

DMG 4261 – POPULATION MODELS AND THEIR APPLICATIONS

Course Objectives:

The main objective of this course unit is to provide students with a thorough knowledge on population models and their application. This unit will provide a great opportunity for the students to understand how any given population phenomenon can be modeled with the use of already existing models.

Expected Outcomes:

Students will be able to understand the availability of population models and how they can be used to make appropriate models for any given population.

Course Content:

Topic	Allocated Lecture hours	Number of Tutorial & Discussion hours
1. Introduction: Definitions and scope of a model in general and Demographic/Population model; importance and general applications	1	1
2. Models of population dynamics Population changing over time; population growth models, lotka's model Fertility, Mortality, Migration and age composition models, Theoretical population models; stationary and stable models	6	2
3. Models of family building Formation and dissolution model	8	3
4. Nuptiality models Age of marriage models	6	3
5. Migration models Cost-benefit models, Stoufers –Stay and Movers model Simulation models	6	3
6. Mortality models Deterministic models	6	3
Sub Total	33	15
Total	----- 48 =====	

Method	Assessment	Weightage
Two Assignments (at 10% each)		20%
Mid-Semester Test		20%
End-of-semester Examination		60%
Total		----- 100% =====

Recommended readings

Shryock H.S. Siegel J.S and Associates, 1980, *The Methods and Materials of Demography*, Washington, US Department of Commerce: 717-719.

Halli S.S and Vaninadha Rao, 1992, *Advanced Techniques of Population Analysis*, New York and London, Plenum Press, Chapter 7:142-145.

Pathak K.B. and F.Ram, 1992, *Techniques of Demographic Analysis*, New Delhi, Himalaya Publishing,

Srinivasan K. 1998, *Basic Demographic Techniques and Applications*, London, Sage Publications: Chapter IX.