



Space Mission Analysis and Design

Fall 2022 | SYSE 580A4
5:15 - 8:00 p.m. Thursday
Instructor: Jim Adams

Course prerequisites: MATH 340 or MATH 345 (differential equations)

Dr. Adams is a Systems Engineer with Lockheed Martin Corporation working primarily at the Boulder-area facilities on the Overhead Persistent Infrared (OPIR) ground segments (Space Based Infra-Red Satellite (SBIRS) and Next Generation OPIR). He also supports other Lockheed Martin programs for the Space Defense Agency and NOAA.

Develop successful space missions with a limited set of resources.

Appropriate for engineers, scientists, and technical managers striving to develop the best mission possible with a limited set of resources, including limited time. Designed for both students and professionals in space systems-related fields, including defense, commercial, civil, and exploration.

Students completing this course will be able to:

- Define top-level mission requirements
- Evaluate mission operational concepts
- Evaluate mission operations analysis and designs
- Synthesize space system costs from component and systems models
- Perform spacecraft design development, verification and validation, and review processes

Topics covered in this course:

- Conceptual mission analysis
- Orbits and constellation design
- Space environments
- Survivability and resiliency
- Space propulsion and launch systems



**Design
solutions for
space systems
problems.**

Questions?

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**We recommend registering for Fall 2022
classes by August 15.**



SYSTEMS ENGINEERING
COLORADO STATE UNIVERSITY

