SYSE 567

SYSTEMS ENGINEERING ARCHITECTURE

Offered every Fall

Prereqs: SYSE501 or concurrent (or instructor permission)

DESCRIPTION

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

BENEFITS

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

COURSE OBJECTIVES

Topics include developing the structure, behavior, and rules for the operational, logical/functional, and physical viewpoints that establish the fundamental MBSE methodology taught in the course, 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
- Understand and create SysML diagrams for modeling system architecture
- Describe the characteristics and challenges of specific architecture system categories
- Integrate the methodology into an architecture project based on a system or enterprise of their choice

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COLORADO STATE UNIVERSITY