COURSE DESCRIPTION

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.

COURSE MATERIALS

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


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

CLASS ORGANIZATION & ADMINISTRATION

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), STATA, SAS, R, among others, will facilitate relatively efficient estimation.

ACADEMIC INTEGRITY

I do NOT tolerate cheating. Students are responsible for understanding the RU Academic Integrity Policy (http://academicintegrity.rutgers.edu/files/documents/AI_Policy_2013.pdf). I will strongly enforce this Policy and pursue all violations. I will screen all written assignments through SafeAssign or Turnitin,
plagiarism detection services that compare the work against a large database of past work. Don’t let cheating destroy your hard-earned opportunity to learn. See business.rutgers.edu/ai for more details.

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**FINAL GRADE ASSIGNMENT**

3 quizzes  
50%

- cumulative  
- equally weighted  
- your lowest score will be dropped  
- no make-up exams  
- anticipated schedule: February 18 Quiz 1  
  March 11 Quiz 2  
  April 22 Quiz 3

**Project (paper and presentation)**  
50%

Course projects serve three purposes:

- Provide students the opportunity to pursue guided research using FAPF tools.  
- Report organization and writing experience.  
- Presentation organization and speaking experience. Anticipated schedule:
  - February 25 project proposals  
  - April 8 preliminary reports  
  - April 27 complete projects due  
  - April 29 Presentations

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Department of Finance and Economics (33:390:450)

**COURSE SCHEDULE**

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
   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

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

SUPPORT SERVICES


If you are a military veteran or are on active military duty, you can obtain support through the Office of Veteran and Military Programs and Services. http://veterans.rutgers.edu/

If you are in need of mental health services, please use our readily available services. [Rutgers Counseling and Psychological Services – New Brunswick: http://rhscaps.rutgers.edu/]

If you are in need of physical health services, please use our readily available services. [Rutgers Health Services – New Brunswick: http://health.rutgers.edu/]

If you are in need of legal services, please use our readily available services: http://rusls.rutgers.edu/

If you are in need of additional academic assistance, please use our readily available services. [Rutgers University-New Brunswick Learning Center: https://rlc.rutgers.edu/]

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