Hello, my name is David Hymers and I am here to present an introduction to Engineering Measurement & System Monitoring unit, it is core unit. The unit has three learning outcomes,

Material from this unit will be used in the Graded Unit 1 exam, which is going to give the grade for the HNC Engineering Systems course. I will mention this for all the core units.

Learning outcome one is on measuring a range of electrical and mechanical quantities. This involves practical labs so a day visit to the college is required. Reports then can be written up and sent to the lecturer. Examples of electrical measurement are voltage, resistance and current, this will be done using a multimeter. Mechanical measurement will be done on LJ create instrumentation board.

Then the 2nd learning outcome is to explain the principle of operation and application of sensors/transducers used in engineering systems. The calibration of two sensors in a practical experiment is required and this will be done using the Feedback rig, findings will need to be reported and it will include sensor selection for given applications.

Finally, 3rd learning outcome is assessed on analysing engineering system responses and corrective actions required to allow an engineering system to operate within its normal range. This is done using MatLAB with SIMulink software, this is a UHI licence so can be obtained at any UHI college or through MyUHI log in from an PC out with the college. Mathematical models will be built to symbolise mechanical (mass, spring, damper) systems and electrical (resistor, capacitor , inductor) systems. The system responses with be recorded and compared, this will be submitted in a report style assessment.

All of what has been said will be in a study guide for this unit with more detail.

Thank you for listening.