



# WEEK BY WEEK SCHEDULE

Items below preceded by a ★ are graded. All activities are due at the end of the course.

## GET STARTED

30 min

This week you'll take a pre-assessment to get a baseline of your understanding of the course material. During this period, you'll become familiar with the platform and course design.

Welcome to the Course  
Entrance Survey  
★ Pre-Assessment

**Getting Started:**  
Syllabus  
Discussion Forum: Introduce Yourself  
Course Team  
Inspiration Design Toolkit

## WEEK 1 / FOUNDATION OF SYSTEM THINKING

4 hrs 10 min

In week one, you will learn the foundations of System Thinking through a diverse set of self-assessment activities, discussions, polls, and learning scenarios. You will apply these concepts to a personal activity system and a professional activity system of your choice.

1.1 System Thinking  
1.2 Emergence  
1.3 Function  
1.4 Form  
1.5 Identifying Entities  
1.6 System Boundaries  
1.7 Formal Relationships  
1.8 Formal Relationships  
Week 1 Discussion

## WEEK 2 / EMERGENCE AND SYSTEM SUCCESS

3 hrs 30 min

In week two, you will learn about predicting and understanding emergence, and system success and failures. You will synthesize weeks 1 and 2 learning by representing your professional system and reviewing systems from your peers.

2.1 Predicting Emergence  
2.2 Understanding Emergence  
2.3 System's Success and Failures  
2.4 Using System Thinking  
★ Week 1 Graded Activity  
★ Submit your response  
★ Review the work from three peers  
Week 2 Polls & Discussion

## WEEK 3 / SUPPLY CHAIN AND COMPUTATIONAL APPROACHES

4 hrs 45 min

In week three, you will understand the application of system thinking to logistics and transportation systems and computation. You will perform self-assessment, discussions, learning scenarios, and practice activities to reinforce your learning, and to integrate learning from weeks 1 and 2.

### Logistics and Transportation Approach to System Thinking

3.1.1 Form, Function, and Performance  
3.1.2 Counterintuitive Emergent Behavior  
3.1.3 Queuing Systems and Networks  
3.1.4 Modern Logistics and Transportation Systems  
Week 3.1: ★ Graded Self-Reflection  
Week 3.1: General Discussion

### Computational Approach to System Thinking

3.2.1 System Thinking: The Computational Approach  
3.2.2 Case Study: The legged Robot  
3.2.3 Computational Design: Wrap up  
Week 3.2: ★ Graded Self-Reflection  
Week 3.2: General Discussion

3.3.1 Learning Scenario  
3.3.2 Scenario Discussion

## WEEK 4 / SYSTEM DYNAMICS: TOOLS FOR LEARNING IN A COMPLEX WORLD

5 hrs

In week four, you will learn how to apply system thinking to complex environments. You will apply and reinforce your learning by playing a hardware project management simulation.

3.1 System Dynamics: Project Management  
3.2 Project Management  
3.3 Project Management Simulator: Hardware Project

## WEEK 5 / SYSTEM DYNAMICS APPLICATION: MANAGING COMPLEX PROJECTS

3 hrs 30 min

In week five you will reflect on the simulation experience to understand best practices for managing complex projects. You will apply the lessons learned on system dynamics planning processes and policies' improvements for your company.

3.4 Project Management Simulator: Debrief  
3.4 Project Management: Wrap Up  
★ Week 3: Graded Activity  
★ Submit your response  
★ Review the work of three of your peers  
Week 3: General Discussion  
★ Post-Assessment  
EXIT SURVEY