

**Faculty of Computers and Information Technology**

**Modeling and Simulation**

**Information :**

**Course Code :** ISI311

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Artificial Intelligence Program

**Description :**

This course provides the essential principles and methods of modelling and simulation of both discrete-event and continuous-time (dynamic) systems. Topics covered in this course are steps of simulation study with examples, statistical models (discrete and continuous time simulation models), simulation of queuing systems (single server or multi servers), probability distributions and inverse transform method to generate random variates, random-number generation, uniformity and independency statistical tests for the generated random numbers, inventory system, comparison and evaluation of alternative system designs and output analysis for a single model. Hands-on experience is provided through a series of exercises, assignments, and projects.