Signals and systems 1

1.0	Introduction 1		
1.1	Continuous-Time and Discrete-Time Signals 1		
	1.1.1	Examples and Mathematical Representation 1	
	1.1.2	Signal Energy and Power 5	
1.2	Transformations of the Independent Variable 7		
	1.2.1	Examples of Transformations of the Independent Variable 8	
		Periodic Signals 11	
	1.2.3	Even and Odd Signals 13	
1.3	Expor	exponential and Sinusoidal Signals 14	
		Continuous-Time Complex Exponential and Sinusoidal Signals 15	
		Discrete-Time Complex Exponential and Sinusoidal Signals 21	
	1.3.3	Periodicity Properties of Discrete-Time Complex Exponentials 25	
1.4	The U	The Unit Impulse and Unit Step Functions 30	
	1.4.1	The Discrete-Time Unit Impulse and Unit Step Sequences 30	
	1.4.2	The Continuous-Time Unit Step and Unit Impulse Functions 32	
1.5	Conti	Continuous-Time and Discrete-Time Systems 38	
	1.5.1	Simple Examples of Systems 39	
	1.5.2	Interconnections of Systems 41	
1.6	Basic	Basic System Properties 44	
	1.6.1	Systems with and without Memory 44	
	1.6.2	Invertibility and Inverse Systems 45	
	1.6.3	Causality 46	
	1.6.4	Stability 48	
	1.6.5	Time Invariance 50	
	1.6.6	Linearity 53	