Wednesday 9:10–12:00 **Depart. of IEEM**
National Tsing Hua University (NTHU)

Instructor:
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Class-Notes and References

1. Class-notes in NTHU-iLMS (Integrated Learning Management System) (數位學習平台) : System Simulation

2. FlexSim – 3D Simulation Software

3. Barry L. Nelson, *Stochastic Modeling*, McGraw-Hill International Editions, 1995.

4. Law and Kelton, *Simulation Modeling and Analysis,* McGraw-Hill, 1982.

5. 104 NTHU OpenCuurseWare (OCW): http://ocw.nthu.edu.tw/ocw/index.php?page=course&cid=128&

The course will be taught primarily from CLASS NOTES, stored in NTHU iLMS web platform (NTHU iLMS website: http://lms.nthu.edu.tw/). You are suggested to download the CLASS NOTES before classes.
Prerequisites: Basis of Probability , Statistics, and Computer Programming.

Goal: The goal is to describe simulation concept in a way that exploits your common sense and intuition about dynamic systems. Also this class enables you to use the simulation software (Flexsim), probability, and statistics at your proposal to perform a detailed analysis. At the end of this semester, you should learn how to use Flexsim to analyze dynamic systems.

Content: Three major parts in building simulation models

- Basic Tasks:

    - input modeling (random numbers, random variate generation)
    - modeling (MS Excel and Flexsim)
    - output analysis (statistics)

- Advanced Tasks: common random numbers (CRN)

- Projects: Physical Examination (PE) and Manufacturing Processes (MP)

Grading:

Home Work	25%
Quiz	25%
Mid-Term Exam	25%
Final Exam	25%