

**University of Pennsylvania
Economics 221, Spring 2012
Forecasting in Economics, Business and Government**

Instructor: Matthias Kredler
Office Location: McNeil Building #451
Office Hours: Monday 4.00-5.00pm

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Office Location: McNeil Building #545
Office Hours: Tuesday 3.00-5.00pm

Course Web Page

We will use the blackboard software.

Classes

Tuesday and Thursday 10.30-11.45am
Graduate Education Bldg. 008

Course Description

This course provides a comprehensive introduction to econometric modeling and forecasting in the context of a modern and powerful econometric computing environment.

Prerequisites:

Statistics and econometrics.

Course Material:

Francis X. Diebold, Elements of Forecasting, 4th edition, South-Western College Publishing, 2007.

Software:

R or EViews. R is public domain and Eviews is installed in the Undergraduate Data Analysis Lab in the McNeil building.

Course Requirements

Homeworks (50%): There will be about 6 homeworks in which students work with real-world data on the computer. They will be due in the beginning of the class.

Class presentations and participation (10%): Students will be asked to present homework exercises to the class. These presentations and general participation in class constitute 10% of the final grade.

Final Exam (40%): To be given on the date and location scheduled in the University calendar for final exams. If a student is excused from the final exam, a make-up final will be scheduled according to the university rules at the beginning of the Fall-2012 Semester.

Course Outline

We will follow the book by Diebold:

1. Introduction to Forecasting: Applications, Methods, Books, J Journals, and Software.
 Appendix: The Linear Regression Model.
2. Six Considerations Basic to Successful Forecasting.
3. Statistical Graphics for Forecasting.
4. Modeling and Forecasting Trend.
5. Modeling and Forecasting Seasonality.
6. Characterizing Cycles.
7. Modeling Cycles: MA, AR, and ARMA Models.
8. Forecasting Cycles.
9. Putting it All Together: A Forecasting Model with Trend, Seasonal, and Cyclical Components.
10. Forecasting with Regression Models.
11. Evaluating and Combining Forecasts.
12. Unit Roots, Stochastic Trends, ARIMA Forecasting Models, and Smoothing.
13. Volatility Measurement, Modeling and Forecasting.