Registration Restrictions: examples. Discusses actual cases and outcomes dealing with factually based common legal situations. Emphasizes methods to avoid litigation. Covers contract law, tort liability and statutory applications for most.

Introduces aspects of design, management and construction law

solve practical problems using discounted cash-flow analysis.

organizational assets. Develops students' capability to define, model and manage projects and programs and to effectively manage

Introduces methods for economic justification used to select science

managing changes in technology-driven organizations.

Registration Restrictions: Graduate standing or instructor approval

Crosslisted With: BA A617

ESM A619 Computer Simulation of Systems 3 Credits
Introduces simulation concepts and methods applied to engineering and science management systems. Introduces most commonly used simulation languages and tools in a hands-on environment. Presents examples of simulation tools applied within a range of professional environments, such as transportation, health care, financial services, etc. Demonstrates how animated simulation models can be used to represent complicated systems to support decision making.

Registration Restrictions: Graduate standing or instructor permission

ESM A620 Statistics for Engineering, Science and Project Management 3 Credits
How to make practical engineering/science/project management decisions through data sampling, using statistical software and interpreting the statistical results. Tools covered include statistical inference, regression analysis, design of experiments, and non-parametric methods.

Registration Restrictions: Graduate level standing or instructor permission

ESM A621 Operations Research 3 Credits
Introduces mathematical techniques for aiding managerial decision making. Topics include linear programming, non-linear programming, network optimization problems, decision analysis, inventory models, dynamic programming, PERT/CPM, queuing models and computer simulation basics. Emphasis is on the application of techniques to engineering and science management situations.

Registration Restrictions: Graduate standing or instructor permission

ESM A623 Total Quality Management 3 Credits
Introduces the concepts and practice of quality management as it relates to sustainability, reliability, maintainability/availability and quality functions within an organization. Demonstrates how quality practices impact business, customer requirements and ongoing operational results. Covers quality management tools including quality management as a system, Kaizen, statistical process control, Lean Six Sigma and creative problem-solving tools.

Registration Restrictions: Graduate standing or instructor permission

ESM A684 ESM Project 3 Credits
Individual study of an actual engineering or science management problem or opportunity, resulting in a written report and presentation including data analysis, results and recommendations for action.

Registration Restrictions: Graduate standing or instructor permission
ESM A699 ESM Thesis 3-9 Credits
Individual research on an existing engineering or science management problem, resulting in a thesis including data analysis, research results, and recommendations for action.

Special Note: May be repeated for a maximum of 9 credits.
Registration Restrictions: Graduate standing or instructor permission