FALL 2018 – COURSE OFFERINGS

EM 500 Thesis
Professor: Dr. James Simonton  CRN 47626
Professor: Dr. Andrew Yu   CRN 49342

EM 501 Capstone Project
Professor: Dr. Janice Tolk  CRN 42988

EM 502 Registration for Use of Facilities for EM Students
Professor: Dr. James Simonton  CRN 42989
Professor: Dr. Andrew Yu  CRN 49347

EM 532 Productivity and Quality Engineering
Professor: Dr. Janice Tolk  CRN 45042  Prerecorded

Textbooks:
1. Improving Performance: How to Manage the White Space on the Organization Chart, Geary A. Rummler and Alan P. Brache, 3rd Edition

Course Description: Productivity and quality measures defined and used to analyze current competitive position of important sectors of American industry with respect to national and international competition. Study of management theorists and systems which promote or inhibit productivity or quality improvements.

EM 537 Analytical Methods for Engineering Managers
Time: Monday – 4:00-6:30pm – E113
Professor: Dr. Denise Jackson
Sections: 001 CRN 45046  UTSI students participating at Tullahoma
002 CRN 45047  UTSI students participating elsewhere
003 CRN 45048  UTK students participating elsewhere


Course Description: Survey of management analysis and control systems through industrial engineering techniques. Qualitative and quantitative systems: methods analysis, work measurement, incentive systems, wage and salary development, production and inventory control, facility layout, linear programming, and applied operations research techniques.

EM 539 Strategic Management in Technical Organizations
Time: Tuesday, 1:00-3:30pm – E113
Professor: Dr. Sandra Affare
Sections: 001 CRN 45050  UTSI students participating at Tullahoma
002 CRN 45051  UTSI students participating elsewhere
003 CRN 45052 UTK students participating elsewhere


Course Description: Strategic planning process and strategic management in practice; corporate vision and mission; product, market, organizational, and financial strategies; external factors; commercialization of new technologies; and competition and beyond.

**EM 543 Legal & Ethical Aspects of Engineering Management**

Time: Thursday, 1:00-3:30 – E113
Professor: Dr. Sandra Affare
Sections: 001 CRN 51240 UTSI students participating at Tullahoma
         002 CRN 51247 UTSI students participating elsewhere
         003 CRN 51248 UTK students participating elsewhere


Course Description: Legal aspects imposed by government and ethical considerations in engineering practice. Selected readings, lecture, discussion, and student presentations. Current topics from government and industry.

**EM 600 Doctoral Research and Dissertation**

Professor: Dr. James Simonton CRN 45056
Professor: Dr. Andrew Yu CRN 45058

**EM 602 Supply Chain and Logistics Systems Engineering**

Time: Tuesday, 10:00 – 12:30 – E113
Professor: Dr. Andrew Yu
Section: 001 CRN 52347 UTSI students participating at Tullahoma
         002 CRN 52348 UTSI students participating elsewhere
         003 CRN 52349 UTK students participating elsewhere

Textbook: Instructor will provide electronic files through Canvas

This course introduces the concepts, methods and techniques of supply chain management and logistics support from a systems engineering perspective. The discussion of different topics in the course will focus on the different stages in a system life cycle. (RE) Prerequisite(s): 537

**Industrial Engineering Courses Offerings**

**IE 516 Statistical Methods in Industrial Engineering**
**Course Description:** Application of classical statistical techniques to industrial engineering problems. Statistics and statistical thinking in managerial context of organizational improvement; descriptive statistics and distribution theory; relationship between statistical process control techniques and classical statistical tools; parameter estimation and hypothesis testing; goodness-of-fit testing; linear regression and correlation; analysis of variance; single and multiple factor experimental design. *Recommended Background: Statistics 251 or equivalent.*

**IE 529 Application of Linear Algebra in Engineering Systems**

**Time:** Tuesday & Friday – 9:30 – 10:45am CST – UTSI classroom

**Professor:** Dr. Monty Smith

**Section:** CRN 46718  Lectures posted online

**Textbook:** TBD

Fundamental concepts of linear algebra to problems in engineering systems: steady state and dynamic systems. Geometric and physical interpretations of relevant concepts: least square problems, LU, QR, and SVD decompositions of system matrix, eigenvalue problems, and similarity transformations in solving difference and differential equations; numerical stability aspects of various algorithms; application of linear algebra concepts in control and optimization studies; introduction to linear programming. Computer projects. *Cross-listed: (See Chemical and Biomolecular Engineering 529.)*

*Comment(s):* Graduate standing or consent of instructor required.
Seminar provides an opportunity for Master’s and Doctoral students to acquaint themselves with research being conducted by both faculty and graduate students in the Industrial and Information Engineering Department, as well as select campus-wide and off-campus researchers from both academia and industry. Research work and relevant results are presented in a professional environment that promotes continued interaction among interested parties. Presentations are not restricted to thesis and dissertation work. Grading Restriction: Satisfactory/No Credit grading only.

For complete listing of IE courses see Timetable of Classes - https://bannerssb.utk.edu/kbanpr/bwckschd.p_get_crse_unsec