

Master of Science Systems Engineering



SMU's Systems Engineering Program is dedicated to the branch of engineering that develops systems – a collection of elements working together as a unit. Applied to large systems such as defense systems or to small components such as computers...to hardware or software...to tangible products like automobiles or intangible products like services or processes, systems engineering focuses on the total life cycle: concept, design and development, production, use, maintenance, and end-of-life.

Through related topics in this 30-hour program, students gain exposure to engineering, technology, environmental, management, risk, and economic factors. They are encouraged to practice “good engineering” and to look at the big picture as opposed to focusing only on details.

Using “systems thinking” skills to better understand the impact of their engineering decisions and the impact of other decisions upon them, students learn to develop engineering and management skills, applying these skills within the business environment to exceed customer requirements.

ADMISSION REQUIREMENTS

Bachelor of Science in engineering, mathematics, or one of the quantitative sciences.

G.P.A. of at least 3.00 out of 4.00 scale in previous undergraduate and graduate study.

A minimum of two years of college-level mathematics, including at least one year of calculus.

For more information, please email EngineeringLeaders@smu.edu, call 214-768-2002, or visit lyle.smu.edu.

DEGREE REQUIREMENTS

Thirty term-credit hours (30 TCH) of graduate courses with a minimum graduate G.P.A. of 3.00 on a 4.00 scale.

Satisfactory completion of the five core curriculum courses (15 TCH):

- Systems Analysis Methods
- Systems Engineering Process
- Integrated Risk Management
- Systems Reliability, Supportability, and Availability Analysis
- Systems Integration and Test

AND

Satisfactory completion of five courses (15 TCH) from the following:

- Systems Engineering Design
- Software Systems Engineering
- Systems Architecture Development
- Systems Engineering Planning and Management
- Systems Engineering Leadership
- Systems Reliability Engineering
- Human-Systems Integration
- Logistics Systems Engineering
- Systems Life Cost and Affordability Analysis
- Systems Test and Evaluation
- Collective Systems Design
- Innovation in Systems Design
- Systems Engineering Tools
- Six Sigma for Systems Engineering
- Supply Chain Systems Engineering
- Operations Research Models
- Engineering Economics and Decision Analysis
- Optimization Models for Decision Support
- Production Systems Engineering
- Reliability Engineering
- Statistical Quality Control

Plus, other Lyle School of Engineering graduate courses approved by the SEP Director.

