

ECE282 Circuits 1  
Summer 1998  
11:00 - 12:00 Daily - 310 WH

**Instructor** : Mohammad Tamimi  
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**Office hours** : 3:00 - 4:00 MTWTH  
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**Text book:** Electric Circuits  
Fifth Edition  
James W. Nilsson and Susan A. Riedel

**Prerequisites:** The prerequisite for this course is Math 242, or equivalent course at another university, or approval of the instructor. By continued enrollment in this class you are certifying that you have met the prerequisite.

**Exams:**

Exam 1	Ch.1, Ch.2 & Ch.3.
Exam 2	Ch.4 & Ch.6.
Exam 3	Ch.9 & Ch.10.
Exam 4	Ch.11

**Grades:** There are a total of 550 points for this course allocated as follows:

5,5,5,5	Exam 1,2,3 & 4 (100 pt's each)	400 pt's	→ 92.66%	278/300
	Labs	80 pt's		69/80 (?)
	Homework	70 pt's		47.6/60
			Me	57.9/60

How to login to the LAN  
Enter KXISHIKA.me  
Enter (SSN) (@digits)  
Change password (11)/(11)

H. Drive > Cd EE1 / EBDEC  
H\EE1> netwin (go to win)  
To log off → bye or logoff

A letter grade will be assigned after the final exam based on the points you earned as follows:

495 or up	A	90% ↑
440 - 494	B	
385 - 439	C	
330 - 384	D	
329 or below	F	

**Note: partial credit is a professional judgment of the instructor and is not subject to negotiation.**

**Homework:**

Please follow these rules:

- 1) Do your work on one side of the solution paper only.
- 2) Show all your work.
- 3) Write legibly.
- 4) Staple your homework papers.
- 5) Write your name.
- 6) Hand in your homework at the beginning of the class period.
- 7) No late homework will be accepted.

**Laboratory:**

1:30 - 4:00 (W & Th) - 330 WH

This lab is composed of ten experiments which carry worksheets that will be handed in to your GTA at the end of the experiment (i.e., no formal reports). The first four experiments are worth 5 points each, and the rest are worth 10 points each.

Note: attendance will be taken in the laboratory.

**Make up exams:**

NONE

**Academic dishonesty:** Anyone found cheating on any work in this class will receive a grade of "F" in the course, and any possible further action will be taken against the student, including recommendation of dismissal from the college and university.

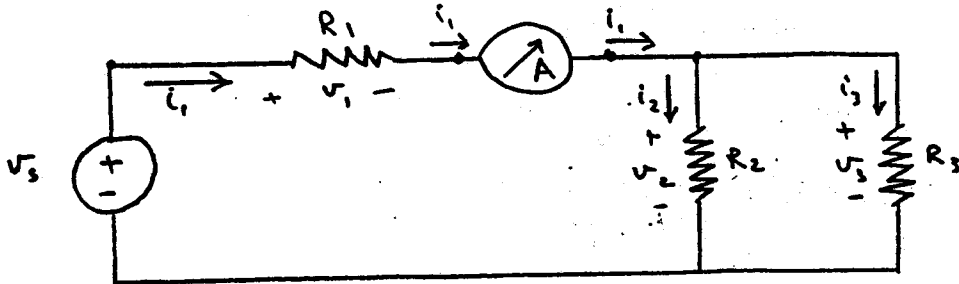
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Some of the instruments used in EE282 labs:

An Ammeter: An instrument designed to measure DC or AC current.

Note: The Ammeter has to be placed in series with the element whose current is to be measured.

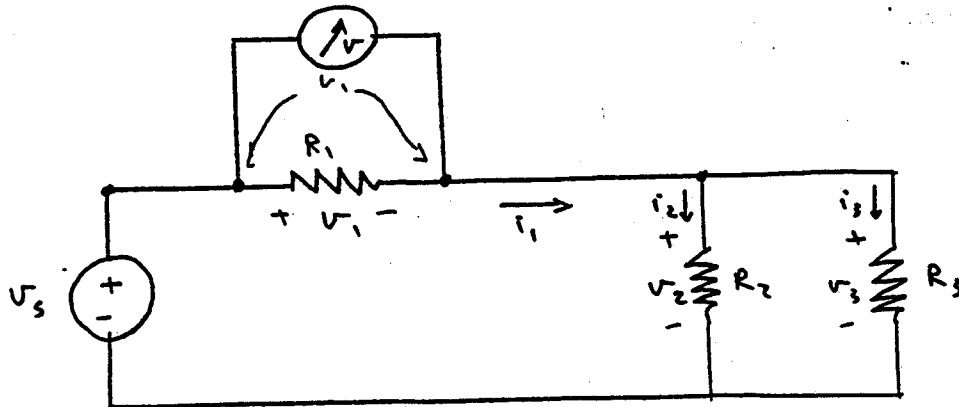
Example: To measure the current "i1", the Ammeter has to be placed as follows:



A Voltmeter: An instrument designed to measure DC or AC voltage.

Note: A Voltmeter has to be placed in parallel with the element whose voltage is to be measured.

Example: To measure the voltage "v1" the voltmeter has to be placed as follows:



**An Ohmmeter:** An instrument designed to measure the resistance of an element.

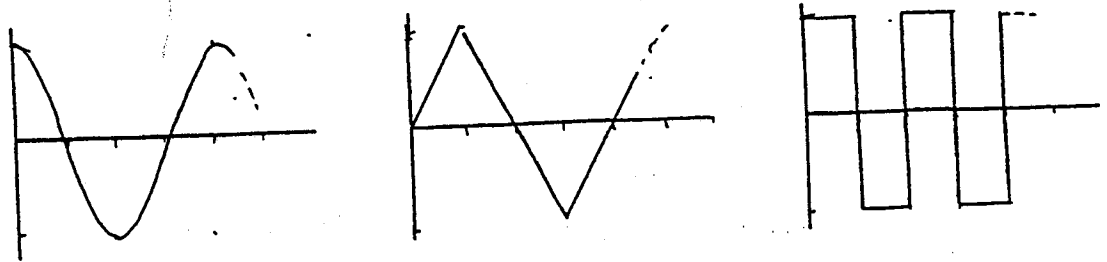
Note: An Ohmmeter also has to be connected in parallel with no supply connected to that element.

**A Multimeter:** An instrument designed to measure all of the previous, each at a certain setting.

**Digital meters:** Measure continuous voltage or current signals at discrete points in time, called the sampling times.

**A DC power supply:** Supplies DC voltage or current.

**An AC power supply:** supplies AC signals such as a cosine signal, a triangular signal, and a square signal.



Also called: A signal generator or A function generator.

**An oscilloscope:** The scope is an instrument used to graph the AC signal that your function generator is supplying, or to graph the signal across a certain element, or even two signals at the same time in order to read both their amplitude and the phase shift between them.

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TABLE 1.1

## THE INTERNATIONAL SYSTEM OF UNITS (SI)

QUANTITY	BASIC UNIT	SYMBOL
Length	meter	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	degree kelvin	K
Luminous intensity	candela	cd

TABLE 1.2

## DERIVED UNITS IN SI

QUANTITY	UNIT NAME (SYMBOL)	FORMULA
Frequency	hertz (Hz)	$s^{-1}$
Force	newton (N)	$kg \cdot m/s^2$
Energy or work	joule (J)	$N \cdot m$
Power	watt (W)	$J/s$
Electric charge	coulomb (C)	$A \cdot s$
Electric potential	volt (V)	$W/A$
Electric resistance	ohm ( $\Omega$ )	$V/A$
Electric conductance	siemens (S)	$A/V$
Electric capacitance	farad (F)	$C/V$
Magnetic flux	weber (Wb)	$V \cdot s$
Inductance	henry (H)	$Wb/A$

TABLE 1.3

## STANDARDIZED PREFIXES TO SIGNIFY POWERS OF 10

PREFIX	SYMBOL	POWER	PREFIX	SYMBOL	POWER
atto	a	$10^{-18}$	deci	d	$10^{-1}$
fermto	f	$10^{-15}$	deka	da	10
pico	p	$10^{-12}$	hecto	h	$10^2$
nano	n	$10^{-9}$	kilo	k	$10^3$
micro	$\mu$	$10^{-6}$	mega	M	$10^6$
milli	m	$10^{-3}$	giga	G	$10^9$
centi	c	$10^{-2}$	tera	T	$10^{12}$