

SYSE 567

SYSTEMS ENGINEERING ARCHITECTURE

Offered every Fall

DESCRIPTION

Introduction to formal system architecture methods using the Systems Modeling Language (SysML) and Model-Based Systems Engineering (MBSE) using the Model-Based System Architecture Process (MBSAP) with detailed examples.

BENEFITS

Formally capturing systems engineering artifacts such as requirements, domains, use cases, activities, and parametrics in an MBSE approach can better handle complexity, improve quality and consistency, enhance communications and knowledge transfer, and create reusable artifacts.

COURSE OBJECTIVES

Topics include the operational, logical/functional, and physical viewpoints that establish the fundamental MBSAP methodology, a summary of architecting paradigms and tools, and specialized discussions on service-oriented, real-time, enterprise, network, secure, and reference architectures.

Students successfully completing this course will be able to:

- Describe the key principles of formal system architecture modeling and the role of a system architect
- Describe the characteristics and challenges of specific architecture system categories
- Understand and create SysML diagrams for modeling system architecture
- Integrate the methodology into an architecture project based on a system or enterprise of their choice

