# SLE346 Molecular Basis of Disease

## Class 2 Disease and Homeostasis

**Learning Objectives;**

- To understand modern and traditional concepts of disease
- To appreciate the changes in concepts of disease over the ages
- To be familiar with disease terminology and disease classifications
- To understand the significance of homeostasis

## Class 3 – Causes and Consequences of Cell Injury

**Learning Objectives;**

- To appreciate the relation between injury a death at the cellular level
- To understand the causes and consequences of cellular disease
- To understand the role of lysosomes in cell death
- To be familiar with the different types of adaptations of the cell to injury

## Class 4 – Death and its relationship with ageing. Death at the cellular level

**Learning Objectives;**

- To understand the relationship between stress, ageing, senescence, cancer and death
- To appreciate how human life spans have changed over the ages and the influential factors
- To be familiar with how natural selection affects life span
- To understand the diseases that illustrate natural selection
- To understand ageing diseases
- To be familiar with the concept that there are two distinct forms of cell death; necrosis and apoptosis

## Class 5 – Programmed Cell Death (Apoptosis)

**Learning Objectives;**

- To appreciate that cell death is a normal part of life as well as a pathological state
- To recognize that there are distinct pathways involved in the process of cell death
- To distinguish between different forms of cell death; necrosis and apoptosis
- To understand the role of caspases
- To know the processes occurring in the intrinsic and the extrinsic pathways and their differences
- To understand the role of key proteins involved in apoptosis

**Other topics include:**

- **Cancer**
- **Diabetes**
- **Neurodegenerative disorders; Alzheimer's, Parkinson's**
- **Nutrients & trace elements**
- **Extracellular matrix**
- **Skin disorders**