ENGM 541 Winter 2010

Some Suggested Project Topics

Numerical Analysis

Error analysis in models
Condition number
Singular Value Decomposition
Kalman filtering as a dynamic modeling method
Monte Carlo simulation methods

Engineering Systems for Analysis and Some Simulation Study

Energy consumption by a centrifugal pump under time-varying load
Emissions from diesel engines under time-varying load
Emissions from a diesel-hydraulic excavator
An excavator digging soft soil and hitting a rock
A process valve with a stiction fault
Jet impingement with particles onto a wall
Abrasive wear of a wheel spinning against a surface