ECE-298 S2021
LIVE WEBEX SESSION – LAB1

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ECE-298 IS AN "OPEN – ENDED" COURSE TOPICS

YOU WILL BE DEVELOPING YOUR OWN SOLUTION FOR YOUR TEAM PROJECT

YOU WILL BE DEVELOPING YOUR OWN BEST JUDGEMENT FOR YOUR DESIGN DECISIONS.

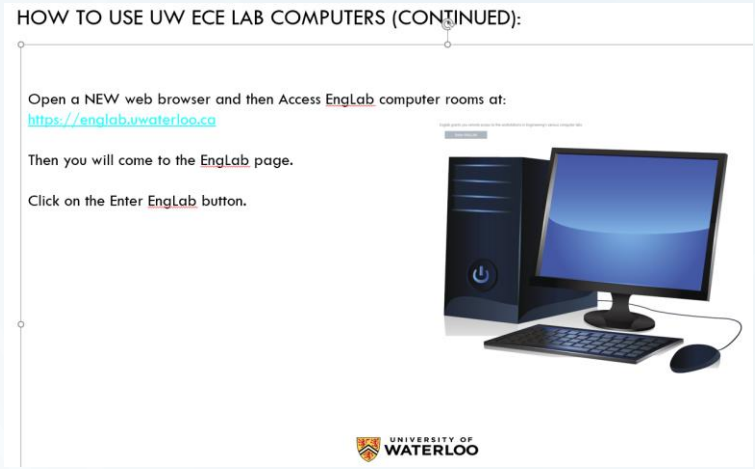
THIS WILL BE AN OPPORTUNITY TO EXPERIENCE ENGINEERING DESIGN MATTERS IN A TYPICAL DESIGN PROCESS FOR A MODEST (BUT NOT TRIVIAL) EMBEDDED ENGINEERING PROJECT.

RUBRICS WILL BE PROVIDED DURING THE TERM TO GUIDE YOU INTO SOME IMPORTANT PERSPECTIVES DURING YOUR DEVELOPMENTS.

IN AN ENGINEERING FIRM, A REVIEW MEETING WITH OTHER DEPARTMENTS IS HELD AFTER EACH PROJECT PHASE IS COMPLETED BUT FOR THIS COURSE THERE IS INSUFFICIENT TIME TO COVER THESE ASPECTS.

SETUP FOR ECE-298 ONLINE LAB PROJECTS

- **For UW Lab computers** (via englab): you will be working on an ECE computer workstation with access to the N: drive for this lab course.



- Refer to the "Remote Access to ECE Lab Computers" pdf on Learn for further setup details

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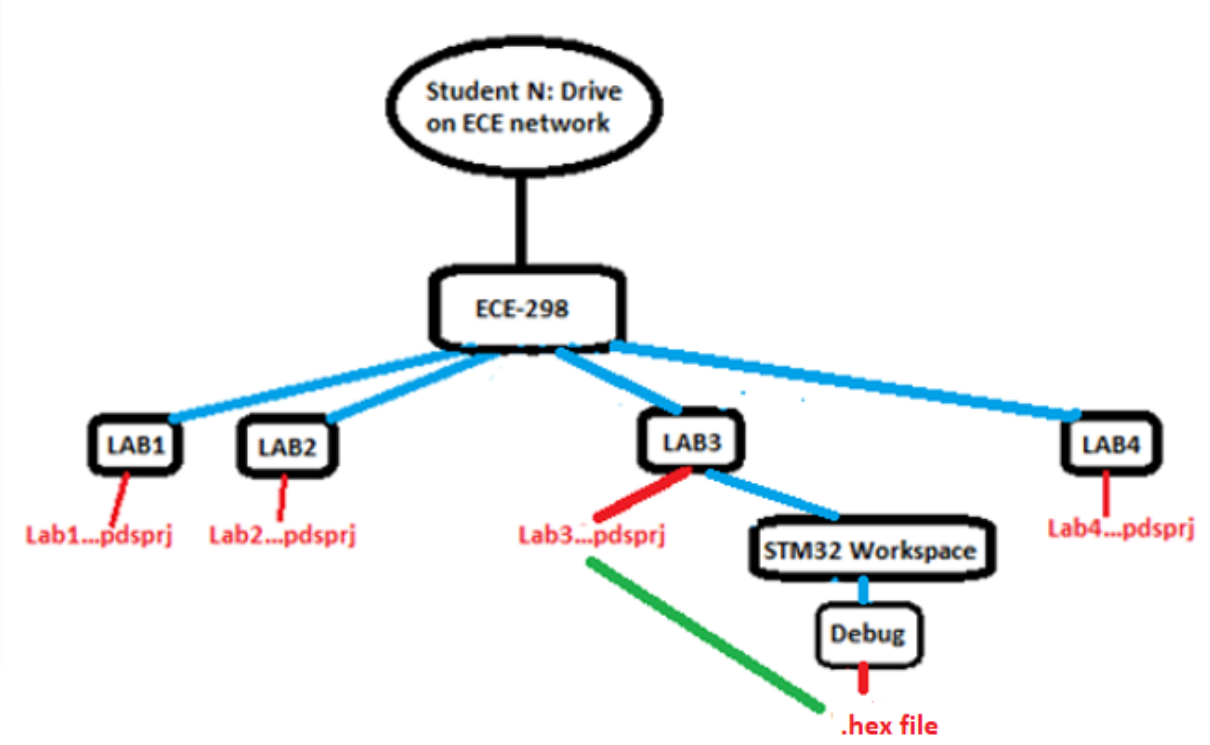
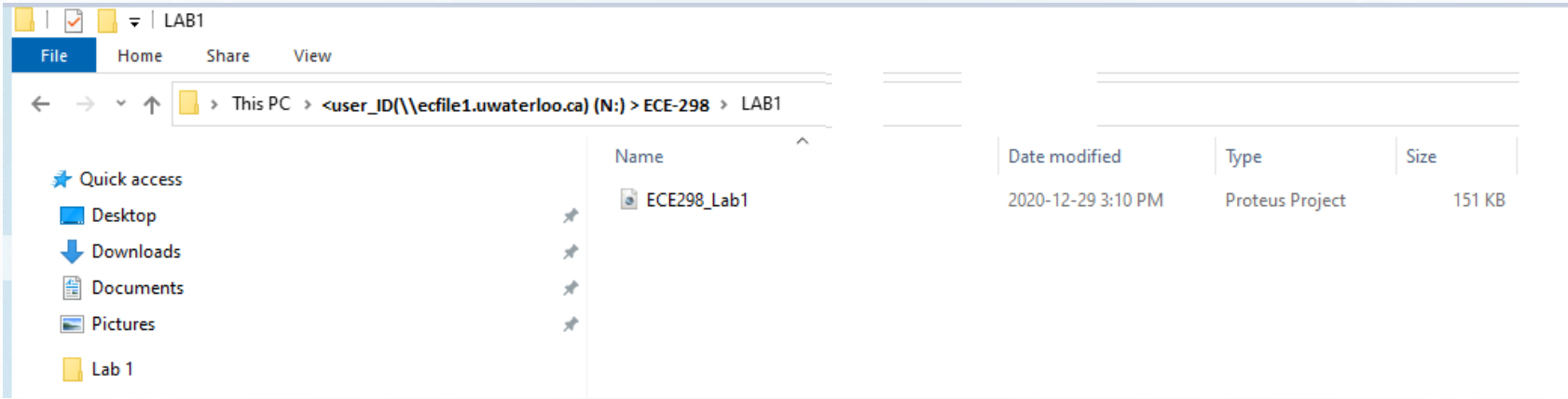
SETUP FOR ECE-298 ONLINE LAB PROJECTS

- Once logged into an EngLab ECE Computer you should create an ECE-298 folder for the course on the N: drive. During the term you will create your Lab Project Folders on the <drive> for each unique LAB Session.



ECE-298 LAB PROJECT FOLDER

Zipped LAB folders are downloaded from LEARN into your N: drive :/ECE-298 directory. To Launch Proteus and load your starting file you just have to double-click on the Proteus Project file downloaded into the Lab project folder



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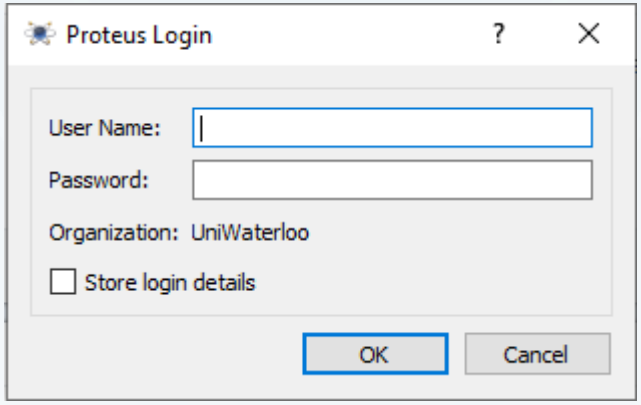
ECE-298 PROTEUS SIGN-IN FOR LAB PROJECTS

After Proteus Launches you will have to sign-in with the Parameters available on Learn in the file:
“Access to Proteus Tools”



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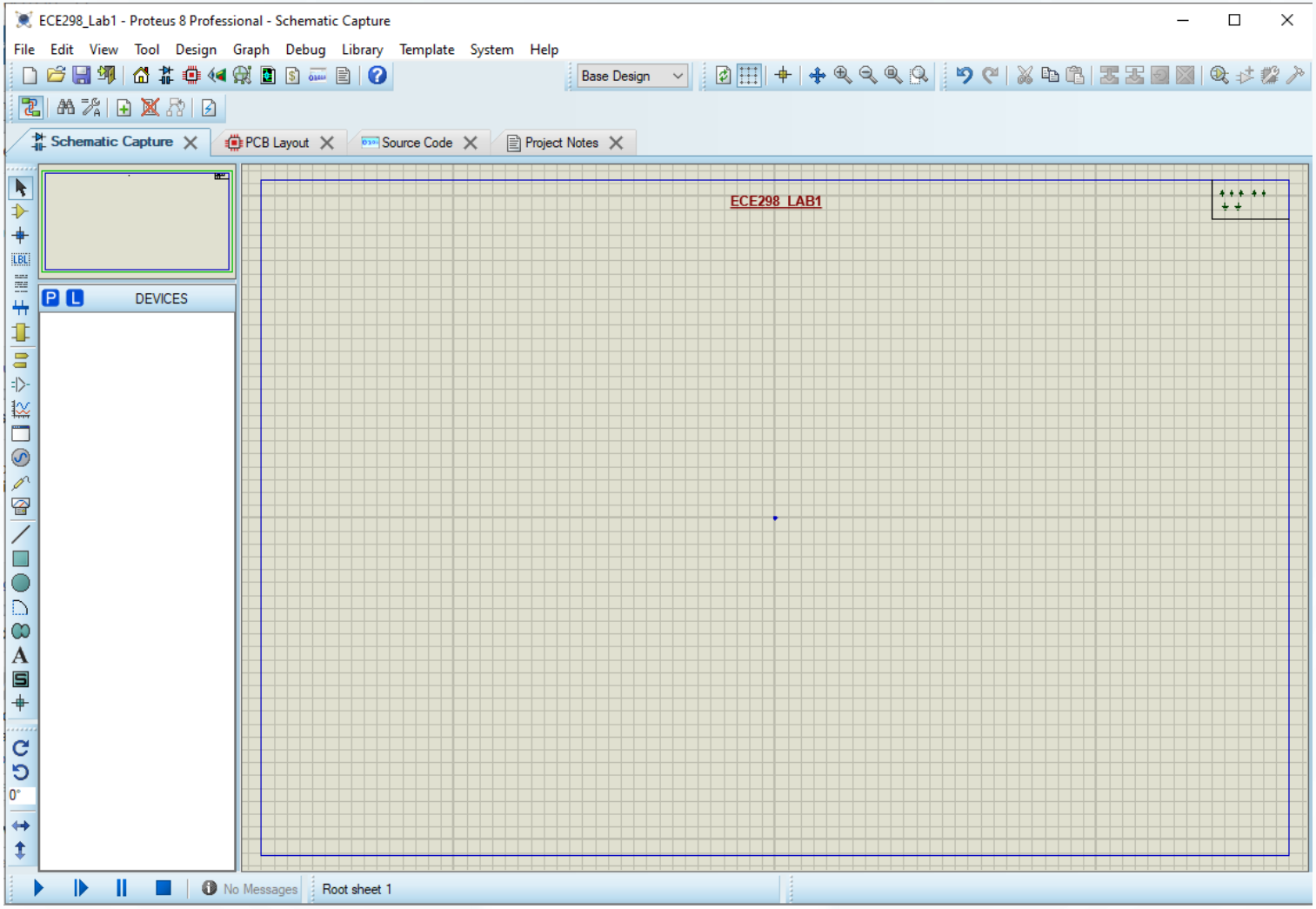
ECE-298 LAB1 STARTER PROJECT



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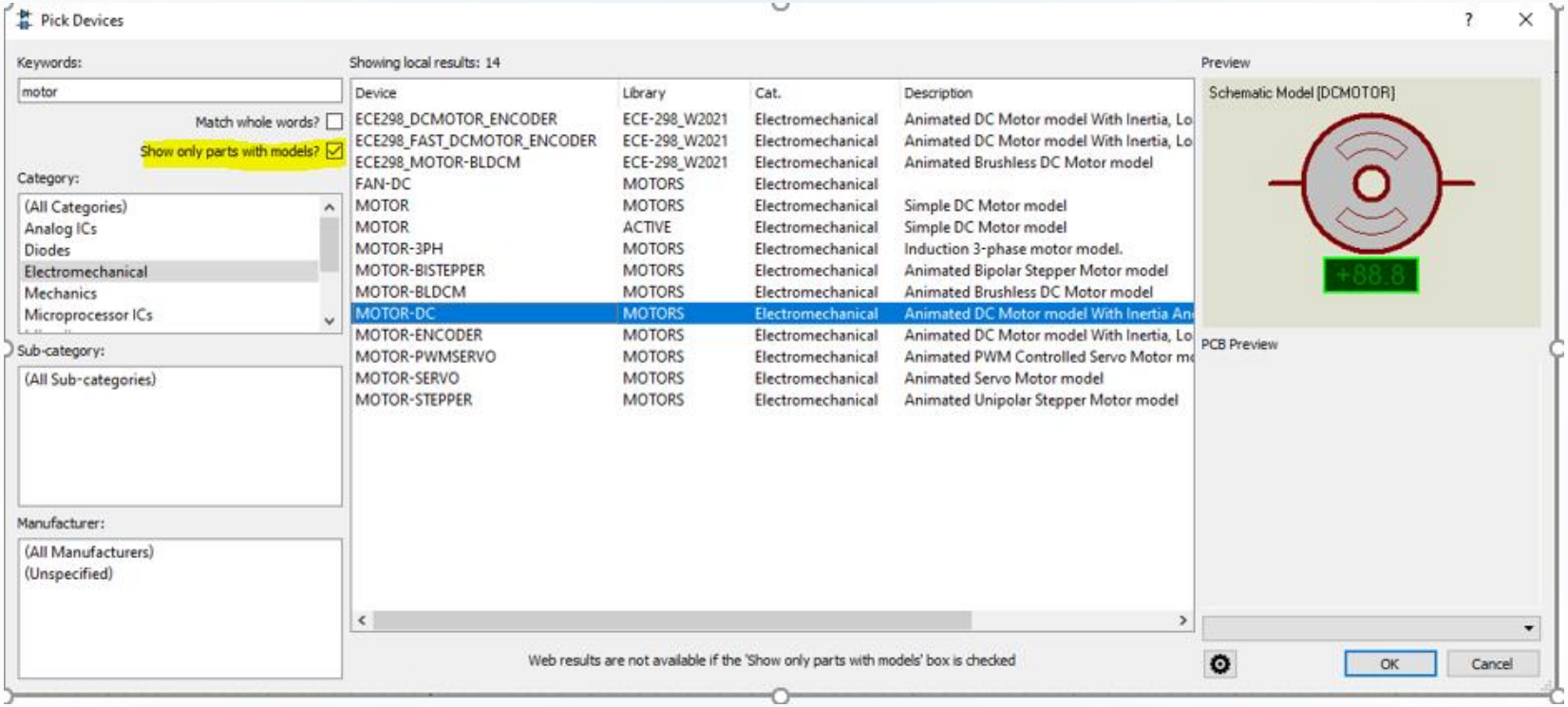
ECE-298 LAB1 – PARTS FROM LIBRARIES



MAKE SURE that for Labs 1,2,3 that the parts searching box “Show only parts with models” is CHECKED.

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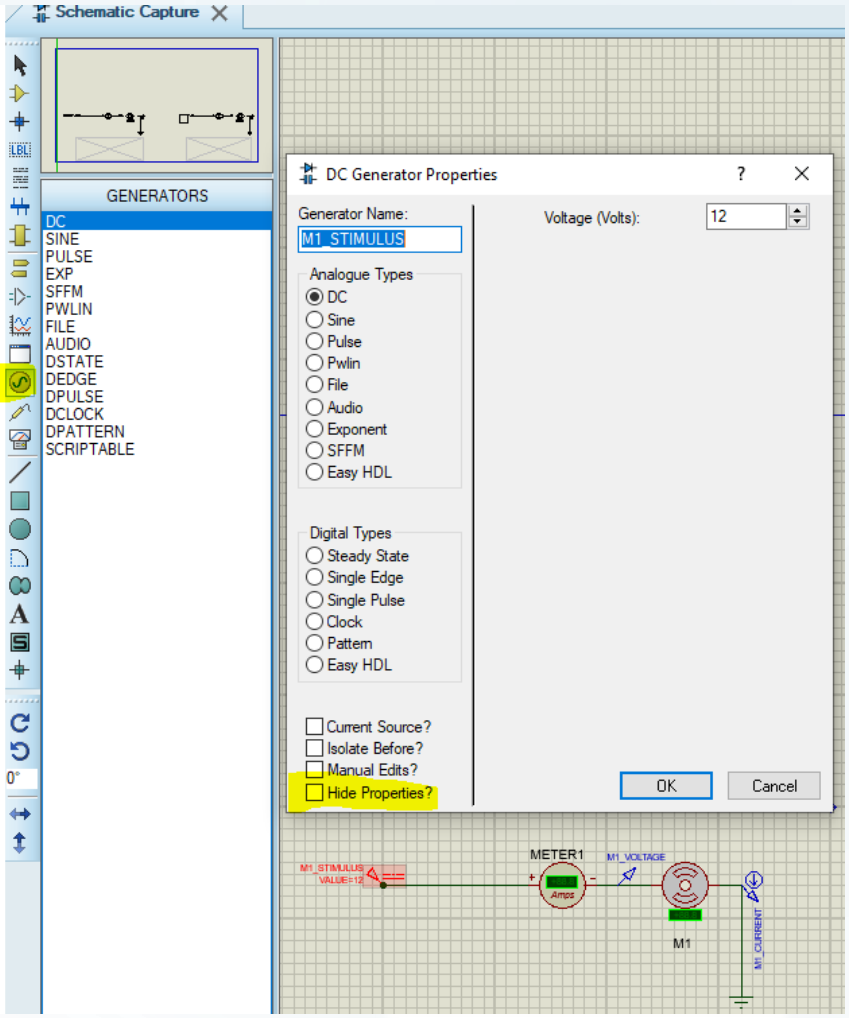
ECE-298 LAB1 -- SIGNAL GENERATORS



MAKE SURE to **UNCHECK** the HIDE Properties so that the Parameters can be seen on the schematic

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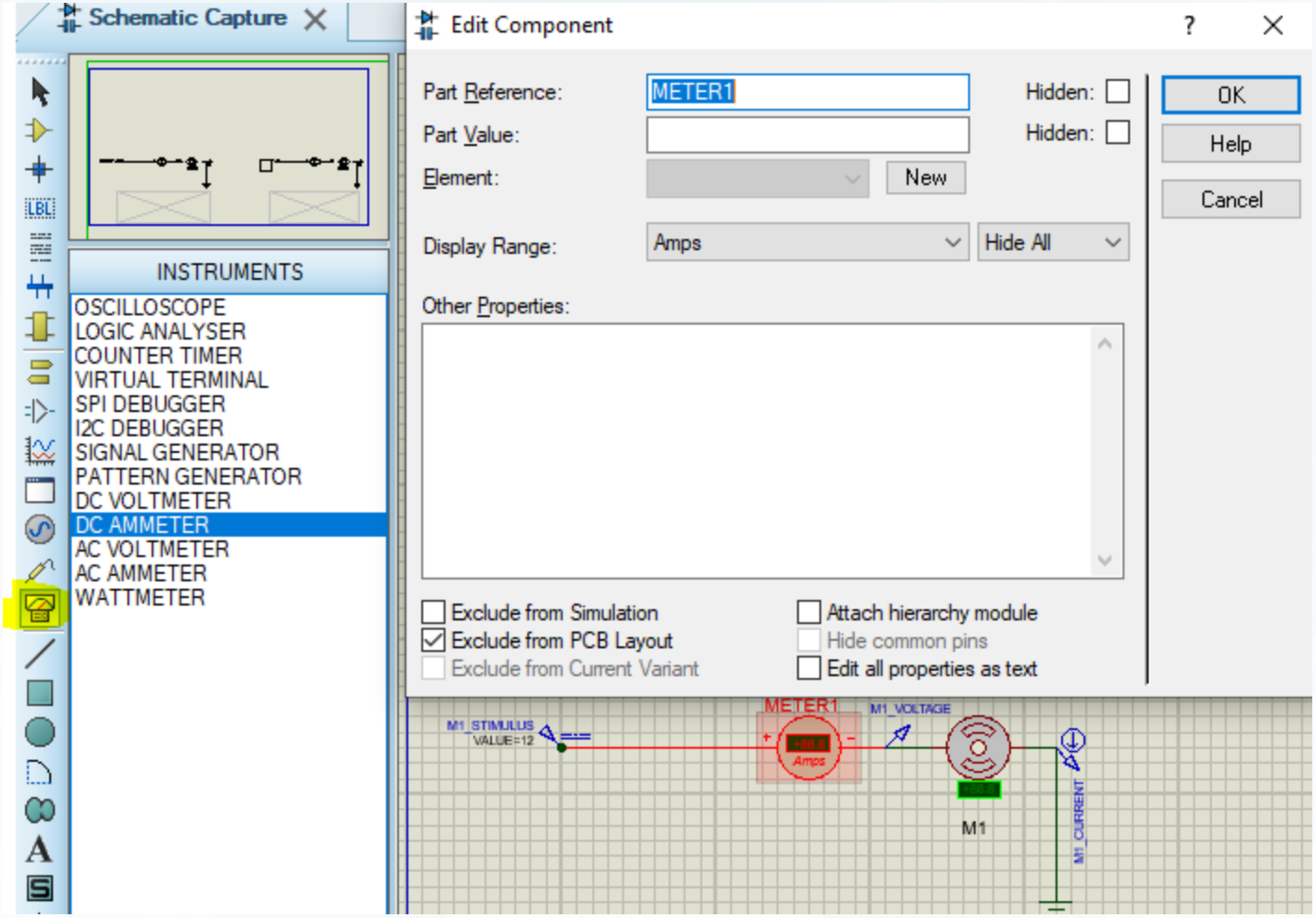
ECE-298 LAB1 – VIRTUAL LAB INSTRUMENTS



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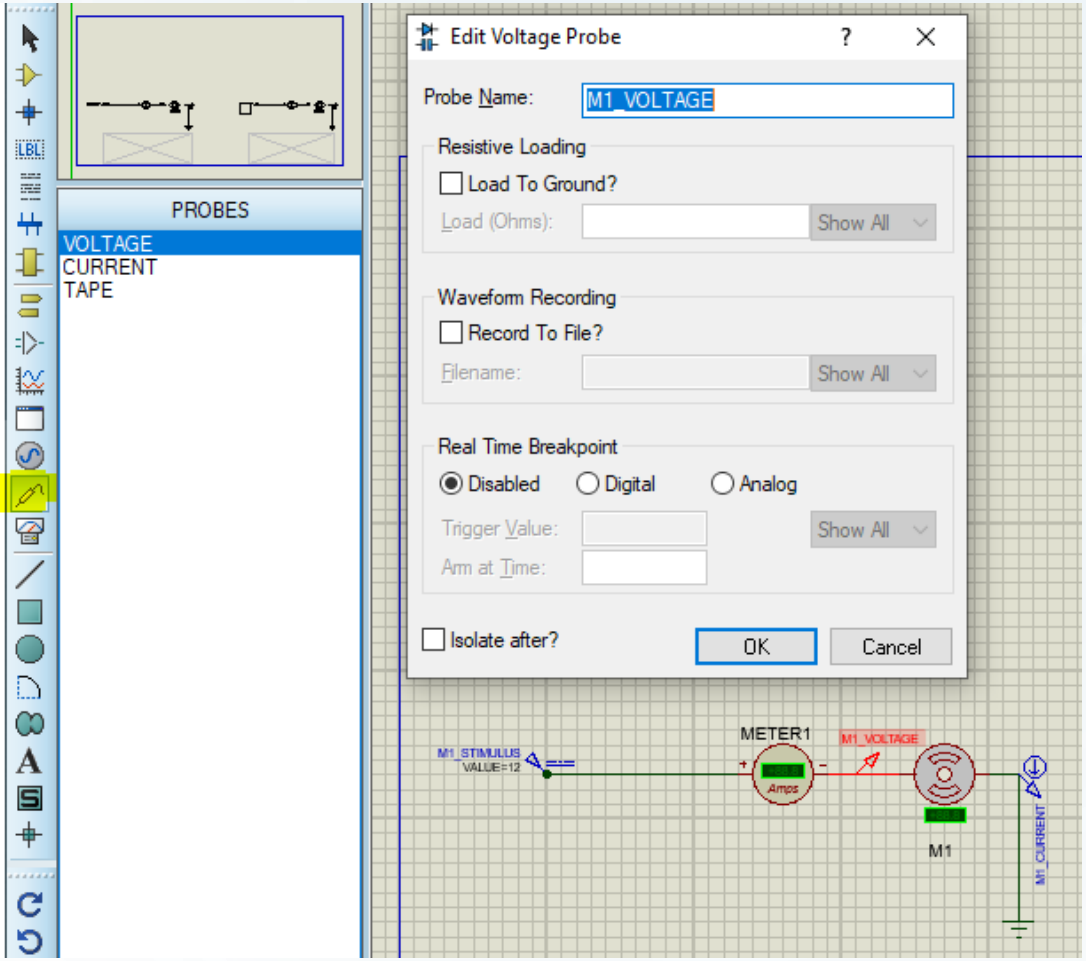
ECE-298 LAB1 – VIRTUAL SIGNAL PROBES



PROBES CAN be used to measure signals and have the measurements applied to graphs.
<u>NOTE: CURRENT PROBES</u> can **ONLY** provide results on ANALOGUE Graphs.

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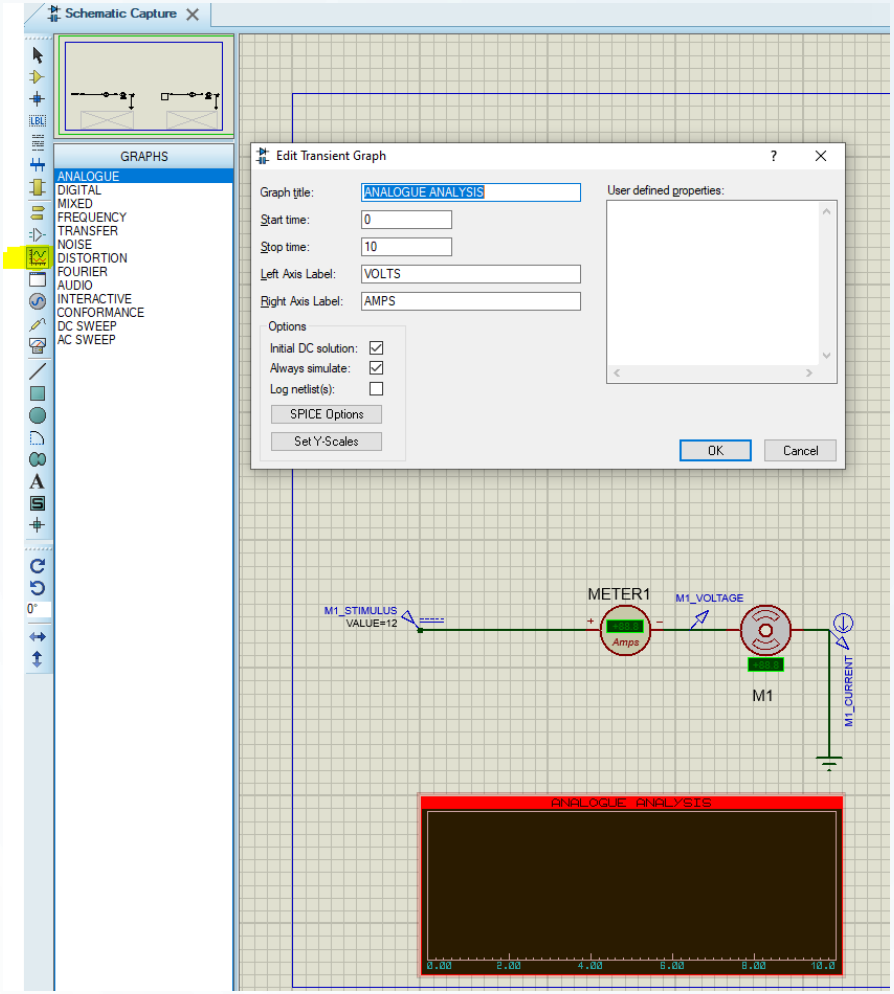
ECE-298 LAB1 GRAPHS



<u>NOTE: CURRENT PROBES</u>
can **ONLY** provide results on ANALOGUE Graphs.

More on Graphs will be covered in Lab 2.

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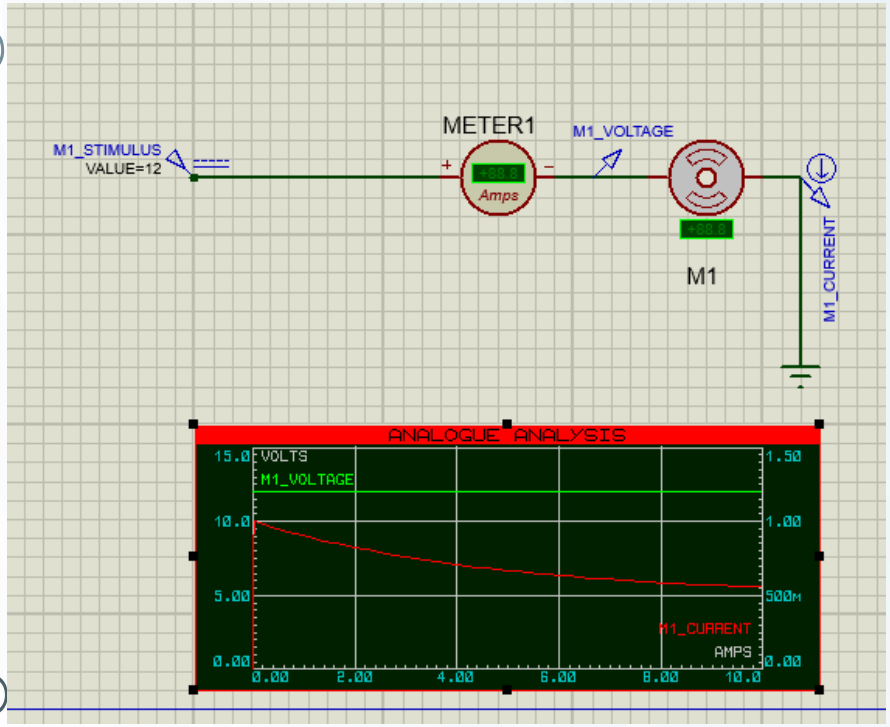
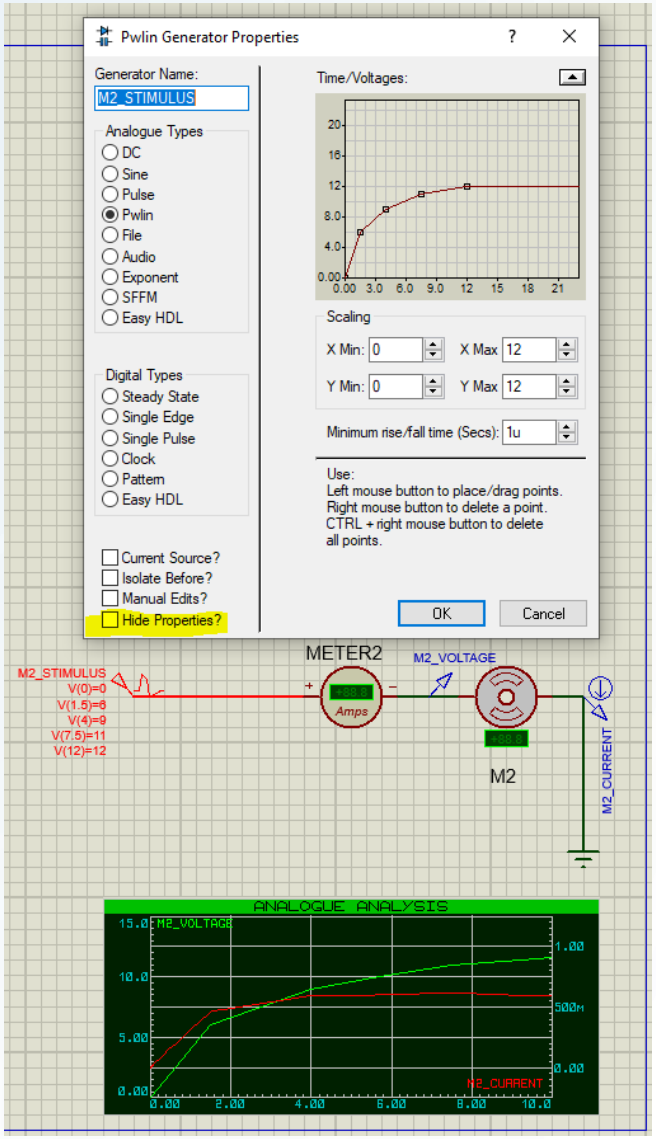
ECE-298 LAB1 – SOME POSSIBLE EXPERIMENTS





You can choose to run the circuit in ANIMATION Mode OR within the GRAPH as SIMULATION Mode but not at the same time.

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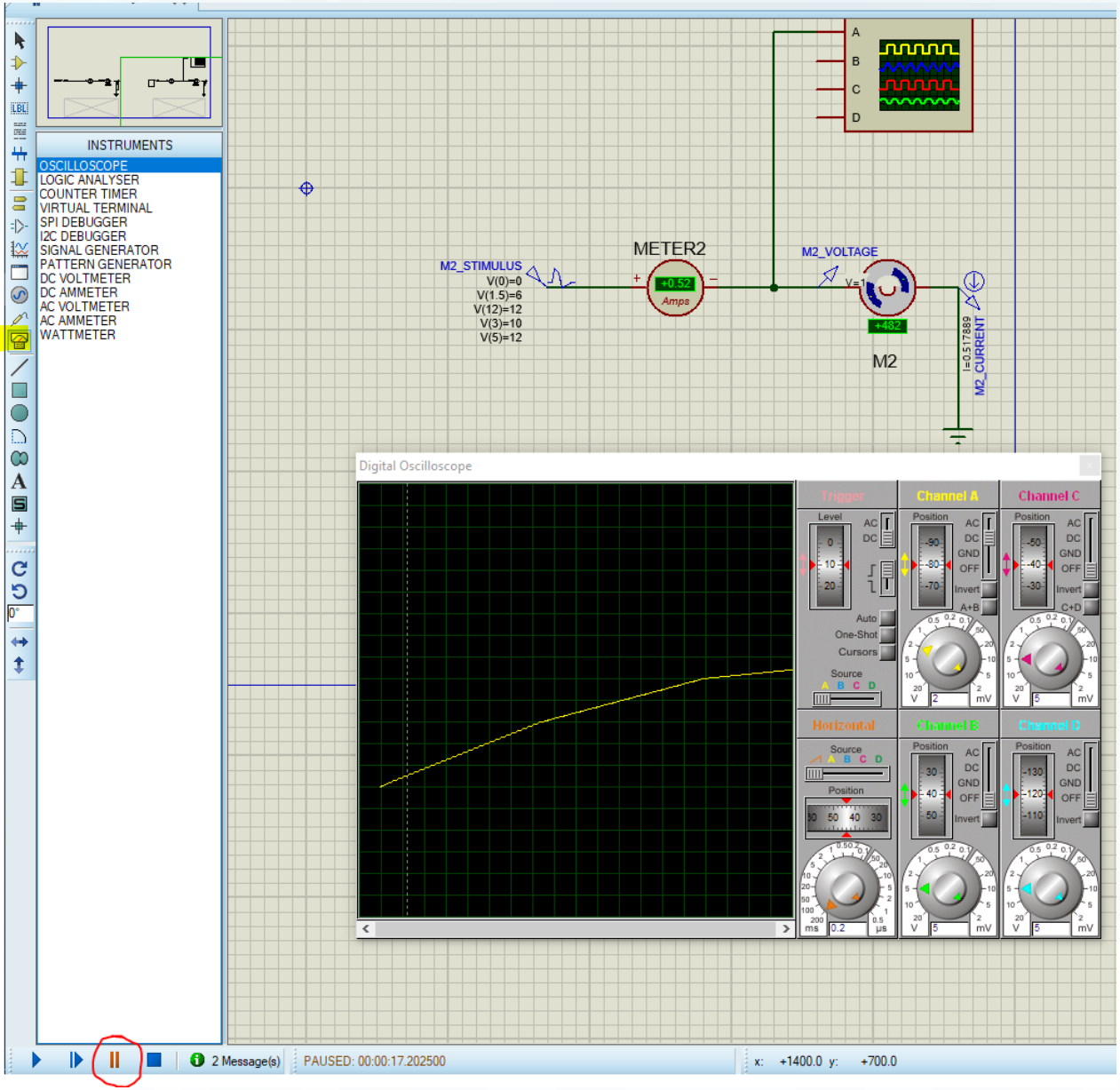
ECE-298 LAB1 USE OF THE OSCILLOSCOPE



An alternative to using a GRAPH is to use an oscilloscope.

The "scope" can only be run in ANIMATION Mode.

Click on the PAUSE button (lower left) to set up the scope settings. ALWAYS USE **DC COUPLING** for scope channels in this course.

Set the Voltage TRIGGER levels appropriately.

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