

EE/CE 2301 Course Syllabus

Course Information

Course Prefix, Number, Section: EE/CE 2301 – 002 & 501
Course Title: Electrical Network Analysis
Credit Hours: 3 semester hours
Term: Spring 2026
Class Time: Sec. 002: 11:30am - 12:45pm, Tu & Th (1/20-5/8)
Sec. 501: 5:30pm - 6:45pm, Tu & Th (1/20-5/8)
Class Website: www.utdallas.edu/~chiu.yun/courses/2301

Note: we will use the course web, updated weekly, to distribute all information about the class including homework assignments, readings, lecture notes, etc. – eLearning will be used ONLY for grades distribution.

Contact Information

Instructor: Professor Y. Chiu
E-Mail: chiu.yun@utdallas.edu
Office hours: 12-2pm, Fri, in ECSN 3.602

002 TA(s): TBD
002 E-Mail(s): TBD
002 Office hours: TBD

501 TA(s): TBD
501 E-Mail(s): TBD
501 Office hours: TBD

Course Pre-requisites, Co-requisites, and/or Other Restrictions

MATH 2420 (Differential Equations) & PHYS 2326 (E&M)

Course Description

Analysis of resistive networks, nodal and mesh analyses, steady state and transient analysis of linear time-invariant (LTI) circuits, dynamic behavior of LTI circuits under sinusoidal excitation in steady state, frequency domain analysis of LTI circuits using Laplace Transform techniques, multi-port circuit elements, and frequency-selective circuits. Students will also simulate circuits with either PSpice or LT Spice simulators (optional, but highly recommended).

Student Learning Objectives/Outcomes

C356 - Ability to use Kirchoff's laws to analyze electric circuits
C358 - Ability to analyze resistive circuits; generalize to impedance
C360 - Ability to analyze circuit using nodal and mesh methods
C362 - Ability to analyze circuits using Thevenin and Norton Equivalent circuits
C364 - Analyze multi-port elements, including the operational amplifier and transformers
C365 - Ability to analyze time invariant circuits in time domain
C366 - Ability to analyze linear time invariant circuits in frequency domain

Assignments & Academic Calendar

Date		Chapter	Topic	Week
1/20	1/22	1, 2	Introduction, voltage & current sources, power, energy <u>(HW #1 assigned on 1/23, Th, due on 2/7, F)</u>	1
1/27	1/29	3	Ohm's law, series & parallel circuits, voltage & current dividers	2
2/3	2/5	4	Kirchoff's laws, node & mesh analyses <u>(HW #2 assigned on 2/6, Th, due on 2/21, F)</u>	3
2/10	2/12	4	Thevenin & Norton equivalent circuits	4
2/17	2/19	/	Recitation & SPICE tutorial (by TA) Exam 1	5
2/24	2/26	5	Operational amplifiers (op amps) <u>(HW #3 assigned on 2/27, Th, due on 3/14, F)</u>	6
3/3	3/5	6	Energy storage elements (inductors, capacitors)	7
3/10	3/12	7	1st-order RL & RC circuits, natural & step responses <u>(HW #4 assigned on 3/13, Th, due on 4/1, T)</u>	8
3/17	3/19	/	Spring break	9
3/24	3/26	7	1st-order RL & RC circuits (continued)	10
3/31	4/2	/	Recitation & SPICE tutorial (by TA) Exam 2	11
4/7	4/9	8	2nd-order RLC circuits, under, over & critical damping <u>(HW #5 assigned on 4/8, T, due on 4/22, T)</u>	12
4/14	4/16	8, 9	2nd-order RLC circuits (continued) Sinusoidal steady-state analysis, phasor, impedance	13
4/21	4/23	9	Sinusoidal analysis (continued), ideal transformers <u>(HW #6 assigned on 4/22, T, due on 5/6, T)</u>	14
4/28	4/30	12	Laplace Transform and properties <u>(HW #7 assigned on 4/29, T, not to be collected)</u>	15
5/5	5/7	13	Circuit analysis using Laplace Transform Frequency selective circuits, filter basics (time allows)	16
TBD		/	Final exam (TBD)	17

Required Textbooks

Nilsson and Riedel, *Electric Circuits*, 11th Ed., Prentice Hall.

Course Materials

Course handouts (posted periodically on the course web)

Grading Policy

Homework:	25%	biweekly, 7 assignments total
Exam 1:	20%	2/24, in class
Exam 2:	20%	3/31, in class
Final Exam:	35%	university schedule
Total:	100%	

Course & Instructor Policies

Homework assignments and exams must be individually done by each student without collaboration with others. **Late homework will not be allowed.**

Note: make sure you **upload your work by noon/12pm on the due date.** Any submission after noon/12pm will be considered late. **Make sure your submission file name is last name first name HW#. Make sure your name and student ID are clearly shown on your submitted homework.**

Off-campus Instruction and Course Activities

None

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

“As a Comet, I pledge honesty, integrity, and service in all that I do.”

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.