Department of Industrial and Information Management  
National Cheng Kung University  
“Introduction to System Simulation”

<table>
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<tr>
<th>Professor:</th>
<th>Office, Phone, &amp; E-mail of the Course:</th>
<th>Office Hours:</th>
<th>Time:</th>
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</table>
| Shing Chih Tsai | Room 61309  
(06)2757575 #53135  
sctsai@mail.ncku.edu.tw; | Thur. 14:10 – 15:00  
or by appointment | Wed. 13:10 – 15:00  
Fri: 16:10 -- 17:00  
Room 61101 |

I. Objective:

Simulation is frequently employed for analyzing models of stochastic systems which are so complex that purely mathematical methods cannot be applied. Applications are drawn from manufacturing and service systems. The course prepares students to identify the situations when simulation is appropriate, to build simulation models for a real-world process or system, and to use simulation for predicting the effect of changes to existing systems.

II. Textbook:


III. Reference:


IV. Prerequisite:

- Probability and stochastic processes, particularly the exponential, normal and uniform distributions, Poisson arrival processes and queueing.
- Statistics, particularly the relationship between probability distribution functions and cumulative distribution functions; confidence-interval procedures based on the normal and t distributions; sample mean and variance.

V. Grading Policy:

- Individual assignments: 25 %. No late turned-in assignment will be accepted.
- Midterm exam: 30 %.
- Final exam: 35%
- Labs: 10 %.
- Cheating and plagiarism will not be tolerated and will result in a failing grade for the course.
Grading percentage for multiple assessment (see the table below):

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<th>Percentage</th>
<th>Item</th>
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<td>IT</td>
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**AACSB = The Association to Advance Collegiate Schools of Business**
**IIM = Industrial and Information Management**

**IT = Information Technology**
Proficiency of using as much IT advantages as possible, such as using the Simulation language ARENA to solve problems encountered in the industry context..

**OC = Oral Communication**
Examination of the breadth, the depth, and the structure of the speaking content, including skills of using non-language expressions, different communication tools and taking questions.

**PS = Problem Solving**
Demonstrate exceptional ability in identifying and diagnosing problems encountered in this context.

**CI = Creativity and Innovation**
Ideas presented with originality, transparent to solution finding and relevance to the subject. Degree of getting analysis errors will also be examined.

**VP = Values and Professionalism**
Being aware of rules, policies and norms used in the statistics arena for display.