Course Title: Signal Processing and Embedded System   **Course Code: EEA 187**

Course Background / Summary:

This course provides comprehensive lessons of both the theory and applications in signals, systems, and transforms. Students will be exposed to the mathematical background of signals and systems, including the Fourier transform the Fourier series, the Laplace transform, the discrete-time and the discrete Fourier transforms, and the z-transform.

Course Objectives:

- Describe Signal Processing system in time domain.
- Compute the Fourier series, Z-transform and the discrete time Fourier transform (DTFT) of discrete-time signals.
- Resolve the filter design and spectrum estimation using appropriate tools.
- Analyse various filters in time and frequency domains according to design requirements.

Target Audience:

- Industrial workers from technicians to engineers, etc.
- Teaching staff (vocational & technical teachers), lecturers, etc.

Course Duration: 4 Days

Course Contents

1.0 Introduction to Signals & Systems

2.0 Discrete-Time Signals and Systems

3.0 Z-Transform and its Applications

4.0 Fourier and Discrete Fourier Transform of Signals

5.0 Structure of Discrete Time Systems

6.0 Digital Processing of Continuous-Time Signals

7.0 Design of FIR Filters

8.0 Design of IIR Filters

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