1. **Credits:** 3  
2. **Contact Hours:** 3.0
3. **Textbook and Materials:** The Memory Jogger Plus +: The Seven Management and Planning Tools by Michael Brassard; 1996 Goal QPC

a. **Other Supplemental Materials:** N/A

**Specific Course Information:**

a. **Brief description of the content of the course (Course Catalog Description):** This course addresses the role of the industrial engineer as a manager of continuous improvement in design and production processes. It provides modern tools and techniques for planning and managing team projects, integrating the concepts of total quality, data based decision making, and resource management.

b. **Pre-requisites or Co-requisites:** EPD 397 & Sr or Grad st, or cons inst

c. **This is a Selected Elective course.**

**Specific Goals for the Course:**

a. **Course Outcomes:**

1. Understand and describe the role of the industrial engineer as a "manager" of continuous improvement in design and production processes.
2. Implement technical skills and processes in a non-technical workforce.
3. Apply basic problem solving and management/planning tools for effectively defining problems, feasible alternative solutions, and measurable goals in a "real world" environment.
4. Work effectively on a team-based experiential project focused on process design,
analysis, and resource management and integrating the concepts of continuous improvement, customer focus, and teamwork.

5. Describe the impact of organizational and cultural influences on the planning and implementation of change.

- **ABET Student Learning Outcomes:**

  (a) Ability to apply mathematics, science and engineering principles.
  (b) Ability to design and conduct experiments, analyze and interpret data.
  (c) Ability to design a system, component, or process to meet desired needs.
  (d) Ability to function on multidisciplinary teams.
  (e) Ability to identify, formulate and solve engineering problems.
  (f) Understanding of professional and ethical responsibility.
  (g) Ability to communicate effectively.
  (h) The broad education necessary to understand the impact of engineering solutions in a global and societal context.
  (i) Recognition of the need for and an ability to engage in life-long learning.
  (j) Knowledge of contemporary issues.
  (k) Ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

- **Brief List of Topics to be Covered:** Discussion of Class Project, Basic Principles of Problem Solving & PDCA, Management and Planning Tools, Affinity Diagrams (AD) & Workshop, Interrelationship Digraph (ID) & Workshop, Tree Diagram & Workshop. KAIZEN: Concepts & Workshops, by TQC/TQM