SMU | LYLE
SCHOOL OF ENGINEERING

The modern datacenter is certain to undergo evolutionary transformation in the decades ahead. Continued advances in mission critical facilities, virtualization, networks, data analytics, the extraction of useful information, and security, will introduce dramatic changes, requiring professionals with diverse, highly specialized skills to effectively address the needs of a rapidly evolving critical constituency.

Designed to prepare an exceptional workforce to serve either as technical contributors or as managers in this essential field, datacenter systems engineering is a 30 credit hour Master of Science program which consists of 15 credits of core courses and 15 credits of electives with specialization in one of the following four areas: (i) Facilities infrastructure and management, (ii) Data engineering and analytics, (iii) Networks, virtualization, and security and (iv) Business.

Offered on-campus for full-time students, the program is also available to part-time students actively employed in the field. Off-campus students access streamed versions of "live" lectures via the Lyle Distance Education Program. Courses which span the breadth of engineering—from civil, environmental, electrical, mechanical, and information engineering to computer science—may be downloaded within an hour of class time. (Some of the business specialization courses are offered by the Cox School of Business and may require on-campus class attendance).

FIND US **HERE**

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214-768-2002

MASTER OF SCIENCE | DATACENTER SYSTEMS ENGINEERING

DATACENTER SYSTEMS ENGINEERING

INDUSTRY NEED

There are at least 4 million workers associated with data engineering in the U.S. alone, according to the U.S. Department of Labor, and this number is expected to increase by 800,000 in 2016, with an additional 2 million predicted by 2018. Approximately 70% of this expanding workforce will possess bachelor's degrees or higher with the majority in computational fields such as computer science, computer engineering, software engineering, and information technology. Although the number of professionals in the field is great, the rapid and anticipated growth of data engineering and its increasing sophistication have created shortages of skilled and experienced professionals.

INDUSTRY LEADERS

SMU's datacenter systems engineering program, unique to the community of learning, builds a solid foundation for professional growth consistent with modern datacenter engineering practices and the industry transformations that lie ahead. Whether broadening or deepening skills to further career opportunities, SMU's program provides a distinctive opportunity to play a significant role in this field by educating engineering leaders both locally on-campus and nationally via distance learning.

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ACADEMIC **PROGRAM**

Requirements include the completion of 30 credit hours of graduate courses consisting of 15 credit hours of core courses, 9 credit hours of courses from Group I, and 6 credit hours of courses from Group II.

Core Courses (15 credit hours)
Analytics for Decision Support
Cloud Computing & Virtualization Technologies
Data and Network Security
Management of Industrial & Mission-Critical Facilities
Power Management for Industrial & Mission-Critical Facilities

Group I Electives (9 credit hours)

Business Specialization
Engineering Accounting
Management Decision Analysis
Managerial Finance
Real Estate Investment

Facilities Infrastructure Management Specialization
Conduction Heat Transfer
Conductive Cooling of Electronics
Convection Cooling of Electronics
Disaster Management
Electrical Mechanical & Piping Systems for Buildings
Energy Management for Buildings
Engineering Finance
Facility Planning
Heat Transfer
Heating, Ventilating, and Air Conditioning

Intermediate Fluid Dynamics
Introduction to Facilities Engineering Systems
Radiation Heat Transfer
Site Selection: Industrial & Mission-Critical Facilities
Telecommunications for Data Systems Engineering

Data Engineering and Analytics Specialization
Advanced Data Mining
File Organization and Database Management
Information Storage and Retrieval
Information System Architecture
Information System Design Strategy
Machine Learning
Service-Oriented Computing
User Interface Design
XML and the Enterprise

Networks, Virtualization, and Security Specialization
Advanced Network & System Security
Advanced Operating Systems (Virtualization)
Computer Networks & Distributed Systems
Computer System Security
Cryptography & Data Security
Engineering Management
Information Engineering and Global Perspectives
Information Technology Security and Risk Management
Intelligent Networks
Network Protocols
Software Security

HOW TO **APPLY**

To apply, please visit our website, smu.edu/Lyle/ApplyNow and select student application for master's programs. Next, create an account and enter your information on the screens provided. Start your application today by visiting smu.edu/Lyle/ApplyNow.

Group II Electives (6 credit hours)
With adviser approval, select from any graduate-level courses offered by the:
• Lyle School of Engineering
• Cox School of Business
• Dedman College: Department of Physics, Chemistry, Economics, Mathematics or Statistics