

# SYSE 580A2

## APPLIED SYSTEMS THINKING FOR THE REAL WORLD

Offered in Spring

*Prereqs: None*

### DESCRIPTION

Application of systems thinking language, tools, and frameworks for solving complex, real-world problems in fields such as aerospace, energy, biomedicine, cybersecurity, and project management.

### BENEFITS

Systems-thinking is more than just a collection of tools and methods – it's also an underlying philosophy and rigorous framework for solving complex problems.

By learning and applying systems-thinking, we can improve our odds of success when dealing with complex socio-technical problems in various fields, including health care, social science, business, and engineering.

### COURSE OBJECTIVES

Topics include an overview of systems thinking and tools associated with rigorous application of systems thinking.

Successful students will learn to:

- Classify failures or fiascos that are due to a lack of systems thinking
- Classify successes that are due to good systems thinking culture
- Use necessary systems thinking skills and rigorous tools to improve odds of success when dealing with complex real-world problems
- Reflect on key systems principles involved in a very broad range of industrial case studies

