

# Circuit & Lab 2019 Spring

3 Credit Hours

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TA : ?

Office Hours: Mon 12:00-1:30, Thu 9:00-10:30

## Textbook:

1. Nilsson & Riedel, Electric Circuits (10th Ed.), Prentice Hall, 2014.
2. Robert L. Boylestad and Louis Nashelsky, Electronic Devices and Circuit Theory (11th Ed.), Pearson, 2013.

## Reference Books (internet: Library Genesis - <http://gen.lib.rus.ec/>)

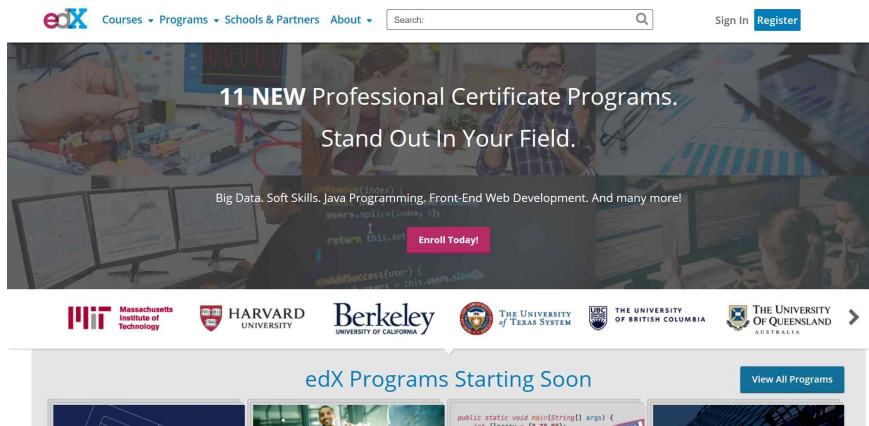
1. Rizzoni, Principles & Applications of Electrical Engineering (6th Ed.) McGraw-Hill, 2015.
2. Rizzoni, Principles & Applications of Electrical Engineering (5th Ed.) McGraw-Hill, 2007.
3. Hayt, Kemmerly and Durbin, Engineering Circuit Analysis (8th Ed.), McGraw-Hill, 2012.
4. Floyd & Buchla, Electronics Fundamentals - Circuits, Devices and Applications (8 Ed.), Pearson, 2014.
5. David Buchla, Experiments in Electronics Fundamentals and Electric Circuits Fundamentals: To Accompany Floyd, Electronics Fundamentals and Electric Circuit Fundamentals, Prentice Hall, 1999.
6. Boylestad & Kousourou, Laboratory Manual to Accompany Introductory Circuit Analysis (12th Ed.), Pearson, 2010.

## PSpice (A Circuit Analysis Software)

1. PSpice OrCAD 16.6/17.2 Lite Download  
<https://www.orcad.com/resources/download-orcad-lite?downloadrequestsuccess=true>
2. See youtube (find pspice 16.6) or Google  
pspice+16.6+tutorial, pspice+17.2+tutorial, pspice+tutorial

## REFERENCES in the Internet

### 1. edX.org ( <https://www.edx.org/> )



### 2. MIT OpenCourseWare (OCW)

<http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/>



### 3. Library Genesis ( <http://gen.lib.rus.ec/> )

(You can download many books from this site.)

The screenshot shows the Library Genesis website interface. At the top, there's a navigation bar with links: RU, FORUM, DOWNLOAD, UPLOAD, LAST, OTHERS, TOPICS. Below this, the site name 'Library Genesis<sup>2M</sup>' is displayed. A message states: 'LG community forum has moved to forum.mhut.org! Letter of Solidarity'. A search bar contains the text 'circuit theory'. Below the search bar, there are options for 'Search in:' (LibGen (Sci-Tech), Scientific articles, Fiction, Comics, Standards, Magazines) and 'LibGen Search options:' (Download type, View results, Results per page, Search with mask, Search in fields). The search results are displayed in a table with columns: ID, Author(s), Title, Publisher, Year, Pages, Language, Size, Extension, Mirrors, and Edit. The table lists several books related to circuit theory, including 'Spectral, Convolution and Numerical Techniques in Circuit Theory' by Foad Badrieh, 'Electrical Circuit Theory and Technology' by John Bird, and 'Electronic devices and circuit theory' by Boylestad, Robert; Nashelsky, Louis.

ID	Author(s)	Title	Publisher	Year	Pages	Language	Size	Extension	Mirrors	Edit
2250012	Foad Badrieh	Spectral, Convolution and Numerical Techniques in Circuit Theory [1st ed.] 978-3-319-71436-5, 978-3-319-71437-0	Springer International Publishing	2018	XXVIII, 976	English	48 Mb	pdf	[1] [2] [3] [4] [5] [edit]	
4642576	John Bird	Electrical Circuit Theory and Technology [6 ed.] 9781115561909	Routledge	2017	046	English	13 Mb	pdf	[1] [2] [3] [4] [5] [edit]	
1616144	John Bird	Electrical Circuit Theory and Technology [899]	Routledge	2017		English	35 Mb	pdf	[1] [2] [3] [4] [5] [edit]	
2131965	John O Bird	Electrical Circuit Theory and Technology, 6th ed. [6ed.] 1158073494, 978-1-158-67349-6, 9781317202806, 1317202805, 978-1-315-36192-9	Routledge	2017	858	English	28 Mb	pdf	[1] [2] [3] [4] [5] [edit]	
1421235	Goyal, Magh R.; Mansour, Hani A. A	Research advances in sustainable micro irrigation volume 7 Closed Circuit Trickle Irrigation Design: Theory and Applications 978-1-4987-2497-1, 149872497X	CRC Press LLC; Oakville	2015	430	English	10 Mb	pdf	[1] [2] [3] [4] [5] [edit]	
1310108	Vlach, Jiri	Linear Circuit Theory: Matrices in Computer Applications 9781926895611, 9781482219616, 1482219611, 9781482225996, 1482225996, 9781482233009, 1482233003, 1916995614	Apple Academic Press	2014	464	English	14 Mb	pdf	[1] [2] [3] [4] [5] [edit]	
2256541	Boylestad, Robert; Nashelsky, Louis	Electronic devices and circuit theory [11. ed., Pearson new international ed.] 9781292025638, 1292025638	Pearson	2014	922 Se	English	56 Mb	pdf	[1] [2] [3] [4] [5] [edit]	
1285907	John Bird	Electrical Circuit Theory and Technology [5 ed.] 0415663869, 9781406501096	Routledge	2013	784	English	6 Mb	pdf	[1] [2] [3] [4] [5] [edit]	
2136794	Robert L. Boylestad, Louis Nashelsky	Instructors Solution Manual Electronic Devices and Circuit Theory [11th ed.] 9780132783736, 0132783738	Pearson Prentice Hall	2013	213	English	3 Mb	pdf	[1] [2] [3] [4] [5] [edit]	

### 4. Edison Tech Center

<http://www.edisontechcenter.org/HallofFame.html>

### 5. Search “electric circuit” or “electronic circuit” in the Google or Youtube.

Differences

Digital Logic Circuits, Electric Circuits, Electronic Circuits

What we will study in the Circuit and Lab course

Analog Hardwares	1. Electric Circuits
	2. Electronic Circuits
	3. Experiments
	4. PSpice (version 16.6/17.2)

- ※ 1972: SPICE (Simulation Program with Integrates Circuit Emphasis)
  - University of California at Berkeley (for big computers)
- ※ 1984: PSpice (Professional SPICE)
  - MicroSim (for personal computers)
  - Now, OrCAD

## Speed of Lectures

Very Fast!!! Not Easy Course

CSE students can drop out because of a selective course..

ICE (must take), CSE (may or may not take)

Grading

Midterm Exam	40 %
Final Exam	40 %
Attendance	10 %
Homeworks	10 %

A:  $20 \pm 5$  %    B:  $30 \pm 5$  %    C:  $30 \pm 5$  %    D&F:  $20 \pm 5$  %

## Homework Policies

- All homeworks must be done by yourselves.  
(Do not copy, please. If copy, you will get ZERO.)
- Upload homeworks on the eclass within the first due dates.  
(within the second due dates : 80%)

# How to Study

- If you have any question :
  1. Read textbooks and reference books thoroughly FIRST.
  2. THINK, THINK, THINK.
  3. Try to get solutions by yourself.
  4. THINK, THINK, THINK.
  5. Get some information from internet.
  6. THINK, THINK, THINK.
  7. Discuss with your friends.
  8. THINK, THINK, THINK.
  9. Try to get solutions by yourself, again and again.
  10. THINK, THINK, THINK.
  11. Use the Q&A in the e-class or go to the professor's office.

BEFORE THINKING, DO NOT ASK .....

MUST change the studying method

(You are not a high school student, but a university student.)