

THIS MODULAR COURSE CAN BE TAKEN FOR GRADUATE CREDIT TOWARDS A MASTER'S IN SYSTEMS ENGINEERING OR AS PART OF A PROFESSIONAL DEVELOPMENT PROGRAM.

MODULE DESCRIPTION AND OBJECTIVES

This module addresses the development and optimized allocation and location of the numerous elements of system logistics support to ensure that a system satisfies its business and operational readiness requirements and effectiveness. Particular focus is placed on the concept of integrated supply chain and demand management, and the optimization and allocation of a system's logistics resources to ensure maximum availability at the lowest investment in logistics resources. Participants will also be introduced to the latest thinking and technologies with regard to system training, documentation, inventory management, and transportation.

MODULE ORGANIZATION

This module combines lectures and readings to develop an understanding of system supportability and logistics, and its impact on system operational effectiveness. Guest speakers and practitioners from industry will provide participants with illustrative examples and case studies.

MODULE AUDIENCE

This modular course would be of interest to systems engineers, logistics engineers and analysts, and program and project managers, particularly if they are focused on the sustainment of complex systems and value chain enterprises.

COURSEWARE

Participants are provided with a binder containing course notes and additional readings specifically developed and organized for this course.

MODULE DIRECTOR(S)

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MODULE REGISTRATION & INFORMATION

For additional information:
Contact **Beth Austin DeFares**, Beth.Defares@stevens.edu,
201.216.5362 or download the SDOE Graduate Enrollment Form from our website at www.stevens.edu/SDOEnroll and fax it to 201.216.5080.

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DAY 1	
SESSION 1	INTRODUCTION TO SYSTEM SUPPORTABILITY & LOGISTICS Introduction to Basic Concepts; Design the Support & Support the Design; Systems Engineering & Supportability: Current Trends in System Development; Measures of Logistic Support; Summary of Module SYS/SDOE-640
SESSION 2	INTRODUCTION TO SUPPLY CHAINS Introduction; Supply Chain Management; Supply Chain Process; Supply Chain Costs; Supply Chain Challenges; Supply Chain Cost Drivers; Total Logistics Costs; Examples of Supply Chains; Logistics Management
DAY 2	
SESSION 3	DETERMINISTIC AND PROBABILISTIC MODELS The role of Probability and Statistics; Populations & Samples; Types of Data; Representation of Data; Probability & Probability Distributions; Probability Rules; Probability Distributions; The Normal Distribution; The Lognormal Distribution; The Exponential Distribution; The Weibull Distribution; The Poisson Distribution; Correlation and Regression; Time Series
SESSION 4	INVENTORY MANAGEMENT Inventory; Introduction to Inventory Management; Basic Inventory Models
DAY 3	
SESSION 5	TRANSPORTATION Introduction; Cost factors that affect Transportation Decisions; Transportation Modes; Design Options for a Transportation Network; Transportation Routing and Scheduling Models
SESSION 6	WAREHOUSING Introduction; Warehousing; An introduction to Linear Programming; Optimization
DAY 4	
SESSION 7	DOCUMENTATION Introduction to Documentation; Design documentation; Technical manuals; Checklists; Database Management
SESSION 8	MANPOWER, PERSONNEL & TRAINING Introduction to MPT Analysis; Fundamentals of Training; The Training Process; Planning; Course development; Course Conduct; Training Maintenance Personnel
DAY 5	
SESSION 9	SUPPLY SUPPORT Introduction to Supply Support; Technical Systems and the Support System; Supply Support Costs; Supply Support Metrics; The Cost / Effectiveness Curve
SESSION 10	SPARES MODELING Description of the Support System; Categorization of Spares; The Basic Sparing Mode; Repairables Spare Parts Optimization; Modeling Cost Investment Repairables (CIR); Alternative problem formulation; Problem Solution: Convexity and Marginal Allocation
SESSION 11	SPARES OPTIMIZATION Spares Optimization; The Single-echelon Case; Opus 10 Methodology; Spares Optimization; Logistic Support Analysis