

Course Objectives:

1. To provide detailed account based on origin of life
2. To develop some basic concepts and ideas for causing evolutionary changes.
3. To determine the significance of systematic in relation to their nomenclature.

Course Learning Outcomes:

1. To **ACQUIRE** basic knowledge for the factors and theories related to the origin of life.
2. To **UNDERSTAND** the vital concepts proposed by various scientists for the appearance of life on earth.
3. To **SOLVE** the critical issues for the discrepancies based on origin of life.
4. To **ANALYZE** certain issues regarding the animal phyla, classes, orders till sub-species levels.

Course Contents:

- Theories of Evolution: theories to explain diversity of life– modern synthetic theory, factors initiating elementary evolutionary changes (micro-evolution) and change of gene frequencies.
- Mutation pressure, selection pressure, immigration and crossbreeding, genetic drift.

- Role of isolation in evolution: factors of large evolutionary changes (macroevolution) concepts of allopatry, orthogenesis, adaptive radiation.
- Modern concept of Natural Selection: levels of selection, selection patterns, some examples of Natural Selection.
- Impacts of Natural Selection leading to Convergence, Radiation, Regression and Extinction, Batesian mimicry, Mullerian mimicry, sexual selection: Darwin's concept, Fisher's view, Zahavi's handicap theory and Recapitulation theory.