

# SYSE 667

## ADVANCED MODEL-BASED SYSTEMS ENGINEERING

Offered in Spring as needed

*Prereqs: SYSE567*

### DESCRIPTION

This is the second of a two-course sequence in Model-Based Systems Engineering (MBSE). This course continues SYSE 567 by diving deeper into formal system architecting topics, modern tools, and research techniques for system architecture and MBSE.

### BENEFITS

Realizing the benefits of MBSE necessitates the use of a modern MBSE-aligned tool that supports formal modeling in the Systems Modeling Language (SysML) and advanced techniques such as simulation and optimization. This course will show a modern SysML tool and further principles and techniques for handling increasingly complex systems through architecture.

### COURSE OBJECTIVES

Topics include advanced Cameo Systems Modeler usage; architecture simulation, decisions, optimization, and complexity; and real-time, open, secure, and agile systems architecture special topics.

Students successfully completing this course will be able to:

- Develop an expert level of skill in creating, modeling, analyzing, and maintaining system and enterprise architecture through SysML models
- Use Cameo Systems Modeler to perform modern SysML-based MBSE activities
- Integrate advanced systems architecture concepts into their SYSE 567 course project

