

## Lecture 1

Wednesday, November 13, 2013  
12:10 PM

Main focus: Use **MATLAB** to model and study **random phenomenon**.  
**Two approaches**

Analytical

Simulation

Key question:

Is the model constructed  
"tractable"?

To make this possible,  
usually have to simplify  
the model or do some  
approximation.

Relatively newer  
approach

Possible by the  
use of increasingly  
computationally  
more powerful computer

Computer  
Applications

Symbolic  
manipulation

Numerical approximation  
Monte Carlo simulation

Provide similar results to  
analytical methods without  
the need for complex mathematics.

Scope of the course:

