Hello this is Engineering Communication, learning outcome two and assessment task three. This is where you have to use engineering software to simulate an electronic circuit. We are going to use MultiSIM, here is the circuit with an AC power supply, oscilloscope, some diodes, capacitors and resistors – bridge rectifier circuit. The purpose of the circuit is to create a direct current from an alternating current. This is what you find in electric devices direct current to say charge batteries up and operate. This circuit could be built using hardware but we are going to build it on the software. The software we are going to use is MultiSIM, you cannot get this on MyUHI but you have to go to a college with the licence. But you have to come to the college to do labs so on the same day you can use MUltiSIM. A day will be arranged to suit your schedules along with the lecturer.

So to get started, type in MultiSIM in the search, then MultiSIM will appear and it will have a worksheet – blank space with some components. There is a student version available which can be purchased for a small fee. So the idea is that you build the circuit and then you have to write a report on your experience using the software, the assessment gives guidance on the headings to be covered in the report. No previous experience of using the software is required.

So some of the components are around here or you can right click, then click place component and pick groups. Start with sources, then power sources, AC power, click ok and set it on the blank space. We also need a ground. Then move onto basic and find the resistors needed. Then Capacitor, diodes and check the correct codes.

Make sure the orientation is correct by right clicking on screen and go to rotate ninety degrees. Then connect the components together by clicking on the end of components once and then click again to make a bend. We get an oscilloscope which has two channels, but we only need one. We must change the value on the power supply to twelve volts and the frequency to a thousand hertz.

That is the circuit finished so we can press run. It will show that the circuit is running down here. We can click on the oscilloscope, which shows a red straight line. If we hit the AC button. We only have channel A which is the y axis and time is on the x axis. So if we change this, volts per division, changing the scale will show the wave and it now looks like 1 milli volts per division and 1.5 divisions to the peak of the wave. If we stretch it out in the x axis until we see one or two waves. Then we can stop the simulation and we think it is not there, but we can side scroll to view a few waves. It appears like a straight line at first but moving in we can see it is oscillating. So 1 milli volt per division and 1.5 division covered by the wave so 1.5 millivolts to the peak. In the x axis 200 micro seconds per division, so from peak to peak it looks about 2.5 divisions.

That is the simulation complete for the circuit diagram show. One of the component values needs changed and then the change in response noted. An image is needed of the responses, it should be copied and put in the report with labels. I can now show you how to put an image into your report. Open the snipping tool, press new, then select area and press copy. The go to the word document (save the assessment in your folder and modify it) and press paste. Make sure to put a label underneath to say what the response is from.

Thank you for listening.