

Office of Academic Affairs  
Tarleton State University  
Date Prepared: 12/1/08  
Dates Revised:

Master Course Syllabus

Department: Management, Marketing and Administrative Systems

Course Prefix/Number: MGMT 505

Course Title: Analytical Methods for Management Decisions

Master Syllabus Approved by Department on: 12/1/08

- I. Catalog Description: A study of analytical techniques that may be used to facilitate decisions analysis. Topics include the concept of utility, break-even analysis, network models, linear programming, game theory and computer simulation. Course activity will consist of surveying analytical techniques that maybe used to facilitate analysis of alternative decisions and practice in applying the techniques through problem solving.
- II. Prerequisites: GB 311 or MATH 300 and graduate classification.
- III. Expanded Course Description: This course will introduce students to many of the applications and uses of quantitative techniques for decision making. This course involves mathematical programming techniques for constrained objective optimization. A concentration is placed on mathematical linear programming as a method for arriving at management decisions that will result in an optimal outcome subject to various constraints. Statistical process control (SPC) as applied to total quality management (TQM) will be studied. The transportation network model of mathematical programming for optimizing location decisions will be developed. Mathematical techniques for optimizing inventory control will be covered in more depth. Course is suggested for management majors. The course will also serve other graduate students who have fulfilled the prerequisites needin<sup>g</sup> or desiring the course.
- IV. Intended Outcomes:
  - a) Knowledge Outcomes.
    - i. Learn and understand the concepts of various mathematical techniques, models, TQM methods, and SPC.
    - ii. Choose and apply appropriate statistical techniques for decision-making.

- b) Skill Outcomes. At the conclusion of the course, the student will:
  - i. Be able to apply various methods of TQM, using SPC for the continuous process improvement of an organization, providing higher levels of management the capability of making decisions based on statistically analyzed recommendations.
  - ii. Be able to lead process improvement initiatives within an organization's continuous improvement program.
- c) Value Outcomes. At the conclusion of the course , the student will add value to her or his organization:
  - i. By applying proven techniques and procedures to reduce process variation, eliminate wasted process efforts and satisfy internal and external customers.
  - ii. By building morale and esprit-de-corps within the organization by implementing continuous improvement techniques using process action teams.

- V. Unless otherwise stipulated in this master syllabus by the department, the following items are subject to faculty discretion as described in each faculty member's individual course outline/syllabus.
  - a) Course Requirements: (grading/evaluation procedure's; class attendance policy; term papers, projects, field assignments; examinations; class participation, etc.)
  - b) Text(s)
  - c) Bibliography
- VI. Academic Honesty: Cheating, plagiarism (submitting another person's materials or ideas as one's own), or doing work for another person who will receive academic credit are all-impermissible. This includes the use of unauthorized books, notebooks, or other sources in order to secure of give help during an examination, the unauthorized copying of examinations, assignments, reports, or term papers, or the presentation of unacknowledged material as if it were the student's own work. Disciplinary action may be taken beyond the academic discipline administered by the faculty member who teaches the course in which the cheating took place.
- VII. Students With Disabilities Policy: It is the policy of Tarleton State University to comply with the Americans with Disabilities Act (ADA) and other federal, state, and local laws relative to the provision of disability services. Students with disabilities may request appropriate accommodation by contacting the Director of Student Disability Services in the Mathematics Building, Room 201, at (254) 968-9400, or at [disability@tarleton.edu](mailto:disability@tarleton.edu). The Killeen point of contact is Ms. Monica Campbell, Assistant Director of Student Development

(254) 519-5492. Contact Student Services (Killeen Campus, 254-519-5467) to make an appointment.

Department Head Signature/Date:

\_\_\_\_\_  
Signature

\_\_\_\_/\_\_\_\_/\_\_\_\_  
Date