

ENGINEERING MANAGEMENT (ENGMT)

ENGMT 501: Engineering Management Science

3 Credits

Mathematical models involving optimization, simulation and forecasting to provide quantitative solutions to engineering management problems; scheduling, distribution, inventory control.

ENGMT 510: Economics and Financial Studies for Engineers

3 Credits

Economic feasibility of projects, systems and products. Project budgets, estimation, return on investment, supply and demand, and earned value management.

ENGMT 511: Engineering for Energy and the Environment

3 Credits

Engineering analysis of new technologies with environmental consideration leading to alternative energy sources and sustainable development.

ENGMT 520: Systems Optimization

3 Credits

Theory/practice of linear programming will be developed including determination of optimum mix of products, levels of staffing, blending, network analysis, multi-period planning.

ENGMT 530: Engineering Law

3 Credits

Overview of the legal system and legal issues applied to engineering: contracts, bidding, proposals, torts, professional liability, the intellectual property.

ENGMT 539: Engineering Management Strategy

3 Credits

Project- and discussion-based capstone to the engineering management program.

Prerequisite: 27 credits in the engineering management program

ENGMT 597: Special Topics

1-9 Credits/Maximum of 9

Formal courses given on a topical or special interest subject which may be offered infrequently; several different topics may be taught in one year or semester.

ENGMT 841: Application of Statistics in Quality and Continuous Improvement in Engineering

3 Credits/Maximum of 999

Application of quality tools to improve products and processes including lean processes and six sigma principles. ENGMT 841 is about learning to apply sophisticated statistical tools for the continuous improvement of products and processes in the manufacturing and service industries. Students will learn how to identify defects (nonconformation to specifications) and provide appropriate solutions that will not only eliminate defects, but also improve the performance. They will be able to take samples from the population, apply appropriate statistical tools and relate the sample characteristics to the population. Students will also apply various control charts to identify the variations in the process and be able to separate the common and special cause variations. Students will be expected to apply the various phases of LEAN and Six Sigma methodologies to a project that will identify various nonvalue added activities and improve the product or process performance.

ENGMT 897: Special Topics

1-9 Credits/Maximum of 9

Formal courses given on a topical or special interest subject which may be offered infrequently.