

Financial Analysis, Planning, and Forecasting (33:390:450:01)

Spring 2012

Professor Robert H. Patrick
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Rutgers Business School - Newark and New Brunswick
1 Washington Place 1148, Newark, NJ 07921

Class meets Wednesdays 6:40-9:30PM in Beck Hall 219, Livingston Campus.

Offices and hours:

- NB: Wednesdays 5:30-6:30PM, Levin 137.
- Newark Campus: 1 Washington Place 1148, Thursdays 1:00-2:00 P.M.
- by appointment.

E-mail: rpatrick@rutgers.edu (include FAPF at the beginning of the subject line)

Web: <http://www.rci.rutgers.edu/~rpatrick/hp.html>

Phone: NB (848) 445-4708, during office hours only. Newark (973) 353-5247.

Communication by e-mail is preferred outside of office hours.

This course presents an overview of short-term and long-term financial analysis, planning, and forecasting. Regression analysis, linear programming, and other computer techniques are developed and illustrated in alternative financial planning and forecasting analyses.

Prerequisites: Introduction to financial management, Statistical methods in business, Computer applications for business, Introduction to microeconomics, Principles of Accounting, Calculus I.

References (in addition to course handouts I provide on Blackboard):

(1) *Introductory econometrics for finance*, 2nd Edition, by Chris Brooks, Cambridge University Press, 2008.

(2) *Financial Analysis, Planning, and Forecasting*, 2nd Edition, by C.F. Lee, J.C. Lee, and J.A. Lee, World Scientific, 2009.

(3) *Econometric Models and Economic Forecasts*, Fourth Edition, Robert S. Pindyck and Daniel L. Rubinfeld, Irwin/McGraw-Hill, 1998.

(4) Your text(s) from your finance prerequisite for this course, e.g., *Financial Management and Policy*, 11th Edition, James C. Van Horne, Prentice Hall, 1998, or *Financial Analysis and Planning*, Cheng-few Lee, Addison Wesley Publishing Company, 1985.

(5) Leitch, Gordon, and J. Ernest Tanner (1991). "Economic Forecast Evaluation: Profits versus the Conventional Error Measures." *American Economic Review* 81(3):580-590.

Computer Programs: Microsoft Excel is the minimum software requirement for the course. However, more advanced software, such as EViews (see the Brooks text for examples) or SAS, among others, will facilitate relatively efficient estimation.

Grading Policy:

3 quizzes	50%
<ul style="list-style-type: none">• cumulative• equally weighted• no make up exams• your lowest score will be dropped	
Project (paper and presentation)	50%

Course Outline:

1. Introduction
2. Statistical Analysis of Financial and Accounting Data
3. Linear Regression Analysis
 - OLS estimation
 - Hypothesis Testing
 - Goodness-of-fit
4. Fundamentals of Forecasting
 - Roles and conditions of forecasting
 - Explanatory versus time-series forecasting
 - Accuracy of forecasting
 - Descriptive Statistics
 - Selection of forecasting models
 - Forecasting Technique
5. Simulation models for financial planning
 - The simulation process
 - Evaluating simulation models
 - Model estimation
 - Vector Autoregressions
 - Limited data
 - Dynamic models
 - Stability and Oscillations
 - Multipliers and dynamic response
 - The impulse response function and vector autoregressions
 - Stochastic simulation

6. Time-series models
 - Smoothing and extrapolation
 - Seasonal adjustment
 - Stochastic time-series

6. Time-series models (continued)
 - The autocorrelation function
 - Random Walks
 - Co-integrated time-series
 - AR, MA, ARMA, and ARIMA models

7. Estimating and Forecasting with time-series models
 - Diagnostic checking
 - Minimum mean-square-error forecasts
 - Forecast error

9. Applications of regression and/or time-series models and simulation in finance.

10. Final Exam. Wednesday, May 9, 2012: 8:00 PM - 11:00 PM

Web Pages (there are many of potential interest, here are a few examples)

<http://libguides.rutgers.edu/business>

<http://www.economist.com>

<http://www.FT.com>

<http://online.wsj.com/public/us>

<http://equity-research.com>

<http://lib.stat.cmu.edu>

<http://www.lib.umich.edu/govdocs/stecon.html>

<http://www.federalreserve.gov/>

<http://fisher.osu.edu/fin/fdf/osudata.htm>

<http://www.rba.co.uk/sources/stats.htm>

<http://www.bea.gov/>

<http://www.treasurydirect.gov/govt/govt.htm>

<http://www.economagic.com/>

<http://www.oswego.edu/~economic/econsoftware.htm>

<http://www.forecastingprinciples.com/dictionary/defined%20terms.html>

<http://cameron.econ.ucdavis.edu/excel/excel.html> (provides excel instructions for regression analysis)

This course fulfils the Applied Statistical Methods requirement for



Canadian
Institute of Actuaries



Casualty
Actuarial Society



Society
of Actuaries

**Validation by Educational Experience
(VEE)**