

SYSTEMS ENGINEERING

Requirements

AT A GLANCE:

COURSE: EMEN 5830 Systems Engineering: Requirements

Instructor: Jeffery O. Grady

SCHEDULE: Jan. 27 (8:00–5:00), Jan. 28 (8:00–3:00), Feb. 24 (8:00–5:00), Feb. 25 (8:00–3:00), Mar. 24 (8:00–5:00), Mar. 25 (8:00–12:00), April 8: (8:00–12:00)

LOCATION: CU Engineering Center: ECCS 1B14 or Online (April 8 session is online only)

TUITION: \$1,800

MORE INFORMATION:

<http://caete.colorado.edu/courses/detail.aspx?coID=264>



COURSE DESCRIPTION:

EMEN 5830, Systems Engineering: Requirements offers the student an intense experience in problem definition as a prerequisite to problem solution followed by verification through test and evaluation. The course begins by exploring the fundamentals (requirements, specification, and modeling fundamentals as well as work patterns). We then explain the concept of structured analysis and explore traditional structured analysis topics including: applying functional flow, IDEF-0, enhanced FFBD, or behavioral diagramming extended by models for constraints analysis. These models are useful in gaining insight into requirements for systems and system entities that will be implemented in hardware. The course then covers modern structured analysis (including the HP extension, early OOA, UML, and DoDAF). These models are effective for solutions that are to be implemented in computer software. Requirements management is also thoroughly covered in terms of tools, traceability, risk, and specification publishing. The course is part one of a three-course sequence in systems engineering at the University of Colorado in Boulder, CO.

BENEFITS:

Systems Engineering is an interdisciplinary approach and means to enable the realization of successful systems. It focuses on defining customer needs and required functionality early in the development cycle, documenting requirements, then proceeding with design synthesis and system validation while considering the complete problem. Course participants will learn to identify, create and manage systems in order to solve complex problems. Students will learn the fundamentals of requirements and specification structures and will also learn to manage the process of developing good specifications including the use of margins, budgets, technical performance measurement, traceability of several kinds, and risk management.

INSTRUCTOR BIO:

Jeffrey O. Grady is a professional system engineer with many years of experience in aerospace and commercial applications as a working system engineer, manager, and consultant. His knowledge has been thoroughly examined and tested as a published author and lecturer. Mr. Grady received a BA in Applied Mathematics from San Diego State University and a MS in Systems Management from the University of Southern California. He is currently the Owner and President of JOG System Engineering, Inc., a system engineering consulting and training services company that serves a diverse clientele including military aerospace companies, U.S. Government agencies and commercial companies with product lines in diverse fields. Mr. Grady is also a charter member of the International Council on Systems Engineering (INCOSE) and has received numerous awards honoring his major contributions to systems engineering education. Mr. Grady can be reached via e-mail at jgrady@ucsd.edu.