, 6 - 8 pm.