LECTURES: MW 10:00-11:50 am, in KEC 1003.
https://oregonstate.zoom.us/j/99305549665?pwd=VnZPRzc0VC9aMzVTK2JxS0dNUUljdz09

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

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

PREREQUISITE: Graduate standing in ECE

Website: https://classes.engr.oregonstate.edu/eecs/fall2021/ece580

TA: Manxin Li <liman@oregonstate.edu>

TA Office Hours: TF 13:30-14:30 pm, in class zoom room

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. 20, 10:00 - 11:50 am.

FINAL EXAMINATION: Tuesday, Dec. 7, 9:30 – 11:30 am.
Note: The university has a requirement to use a face covering when in indoor spaces in order to contribute to the health and safety of the OSU community during the ongoing COVID-19 pandemic. Accordingly, you are expected to use a face covering when attending class. Please contact me before class if you have concerns with meeting this expectation. I encourage you to review the Policy yourself, to understand the university’s expectations around the use of face coverings outside the classroom, OSU’s Vaccination requirement, and OSU’s isolation and quarantine requirements.