

University of Minnesota
Econ 4261: Introduction to Econometrics
Midterm review

The midterm exam is scheduled for Tuesday, October 27, during class time. Here's a brief listing so that you know what to study for the midterm exam.

1. **Statistic and Matrix Algebra Review**
2. **Criteria for Estimators** Unbiasedness and efficiency properties of estimators. Mean squared error.
3. **Ordinary Least Squares** Ordinary least squares estimation. Minimizing the sum of squared residuals.
4. **Classical Linear Regression Model** Linear regression with two variables. Assumptions of the model. Derivation and properties of estimators for intercept, slope and the variance.(unbiasedness, efficiency, Gauss-Markov theorem)
5. **Hypothesis Testing** Normality assumption on the disturbance term. Confidence interval and test of significance approach to hypothesis testing. T-test and F-test of significance.
6. **Multivariate Case and Multicollinearity** Problems with linearly dependent explanatory variables.
7. **Matrix Approach to Multivariate Case**

Check your notes and homework exercises for a full preparation. Good luck!