A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 0
Lab Hours/Week: 0
OJT Hours/Week: *.*
Prerequisites: None
Corequisites: None
MnTC Goals: None
Planning, execution, and analysis of factorial-based industrial experiments. Topics include, but are not limited to, analysis of variance, fitting of regression models, two-level factorial designs, blocking strategies and confounding of variables, fractional factorial designs, response surface methods, nested and split-plot designs, three-level and mixed-level designs, and experiments with random factors. Prerequisites: Junior status or consent of instructor.

B. COURSE EFFECTIVE DATES: 08/25/2014 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Basic principles of designing experiments
2. Experiments with a single factor
3. Factorial designs
4. Blocking and confounding

D. LEARNING OUTCOMES (General)

1. design, implement, analyze, and draw conclusions from basic industrial experiments.
2. understand and analyze experiments with fixed and random effects.
3. understand and analyze experiments with two-level and multi-level factor experiments.
4. use statistical software to design and analyze industrial experiments.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted