Hello, this is Engineering Measurement & System Monitoring, learning outcome 3, where we have to build a model of a RLC circuit.

Open the word document with the question and save this as your reporting document. The mathematical model is made up of mathematical blocks and we are going to simulate a RLC circuit, where R is for resistor, L inductor and C capacitor. Here is a subtract block which has a plus and two negatives. Then a gain block which is a multiplier so everything inside here will multiply the input. Then two integrator blocks and another gain block. We must find these blocks in the library and then bring them into our model. Find the gain block, drag and drop. We can copy and paste to get another one or if we click on it and hold Control you will get the same function. Then get a subtract block, click on it and change the list of signs so this makes three inputs. Then an integrator block is needed, just type it in the search or go to commonly used blocks. This has every block needed, check the model in the question, split the screen to view both. Line up the blocks to make it look neat, the gain has only got one inside, so this needs to be changed to one divided by, slash “/” needed, brackets L multiplied using star “\*” and C, close brackets, apply. If the box is too small you will see a K but just enlarge it to view the equation. Line up the blocks and join the dots. To flip a block around, select, right click and select “Rotate & Flip”. Then put into the gain block R multiplied by C. Then connect the remaining blocks up.

Last part is to add these arrows, right click on the line, select Linear Analysis Points and go to Input Perturbation. For the output line go to Output Measurement.

That is the model built, so save it in the folder and give it the model name “Q1\_model”.

Next video will show how to get results from the model.

Thank you for listening.