

# Research Methods in Systems Engineering

**SYSE 701**  
**Spring**  
**Dr. Tom Bradley**

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.**

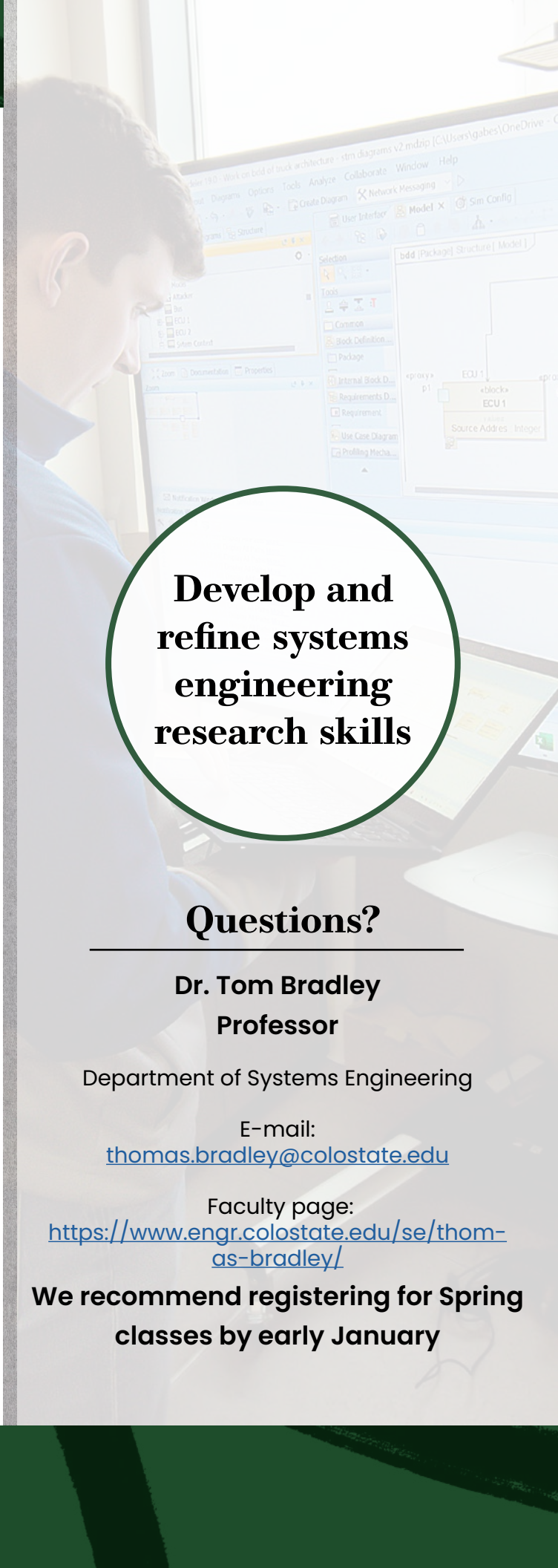
This course will provide students the background, skillsets, and research toolkit to help them develop a successful research project. There will be a focus on writing to help students develop a plan for completing their program.

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
- Quantitative & qualitative research
- Research design
- Hypothesis and research questions
- Ethics in systems engineering



**Develop and refine systems engineering research skills**

## **Questions?**

**Dr. Tom Bradley**  
**Professor**

Department of Systems Engineering

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**We recommend registering for Spring classes by early January**



**SYSTEMS ENGINEERING**  
COLORADO STATE UNIVERSITY