

CME2203 Lab 3 Pre-lab

Due Date: 21 October 2019, 12:30

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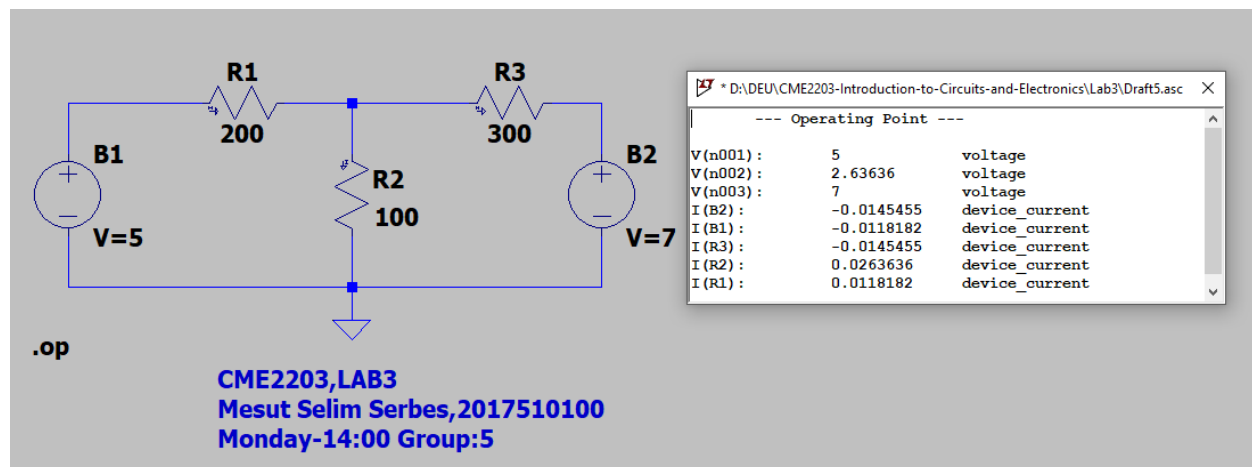
Session- Group: (e.g. Monday 14:00, 5)

Subject: Superposition Principle

Pre-lab Procedure

- ➔ Each student must prepare the pre-lab and upload it **INDIVIDUALLY!**
- ➔ Upload as a **.PDF** file.
- ➔ Take a print-out of this document and bring it to your lab session. You should show the pre-lab to teaching assistants during the lab hour. We will check the calculations too.
- ➔ Each student may be asked questions to verify his/her prelab work.
- ➔ Draw the schematic for the circuit in Figure 1 using LTSpice. Remember to put a **text label** in the following format:

1. Upload a **PDF** file including your circuit design and simulation results visible (see example in Figure 1) until October 21, 2019 12:30 to the course page on Google Classroom.



2. Now make the theoretical calculations using the superposition principle. You can use the tables given below. Check if the values agree with each other.

Simulation Results from LTSpice

Circuit Element	I (mA)	V (V)
R1 = 200 Ω	I(R1)= 11,8182	n1-n2= 2,36364
R2 = 100 Ω	I(R2)= 26,3636	n2= 2,63636
R3 = 300 Ω	I(R3)= -14,5455	n2-n3= -4,36364

Fill the table below with your calculations. Attach as many A4 pages as necessary to show your calculations to fill in the table below.

		R1		R2		R3	
5V	7V	I1 (mA)	VR1 (V)	I2 (mA)	VR2 (V)	I3 (mA)	VR3 (V)
✓	-	18,18	3,636	13,64	1,364	4,54	1,364
-	✓	-6,36	-1,273	12,73	1,273	-19,09	-5,727
Total		11,82	2,363	26,37	2,637	-14,55	-4,363