

# **STATISTICS 890-4**

## **Statistics: Selected Topics: (Analysis of Life History Data)**

### **Course Outline**

#### **1. Introduction.**

Examples of longitudinal and life history data; review of stochastic models; finite state Markov processes; renewal and Markov renewal processes; point processes and counting processes; regression models.

#### **2. Multistate models and prospective cohort data.**

Markov chains. Estimation, tests and model checks, regression models. Multivariate counting processes,

#### **3. Other types of longitudinal studies.**

Point process models and extensions: event and count data. Time series with discrete response. Categorical or correlated discrete response models. Model-based and estimating equation approaches.

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