**BIS 3100 Modeling and Simulation (4 CU)**

**Course Description:** The course gives students theoretical and practical skills in modelling and simulation of dynamic systems with a view of learning their behaviour and the sensitivity of that behaviour to certain parameters. The course will familiarize students with modelling and simulation techniques that are applicable under varying circumstances equip students with practical experiences of composing models and running simulations under varying circumstances, equip students with skills of correctly representing simulation results

**Indicative Content:** Simulation of operational systems, Simulation as a decision making methodology, Model development and validation, Design of simulation experiments, Generation of appropriate values of random variables, Interactive procedures and interpretation of results.

**Reference Books:**

**i.** L. Oakshott, *Business Modelling and Simulation*, Trans- Atlantic Publications, 1997.

ii. R. G. Coyle, *System Dynamics Modelling; A practical approach*, Chapman & Hall/CRC, 1996.