EE2023 Signals and Systems
Module Learning Outcomes

- Application of Fourier Transform to derive the spectrum of signals, evaluation of the energy/power of signals. Modelling of the sampling process leading to the Nyquist sampling theorem, application of the sampling theorem for signal reconstruction.

- Application of Laplace Transform to solve linear time invariant (LTI) ordinary differential equations, modelling of LTI systems in frequency domain and using systems properties to assess stability, and predict responses to step, impulse and sinusoidal inputs.

- Evaluation of complex rational functions in transfer functions and use of complex numbers in plotting Bode diagrams or frequency response plots.

Student Feedback Survey on Module Learning Outcomes

Please provide the Survey Questions	Please rate your learning outcomes in this module using the following scale: 4 Able all the time 3 Able most of the time 2 Able some of the time 1 Unable all the time
	After attending this module, I am able to:
1	construct and analyze the spectrum of signals and frequency response of systems using Fourier and Laplace transforms.
2	calculate the energy and power of signals using time domain representation and spectral density of signals.
3	assess the effect of sampling frequency on aliasing in the spectrum of a sampled signal.
4	evaluate the stability of a linear time invariant system.
5	infer the nature of the transfer function models from their step and impulse responses.