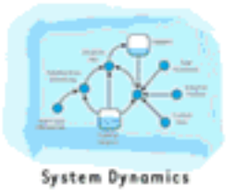
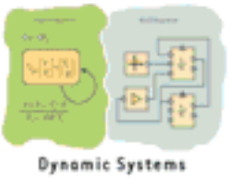
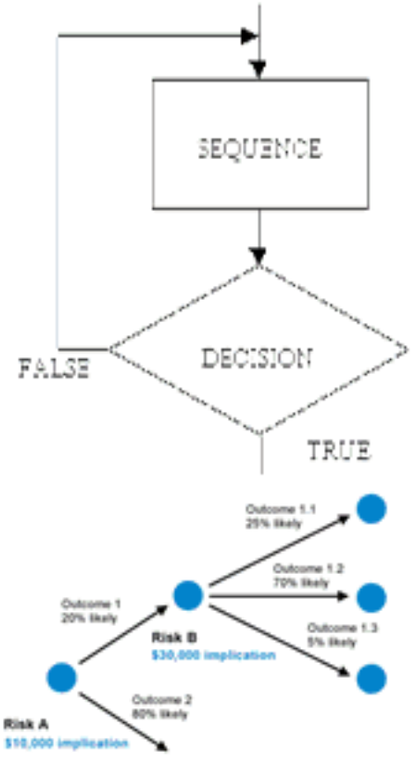
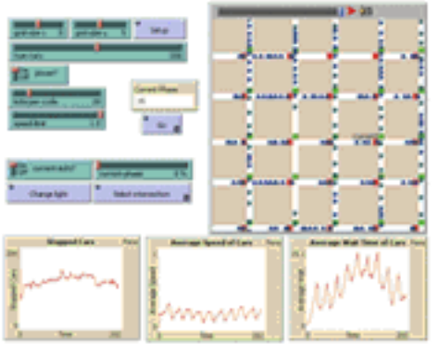
PPOL225

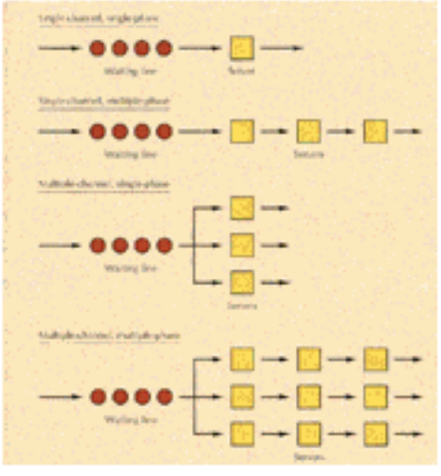
Simulation and Modeling in the Social and Policy Sciences











MILLS COLLEGE SPRING 2016

Tu-Th 9:30-10:45 , LAB Th 4-6

Dan Ryan*

This hands-on class introduces students to the happening world of computer simulation and modeling. Topics include flow charts, logic models, Markov models, system dynamics and feedback, critical mass, difference equations, peer effects, discounting, decision trees, agent models, "big data" and visualization.

Drawing on examples from social science, policy, and business, we will learn to deploy an array of tools to describe systems and system behavior, ask "what if…" questions about them, and using the computer to simulate them.

Class meets for two "lectures" plus a two hour computer lab each week. Primary work for the course is problem sets with regular quizzes and three exams.

The diligent participant can expect to emerge from the class with top tier Excel skills and greatly enhanced Word skills but this is NOT a course in Microsoft Office.

Minimum prerequisites include basic familiarity with Excel, mathematics at the level of college algebra and general openness to things mathematical and prior course work in social science, public policy, or economics/business.

Dan Ryan is Associate Professor of Sociology and Director of the Innovation Lab at Mills. He teaches in sociology and public policy. He holds a Ph.D. from Yale University in sociology and a B.A. in mathematical, physical, and computer sciences from New College of Florida.