

Prerequisites: Molecular Biology and Genetic Engineering - BT208 or equivalent

Course contents:

Theories and mechanisms of aging; Model systems used to study aging; Caloric restriction; Signaling pathways that affect aging; Role of reactive oxygen species and apoptosis in aging; DNA and protein damage during aging; Epigenetic modifiers of Aging; Cell organelles and aging: Mitochondria and Peroxisomes; Autophagy and Aging; Age-dependent and Age-related diseases; Drugs that target pathways of aging in mammalian cells; Stem cells and aging.

Texts:

1. McDonal, R. B., Biology of Aging, 1st Edn., Garland Publishing Inc, 2013.
2. Guarente, L., Partridge, L. and Wallace, D., Molecular Biology of Aging, Cold Spring Harbor Monograph Series, 2008.
3. Masoro, E. J. and Austad, S. N., Handbook of the Biology of Aging, 7th Edn., Academic Press, 2010.
4. Arking, R., The Biology of Aging: Observations and Principles, Oxford University Press, Oxford, 2006.
5. Zglinicki, T. von, Aging at the molecular level, Springer, 2011.