SOUTHERN METHODIST UNIVERSITY

Systems Engineering Program

UNIQUE BY DESIGN

UNIQUE CURRICULUM

Designed to cultivate expertise for development and management of systems (products and services) that satisfy customer requirements, SMU's Systems Engineering Program (SEP) considers engineering, technology, environmental, management, risk, and economic factors by viewing the system as a whole over its life cycle, using systems engineering principles, methods, and practices. "Systems thinking" skills are developed to foster more effective practice for engineers and engineering managers within the business enterprise. The objective is to provide individuals with the capability to effectively manage the development of complex systems in an ever-changing global economy.

UNIQUE WORKING PARTNERSHIPS

The SEP's 21 graduate courses and on-going research projects have been developed by volunteer SEP Development Team Subject Matter Experts with continuous review, update, and validation to ensure continual focus on customer needs in the 21st Century. The SEP continues to evolve with active participation and guidance from SMEs affiliated with Lockheed Martin, Raytheon, Vought, Bell Helicopter, L-3 Communications, Northrop Grumman, Boeing, Rockwell Collins, NASA, FAA, U.S. Defense Acquisition University (DAU), U.S. DoD, Air Force, Army, and Navy.

UNIQUE DOD AND VA TUITION POLICY

UNIQUE FOCUS

SMU's Systems Engineering Program offers flexibility for (1) U.S. Defense Systems Developers (contractors, U.S. DoD), 2) systems engineers who are entering the field, updating skills or acquiring new skills, (3) engineers who need to acquire a broadening of their technical and management education from a systems perspective, (4) engineers with upper-level management aspirations, and (5) engineering students seeking to increase their market value by acquiring knowledge and skills necessary for engineering of products and services from a systems perspective.

UNIQUE FACULTY AND STUDENTS

SMU's location in Dallas, Texas allows the SEP to draw upon industry experts for development of courses and adjunct professors to teach those courses, increasing the reputation of the school and the SEP.

Most SEP professors are employed by aerospace and defense organizations.

The majority of SEP students are employed full-time by the aerospace/defense industry or industry/government.

Most SEP faculty and students are U.S. Citizens and maintain an active DoD Security Clearance.

SYSTEMS ENGINEERING PROGRAM (SEP)

PROGRAM OPTIONS

- Non-Degree Studies
- Certificate Series
- Master of Science
- Ph.D. Systems Engineering
- Ph.D. Applied Science

DELIVERY OPTIONS

- On-Campus
- Off-Campus
  - Internet
  - Industry and Government Sites
  - Video Conferencing

For program information, please email Dr. Jerrell Stracener, SEP Founding Director and Associate Professor, jerrell@lyle.smu.edu, call 214-768-1535, or visit lyle.smu.edu.

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UNIQUE BY DESIGN

Systems Engineering Program

SYSTEMS ENGINEERING COURSES

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

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

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ACADEMIC ADMISSIONS REQUIREMENTS

MASTER OF SCIENCE

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.

CERTIFICATE SERIES

Admissions requirements are the same as for the Master's degree.

NON-DEGREE STUDIES

A baccalaureate degree is required for admission.

Admission to non-degree study requires the consent of the program director who oversees the course(s) taken by the student.

Students may not take more than three courses on a non-degree status.

Students on a non-degree study plan may apply to study toward a graduate degree. All requirements for admission must be met. After a student is admitted, he or she may petition to transfer the non-degree courses subject to approval of the adviser, department chair and associate dean.

PH.D. WITH A MAJOR IN SYSTEMS ENGINEERING

A Master's degree in systems engineering or a related field of engineering, mathematics, statistics, or physics.*

Excellent academic performance in all completed graduate coursework, with a G.P.A. of at least 3.40 on a 4.00 scale.

Official Graduate Record Examination (GRE) test results with a minimum 80th-percentile quantitative score.

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

A minimum of three years engineering experience in industry and/or government.

Three letters of recommendation from individuals who can judge the applicant's potential success as a doctoral student.

PH.D. WITH A MAJOR IN APPLIED SCIENCE

The Doctor of Philosophy degree in the Lyle School of Engineering may be pursued in areas that do not belong strictly to any one department but nevertheless are of interest to some faculty members of the school.*

*Please consult Lyle's current graduate catalog for complete requirements.