

System Dynamics

Introduction to System Dynamics

Course Objectives

The success or failure of a particular policy initiative or strategic plan is largely dependent on whether the decision maker truly understands the interaction and complexity of the system he or she is trying to influence. Considering the size and ub complexity of systems that public and private sector decision makers must manage, it is not surprising that the "intuitive" or "common sense" approach to policy design often falls short, or is counter-productive, to desired outcomes. The objective of this course is to introduce the concepts and "language" that make a systems-based study of such complex problems possible. Our intent is to provide the student with a broad overview of the field of system dynamics, acquaint him or her with the fundamental stock-flow-feedback structures that determine the dynamic behavior in systems, and motivate the student to begin analyzing problems dynamically and holistically. Knowing how to speak and think in terms of systems and interconnections is a critical step in effective policy design, policy implementation, and consensus building.

Duration: 5 Days

Who Would Benefit:

Managers, engineers, consultants, and others interested in developing their systems thinking skills or using system dynamics in their organizations.

Course Content

- System Dynamics (SD) Key Functions.
- The Modeling Process Overview
- System Dynamics in Action _ Successful Business
- Applications of SD
- Playing the “*Computech*” Management Flight Simulator.
- From Concepts to Causal Loops
- Causal Loops Examples
- SD Group Model Building Workshop.
- Building a full fledged SD model from A to Z

Business Dynamics

Course Objectives

The success or failure of a particular policy initiative or strategic plan is largely dependent on Accelerating economic, technological, social, and environmental change challenges executives and policy makers to learn at increasing rates. At the same time, the complexities of the systems in which we live are growing. To manage effectively in a world of mushrooming complexity, business executives must become systems thinkers. They must learn to expand the boundaries of their mental models and develop modeling tools to understand how the structure of complex systems creates their behavior.

Duration: 5 Days

Who Would Benefit:

Managers, planners, and strategists who work with management teams. The program also benefits administrators of public and not-for-profit organizations, management scientists, educators, and members of the general public interested in the technique.

Course Content

- Think systemically and dynamically
- Map the structure of complex systems and understand their dynamics
- Use state of the art software for modeling and simulation of complex systems
- Implement systems thinking and modeling in teams and organizations
- Apply lessons from a variety of successful applications
- Challenges for the Future

