

Syllabus (Fall 2000)

Title:	System Modeling and Performance Evaluation
Course Number:	ICE 611
Instructor:	Chansu Yu, Room 12312, 042-866-6128, cyu@icu.ac.kr
TA:	Moonsoo Kang, 042-866-6188, kkamo@icu.ac.kr
Lec:Exp:Credit:	3:0:3
Class:	MW 13:30-15:00 PM, Room 11201
Office Hour:	M 15:00-16:00, W 16:00-17:00 or by appointment
Course Description:	<p>Researchers in information and communication areas face rapid developments as well as numerous emerging technologies. In order to find optimal engineering solutions, it is imperative to utilize the design methodology based on system modeling and performance evaluation techniques. This course covers modeling and evaluation techniques such as benchmarking, measurements, simulation and queueing analysis. Example target systems include Internet, Mobile wireless networks, Embedded systems, and Cluster systems. Specific topics include</p> <ul style="list-style-type: none">- statistical techniques to compare systems and summarize measured data- random number generation and random variate generation- basic techniques for measuring system performance- different types of simulations- queueing network modeling and bound analysis- simulation packages such as ns-2, CSIM, GlomoSim, SimpleScalar, opnet, Ptolemy, BONEs, RSIM, SES and Myrinet Simulator, and queueing modeling software package such as SHARPE
Prerequisite:	ICE 514 or Basic probability theory
Textbook:	Raj Jain, The Art of Computer Systems Performance Analysis, John Wiley & Sons, 1991
References:	L. Kleinrock, Queueing Systems, Vol.I: Theory, John Wiley & Sons, 1975 E.D.Lazowska, J.Zahorjan, G.S.Graham and K.C.Sevcik, Quantitative System Performance, Prentice-Hall, Inc., 1984
Grading Policy:	Midterm Exam (October 16, Monday) 20% Final Exam (December 11, Monday) 30% Homework 10% Term Project (December 9, Saturday) 30% Attendance 10%