Subject	Signals and Systems	**Course Code**	NT220	**Theoretical**	3 hrs / wk
Semester	4	**Prerequisite**	MA151	**Practical**	3 hrs / wk

Program Learning Component

Week 1-2

1. Signal representation

Specific Learning Outcomes	Resources
Signal representation • Definitions and classifications of signals • Elementary signals • Average and effective value of a signal • Energy and power of a signal • Transformation of the independent variable	Projector

Week 3-4

2. Continuous time systems

Specific Learning Outcomes	Resources
Continuous time systems • Introduction and classification of systems • Linear time invariant systems • Systems described by differential equations • Transfer throw linear network	Projector

Week 5-8

3. Linear Second Order Differential Equations

Specific Learning Outcomes	Resources
The Laplace Transform • Introduction • The Unilateral Laplace transform • Properties of LT • Inverse LT • Applications of LT	Projector

Week 9-11

4. The Fourier series

Specific Learning Outcomes	Resources
The Fourier series • The periodic signals • The trigonometric form FS • The one sided spectrum	Projector

	• The exponential form FS • The two sided spectrum	
Week 12-14	5. **The Fourier transform**	
	Specific Learning Outcomes	**Resources**
	The Fourier transform • Introduction • The continuous time FT • Properties of FT • Application of FT • Signal Filtering	Projector

Course Assessment:

Course Work	Mid–Term Test	Final Examination
20	30	50

NOTE: Course Work may include assignments, projects and practical activities.