

## Getting started

Hello everybody! Welcome to our “thinking complexity” class. My name is Cameron Guthrie, I’m an Associate Professor at the Toulouse Business School in the south West of France where I teach decision making and systems thinking. I will be accompanying you on this fascinating journey through complexity where we will learn some systems thinking skills to think complexity in our everyday lives.

The goal of our class is to learn to model and understand complex situations. We all build and use mental models or maps of how the world works. Sometimes they are accurate but often they are not, in particular when we are faced with complexity. We need to learn new concepts to improve our models of complex situations and new tools to be able to share them with others. This is what our class is all about.

The class is made up of four chapters. Each chapter is broken down into seven or eight short units. Each unit is based around a video, a self-assessment quiz, additional resources and sometimes a worked exercise or a class discussion. We will use the online news to practice and observe complexity at work everywhere around us. At the end of every chapter we will work through a case study of a complex problem from the real world.

In the first chapter we look at what we mean by complexity, why we sometimes have so much trouble dealing with it and how a systems perspective can help us better understand complex situations. At the end of the chapter, we look at the complex problem of poverty and poor housing.

In chapter two we explore a key concept in systems and complexity theory called feedback. We will see that many natural, social and business phenomena are driven by reinforcing and balancing feedback. In this chapter we will use free online software to share our models and tell the story behind a complex situation. At the end of chapter two, we look at the complex problem of obesity.

In chapter three we look at the role of accumulations and non-linear relationships in complex systems. We explore how they contribute to both the speed of change over time and the unexpected and often frustrating behaviors we observe in complex situations such as thresholds and tipping points. In this chapter we will use online software again, but this time to simulate the behavior of a complex situation. At the end of the chapter we look at the complex problem of climate change.

In the fourth and final chapter of our class we will see that there are a small number of systemic stories that can be found in a variety of different situations in the real world. For example, the structure that underlies a school yard fight is similar to that behind a commercial price war or an armed conflict between two nations. Using our systems approach, we will learn to see the common elements in diverse settings rather than focusing on the differences. We also use our new understanding of systems and complexity to question the practices of management and public policy. At the end of the chapter we look at the complex problem of the 2008 financial crisis.

All throughout our class you will be learning the ten skills of the systems thinker. Becoming a systems thinker is a challenging journey. The tools are not too difficult to use, but we must force ourselves to question and sometimes let go of our mental pictures of how the world works and our habitual ways of thinking. The result is definitely worth it though: when we think systems, we are better equipped to think complexity.

Are you ready? Ok, let’s get started!