



Research Methods in Systems Engineering

Spring 2022 | SYSE 780A1
5:15 - 8:00 p.m. Tuesday
Dr. Tom Bradley

Course note: SYSE 780A1 can apply to the master's and Ph.D. but cannot apply to the D.Eng.

Dr. Tom Bradley's research interests are focused on applications in automotive and aerospace system design, energy system management, and lifecycle assessment. He has coauthored 75+ peer reviewed papers, with significant contributions to model-based systems engineering and the lifecycle assessment of biofuels.

An introduction to the systems engineering research field.

This course will provide students the background, skillsets, and research toolkit to help them develop a successful research project. There will be a focus on writing to help students develop a plan for completing their program.

Students completing this course will be able to:

- Understand, communicate, and apply the philosophy, frameworks, and methods of basic and applied research
- Synthesize, plan, and execute a systems engineering research planning process
- Design a personal program for technical leadership, management, and ethical engineering

Topics covered in this course:

- Models of engineering research
- Systems thinking
- Research design
- Quantitative & qualitative systems engineering research
- Hypothesis and research questions
- Ethics in systems engineering



**Develop and
refine systems
engineering
research skills.**

Questions?

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**We recommend registering for Spring
2022 classes by January 11.**



SYSTEMS ENGINEERING
COLORADO STATE UNIVERSITY

