

SAE 546

Engineered Resilient Systems and System-of-Systems

Fall 2018

Thursdays, 3:30-6:10 PM, on-campus and DEN

Course Description

Resilience Engineering is an important subject in systems engineering, as systems continue to grow in size, scale, and complexity. This course provides Systems Architects and Engineers with key definitions, concepts and methods for the design and analysis of resilient systems and system-of-systems (SoS).

Topics

- **Domain Case Studies: Multi-UAV Swarms, Planetary Exploration & Spacecraft Swarms, Manned Space Systems**
- Resilience Concepts in Various Domains
- General Approaches for Hardware, Software, & Networks for Systems and SoS
- Affordably Adaptable and Effective Systems
- Complexities Posed by Adaptable Systems
- Model-based Approach for Engineering Resilient System-of-Systems
- Flexible Contracts Approach to System Resiliency



More About the Class

- No prerequisites
- No required purchases: lecture Notes and reading materials provided via DEN
- Midterm Exam, final Research Paper, no Homework but participation required
- Instructor: Kenneth Cureton, SAE cureton@usc.edu