Welcome to Computer Simulation and Modeling

On successful completion of the course students will be able to:

1. Understand fundamental concepts of computer simulation and its role in engineering problem solving.

2. Develop and model engineering problems and apply procedures for modelling systems using ARENA framework.

3. Appreciate the advantages of using simulation and modelling for taking decision in engineering problems.

4. Understand the need to incorporate simulation and modelling considerations throughout the design and execution of a project aiming at understanding its limitations and ways of improvement.

### **Content**

1. Basic aspects of modelling and simulation
2. Simulation process / Models and systems
3. Statistical problems related to simulation
4. Discrete and continuous simulation modelling
5. Applications of simulation
6. Introduction to ARENA modelling framework
7. ARENA: network modelling
8. Basic Process Modules
9. Modelling Detailed Operations
10. Making Decision with Simulation
11. Process Modelling
12. Advanced Modelling Techniques
13. OpQuest for ARENA
14. Costing and Animation

http://home.ubalt.edu/ntsbarsh/Business-stat/simulation/sim.htm#rstatcorr