



SMU | LYLE
SCHOOL OF ENGINEERING

Systems engineering, born at the dawn of the Space Age, brought engineering principles to the management of government sponsored programs of unprecedented complexity. Success then was defined simply in terms of meeting performance targets. Now, programs must meet complex sets of requirements, driven not only by their sponsors but also by an increasingly diverse range of stakeholders—political, environmental, financial, and societal.

The result is a rising demand for engineers who can blend all decision elements—human and technical—into holistic systems that achieve results. Those who can manage to focus on critical details without losing sight of the overall vision are leaders. In every realm of advanced manufacturing and construction, including and especially aerospace and defense, systems engineering provides the intellectual framework required for mission success.

FIND US HERE

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MISSION DEFENSE

MASTER OF SCIENCE | SYSTEMS ENGINEERING



CONCEPT SOLUTIONS

THINK PROCESS

SMU Lyle meets customer needs in its Master's program in Systems Engineering. In this rich, 30-hour experience, students acquire and nurture critical thinking skills required to clearly define a project and its goals. They assess risks and alternatives to make valid management and engineering choices. Most importantly, from a systems thinking perspective, they conceive a complete end-to-end solution that directs a project through its entire life cycle. In the process, students acquire the upper-level management skills and enhanced engineering knowledge that help enable them to meet their own professional goals.

ACHIEVE END STATE

VALIDATE PRODUCT

Developed by Dr. Jerrell Stracener, the Systems Engineering Program (SEP) at SMU is unique in its focus, faculty, curriculum, and partnerships. From its inception in 1994, the SEP has developed around the particular needs of the aerospace and defense (A&D) industry. Because of this, we've enjoyed active collaboration and expert guidance from the U.S. DoD and systems engineering practitioners at Bell Helicopter, Lockheed Martin, Raytheon, Sikorsky, Vought, and many other leading A&D organizations. The fact that most of our students and faculty work in the nation's A&D community, both industry and government, and hold DoD security clearances adds even greater depth to this challenging program, **Unique by Design™**.

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MASTER OF SCIENCE | SYSTEMS ENGINEERING

ACADEMIC PROGRAM

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 five core courses (15 TCH).

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

Satisfactory completion of five courses (15 TCH) from one the following tracks.

Systems Engineering Technology

Logistics Systems Engineering
Systems Engineering Design
Systems Engineering Leadership
Systems Reliability Engineering
Software Systems Engineering

Systems Engineering and Design

Advanced Thermodynamics
Analog and Digital Control Systems
Communication and Information Systems
Digital Image Processing
Introduction to Numerical Analysis

Introduction to Telecommunications
Multivariable Control System Design
Systems Analysis

Logistics and Supply-Chain Management

Engineering Economics and Decision Analysis
Logistics Systems Engineering
Operations Research Models
Optimization Models for Decision Support
Production Systems Engineering
Reliability Engineering
Statistical Quality Control
Systems Reliability Engineering

Systems Engineering Application

All students must complete 15 term credit hours (TCH) in a concentration area. (The concentration must be in a different field from the undergraduate major.) For a full listing of the concentration areas see the graduate catalog.