



ROSE-HULMAN
INSTITUTE OF TECHNOLOGY
outreach

Rose-Hulman Engagement and Academic Collaboration (REACH) combines offerings to the business world through technical and professional development short courses—on and off campus—, solutions to real-world problems through Rose-Hulman Ventures, and an engineering management masters’ degree program.

Our “reach” into the business world and community provides you services with talent and resources from one of the nation’s leading engineering, mathematics and science colleges. The result is immediate impact solutions, strengthened companies, and technically and professionally developed individuals.

For over 134 years, Rose-Hulman has earned the reputation for excellence and is poised to assist you within our 16 majors. The programs of study are: applied biology, biochemistry, biomedical engineering, chemical engineering, chemistry, civil engineering, computer engineering, computer science, economics, electrical engineering, engineering physics, mathematics, mechanical engineering, optical engineering, physics, and software engineering.

Outreach Programs

- Master’s Degree
- Professional Development
- Technical Short Courses
- Workshops
- Rose-Hulman Ventures
- Homework Hotline
- PRISM

Rose-Hulman Institute of Technology Office of Outreach

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ROSE-HULMAN INSTITUTE OF TECHNOLOGY

Model-Based System Design Short Course: Introduction to Model-Based-System Design

Instructors: Zachariah Chambers, Ph.D., Associate Professor of Mechanical Engineering and Marc Herniter, Ph.D., Professor of Electrical and Computer Engineering

OVERVIEW

Introduces Model-Based System Design methods using Simulink software for simulation and design of complex systems. Promotes a philosophy of continuous refinement and improvement to generate accurate models of complex systems that can be well understood and applied to real systems. Emphasizes modeling at the component and system levels and the generation of system-level controllers. Emphasizes testing and documentation for continuous refinement of systems to meet current market place demands for speed and change, and uses real case examples to assure participants can immediately apply workshop results.

COURSE OBJECTIVES

By the end of the short course, participants will be able to:

- Proficiently use MathWorks Simulink software.
- Build mathematical models for components in a system.
- Follow a process of continuous refinement and improvement to generate accurate models.
- Connect component models together to model a larger more complex system.
- Setup and run Software-in-the-Loop Simulations (SIL).
- Apply basic control algorithms for a real physical system.
- Generate a supervisory controller for a complex system.
- Use Simulink to create a hierarchical model for a large and complex system.
- Create a system model that can be used to generate requirements and specifications, and predict component and system performance.

OUTCOMES

Participants will be able to immediately apply model based approaches to their own design tasks and be prepared to acquire and implement additional software tools to enhance the quality and productivity of their engineering efforts.

Contact the Office of Outreach for details

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