Course Name: Mathematical Modelling

Course Code: MAT 610

Credit: 04

SYLLABUS

Introduction of Mathematical modelling: Simple situations requiring mathematical modelling, techniques of mathematical modelling, Classifications.

Mathematical modelling through differential equation: Characteristics and limitations of mathematical models, Some simple illustrations. Mathematical modelling through differential equations, linear growth and decay models, Non-linear growth and decay models, Mathematical modelling in dynamics through ordinary differential equations of first order.

Mathematical Modelling through Difference Equations: Mathematical models through difference equations, some simple models, Basic theory of linear difference equations with constant coefficients, Mathematical modelling through difference equations in economic and finance, Mathematical modelling through difference equations in population dynamic.

Mathematical modelling through linear programming: Mathematical modelling through linear programming, Linear programming models in Transportation and assignment.