ENGM6671 Syllabus

COURSE TITLE: Applied Regression Analysis

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TEXT: Course notes.

REFERENCE: "Applied Linear Statistical Models" by Kutner, Nachtsheim, Neter, and Li.

WEB ACCESS: dal.brightspace.com

Topics:

- Review of Probablility and Statistics.
  - Random Variables.
  - Statistical Estimation.
  - Tests of Hypotheses.
- Simple Linear Regression:
  - Regression Models.
  - Estimation of the Parameters.
  - Inferences about the Parameters.
  - Predictions.
  - Analysis of Variance and R^2.
  - Lack of Fit Test.
  - Analysis of Residuals and Transformations.
  - Simulataneous Inference.
- Multiple Linear Regression
  - Multivariate Normal and Least Squares using Matrices.
  - Estimation of the Parameters.
  - Inferences about the Parameters.
  - Predictions.
  - ANOVA and R^2.
  - Analysis of Residuals.
  - Multicolinearity.
  - Model Selection.
  - Qualitative Predictor Variables, Indicator Variables.
  - One way, Two way and Multiway ANOVA via Regression.
  - Weighted Regression.
  - Non–Linear Regression.