

University of Technology
Computer Engineering Department
Academic Year 2023-2024
1st Year- Second semester- All Branches



U124	Signals and Systems	3 Hr/Week	3 Units
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Contents of syllabus	Hours
1. Introduction and Discrete-time Signals <ul style="list-style-type: none"> • Introduction to Signals and Systems • Classification of signals • Real time System • Sampling Theorem, ADC, DAC • Signal Manipulations • Classification of discrete time signal 	10
2. Discrete-time systems <ul style="list-style-type: none"> • Modeling and Properties of Discrete-Time Signals • Block Diagram Representation of Discrete Time Systems • Classification of discrete time systems: <ul style="list-style-type: none"> ❖ Linearity ❖ Time invariance, ❖ Causality • Analysis of Discrete Linear Time Invariant Systems • Types of system responses • Convolution • Auto-correlation and Cross-correlation 	12
3. Fourier Transform <ul style="list-style-type: none"> • Definition • Properties • Time-shift theorem • Convolution theorem • FT for periodic sequences 	8

References:

Li Tan, “Digital Signal Processing: Fundamentals and Applications”, Elsevier, 2008.

