Bemidji State University

TADT 4898: Simulation of Industrial Processes

A. COURSE DESCRIPTION
   Credits: 3
   Lecture Hours/Week: 0
   Lab Hours/Week: 0
   OJT Hours/Week: *.*
   Prerequisites: None
   Corequisites: None
   MnTC Goals: None
   This course introduces the basic concepts of computer simulation modeling of manufacturing, production, and service processes. The emphasis of this course is on the use of FlexSim simulation software environment to build, analyze, and optimize industrial engineering problems. Topics include simulation of assembly line balancing problem, plant capacity planning problem, routing and scheduling problem, warehouse simulation, and healthcare simulation. Prerequisite(s): Junior Status or consent of instructor.

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

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)
   1. apply a range of simulation and modelling techniques to analyze industrial engineering problems.
   2. apply FlexSim Simulation Software package for process improvement projects.
   3. apply model verification and validation methods at different system stages.
   4. evaluate system performance by using simulation models.
   5. develop simulation model to optimize the patient wait time and resources utilization in the healthcare service processes.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted