

GOVERNORS STATE UNIVERSITY
College of Business and Public Administration

Course Title: MIS 430 A. Business Simulation and Modeling

Session: September-December 1994. Fall Trimester, Block 1
Tuesday/Thursday: 2:00-3:15 P.M.

Instructor: Dr. Akkanad M. Isaac

Phone: (708) 534-4951 Office: C3353

Units: Three Credits

Target Group: Undergraduate Students
Required course for the MIS Concentration.

Prerequisites: STAT 362 (Statistics for Management II) and
MIS 301 (Introduction to MIS)
Working knowledge of BASIC Programming and LOTUS
1-2-3.

Description:

Introduction to the use of computers in creating models of business systems. Deals with the methodology for designing and conducting computer simulation experiments using models of enterprises and socioeconomic systems. The course will expose students to the basic concepts of model choice and formulation including heuristic models and management games. Provides an introduction to selected simulation languages (e.g., SIMAN, GPSS and DYNAMO). Basic statistical tools and techniques required for simulation will also be covered. Approximately 50% of the course time will be devoted to the methodology and practice of simulation and the remaining time (50%) in lab sessions to gain experience with PC based business simulation and modeling. Students will also be required to develop simulation models using BASIC and spreadsheets (LOTUS 1-2-3 and/or Quattro Pro). Emphasis will be placed on the interpretation of simulation outputs.

Performance Objectives:

Upon completion of the course the student will gain:

1. an ability to formulate models (analytic and simulation) to represent business problems and situations.
2. an understanding of the basic approaches to design simulation models and conduct experiments with them to study business oriented problems.
3. basic knowledge which will help to decide whether a simulation or analytic model is appropriate for problem solution.

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4. exposure to the use of special purpose simulation languages (SIMAN, GPSS, and/or DYNAMO).
5. sufficient knowledge to conduct simulation experiments using SIMAN and/or GPSS, obtain required outputs and interpret results.
6. familiarity with selected software (BASIC & LOTUS 1-2-3) to model business problems in a microcomputer environment.
7. an introduction to management games.
8. an ability to create macros and use special functions (including statistical functions) in Lotus 1-2-3.
9. basic understanding of the statistical tools to be used in designing valid simulation experiments and interpreting simulation outcome.
10. an elementary knowledge of formulating and solving simple business problems using Linear/Integer Programming, forecasting, inventory, scheduling and assignment models.

Textbooks:

Hayen, Roger, Comprehensive Lotus 1-2-3 Release 4 for Windows.
Course Technology, 1994.

Isaac, Akkanad, Lecture Notes on Business Simulation and Modeling
(unpublished) + GPSS/PC Software from Minuteman Software.
Cases and Handouts (to be assigned/distributed in class)

Evaluation:

Examination 1	20%
Final Examination	20%
Lab Work (Modeling Exercises)	30%
Assignments	20%
Class Preparation/ Attendance	10%

Course Policies:

1. The student is required to attend classes regularly and participate in class discussion and problem solving exercises.
2. The student shall complete all assignments by specified due dates. Late submissions, even if accepted, will affect grades.
3. Grade of "incomplete" will not be given except under extenuating circumstances.
4. Make-up exams will be given only when supported by verifiable medical exigencies.