SUMMER 2019 – COURSE OFFERINGS

EM 536 Project Management

Time: Tuesday & Thursday – 11:00 – 1:30 CST – E113
Professor: Dr. Sandra Affare
Sections: 001 CRN 80005 UTSI campus
003 CRN 80006 UTK Campus
004 CRN 80007 Distance Education Campus

Text: *Project Management: A Managerial Approach*, Jack R. Meredith, Samuel J. Mantel, Jr., Scott M. Shafer, John Wiley & Sons, Inc., 9th Edition ISBN: 978-1-119-03197-0

Development and management of engineering and technology projects. Project proposal preparation; resource and cost estimating; and project planning, organizing, and controlling: network diagrams and other techniques. Role of project manager: team building, conflict resolution, and contract negotiations. Discussion of typical problems and alternative solutions. Case studies and student projects. *Recommended Background: Graduate standing in Engineering or Business.*

EM 600 Doctoral Research and Dissertation

Professor: Dr. James Simonton CRN 82056
Professor: Dr. Andrew Yu CRN 83458

IE 529 Applications of Linear Algebra in Engineering Systems

Time: Monday, Wednesday & Friday – 9:30 – 10:45 – E111
Professor: Dr. Monty Smith
Section: 001 CRN 80101 (Video Recorded)

Text: *Advanced Linear Algebra for Engineers with MATLAB*; Sohail A. Dianat and Eli S. Saber; CRC Press; Latest Edition; ISBN 978-1-4200-9523-4

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.

Methods of linear algebra with application to engineering problems. Systems of linear equations: matrix-vector notation, solutions to linear equations, determinants, matrix inversion. Vector spaces: spanning sets, orthogonality, matrix decompositions, linear transformations. Eigenvalues and eigenvectors: characteristic polynomials, singular value decomposition. The Cayley-Hamilton theorem: matrix polynomials, functions of matrices. Optimization: least-squares and weighted least-squares methods.

Comment(s): Graduate standing or consent of instructor required.