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**The University of Tennessee Space Institute
Fall 2011 Course Listings**

ENGINEERING MANAGEMENT

EM 501 Capstone Project (3-6)
SEC. 004 CRN 47725
PROF: Dr. Greg Sedrick

Application-oriented project to show competence in major academic area.

Grading Restriction: Satisfactory/No Credit grading only.

Repeatability: May be repeated. Maximum 6 hours.

Comment(s): Requires enrollment in engineering management.

Credit Level Restriction: Graduate credit only.

Registration Restriction(s): Minimum student level – graduate.

EM 502 Registration for Use of Facilities (1-15)
SEC. 001 CRN 44111 Sedrick

EM 532 Productivity and Quality Engineering (3)
SEC. 001 CRN 47728 UTSI students participating at Tullahoma or Oak Ridge
002 CRN 47729 UTSI students participating elsewhere
003 CRN 47730 UTK students participating at Knoxville DE classrooms
004 CRN 47731 UTK students participating elsewhere

TEXT: C. Harold Aikens; *Quality Inspired Management: The Key to Sustainability*; 1st Edition;
Prentice Hall; ISBN 13: 978-0131197565

TIME: Monday 4:00 – 6:35 E-113

PROF: TBD

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 533 Theory and Practice of Engineering Management (3)
SEC. 001 CRN 44113 UTSI students participating at Tullahoma or Oak Ridge
002 CRN 44114 UTSI students participating elsewhere
003 CRN 44115 UTK students participating at Knoxville DE classrooms
004 CRN 44116 UTK students participating elsewhere

TEXT: Lucy C. Morse and Dan L. Babcock; *Managing Engineering and Technology*; 5th Edition;
Prentice Hall; ISBN 10: 0136098096 or 13: 978-0136098096

TIME: Tuesday 4:00 – 6:35 E-113

PROF: TBD

Principles of engineering management, including: business and organization design, culture, leadership, marketing and competition in global economy, motivation and performance management, empowerment,

organizational behavior, and diversity. Systems thinking, learning organizations, and systems dynamics modeling. Principle application to work settings and case studies.

EM 537 Analytical Methods for Engineering Managers (3)
SEC. 001 CRN 47732 UTSI students participating at Tullahoma or Oak Ridge
002 CRN 47733 UTSI students participating elsewhere
003 CRN 47734 UTK students participating at Knoxville DE classrooms
004 CRN 47735 UTK students participating elsewhere
TEXT: William J. Stevenson; *Operations Management*; 10th Edition; McGraw Hill/Irwin;
ISBN 13: 978-0077284091 or 10: 0077284097
TIME: Thursday 4:00 – 6:35 E-113
PROF: TBD

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.

Credit Restriction: No credit for student with undergraduate degrees in industrial engineering.

EM 539 Strategic Management in Technical Organizations (3)
SEC. 001 CRN 47736 UTSI students participating at Tullahoma or Oak Ridge
002 CRN 47738 UTSI students participating elsewhere
003 CRN 47739 UTK students participating at Knoxville DE classrooms
004 CRN 47740 UTK students participating elsewhere
TEXT: Fred R. David; *Strategic Management Concepts*; 13th Edition; Prentice Hall;
ISBN 10: 0-13-612099-7 or 10: 0-13-612106-3
TIME: Wednesday 4:00 – 6:35 E-113
PROF: TBD

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.

(RE) Prerequisite(s): 533 and Industrial Engineering 518 or consent of instructor.

EM 595 Special Topics in Engineering Management (3)
SEC. 001 CRN 44125
TEXT: TBD
TIME: TBD
PROF: Dr. Greg Sedrick

EM 600 Doctoral Research/Dissertation (3-15)
SEC. 001 CRN 47744 Sedrick

INDUSTRIAL ENGINEERING

IE 516 Statistical Methods in Industrial Engineering (3)

SEC. 003 CRN 47863

TEXT: Douglas C. Montgomery, George C. Runger; *Applied Statistics and Probability for Engineers*; 4th Edition; John Wiley and Sons; ISBN 13: 978-0471745891

TIME: Tuesday & Friday 10:15 – 11:30 E-113

PROF: Dr. L. Montgomery Smith

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.