

University of Colorado - Department of Economics - Fall 2017  
ECON 4858 Financial Econometrics  
Professor Carlos Brunet Martins-Filho

Office. Economics Building 105.

Meetings. Tuesdays and Thursdays 11:00 AM - 12:15 PM in ECON 117.

Office hours. Tuesdays 2:00 PM - 3:30 PM or by appointment. For appointment send an email to [carlos.martins@colorado.edu](mailto:carlos.martins@colorado.edu).

Prerequisites. Successful completion of ECON 3818 or equivalent is a required prerequisite. ECON 4818 is desirable, but by not necessary.

Objectives. Introduce statistical models, estimation and testing procedures used in analyzing financial data.

Class URL. [http://spot.colorado.edu/~martinsc/Econ\\_4858.html](http://spot.colorado.edu/~martinsc/Econ_4858.html).

Grades. Grades (A-F) will be based on the following:

There will be four sets of homework questions whose answers will be graded. Each set accounts for 10 percent of your course grade. Some of these questions will involve the use of MATLAB, a software that is freely available on campus.

There will be one midterm examination. It accounts for 30 percent of your course grade.

There will be a final examination. It accounts for 30 percent of your course grade.

Dates for the examinations:

Examination	Date and Time
Midterm	October 19, Econ 117
Final Examination	December 17, 4:30 PM - 7:00 PM, Econ 117

Homework sets will be available on the class web site with their respective due dates.

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4. Tsay, R. S., 2010, Analysis of Financial Time Series. John Wiley & Sons, Hoboken, New Jersey.

6. The capital asset pricing model
  - Capital market line, security market line
  - Security characteristic line
  - Using CAPM in portfolio analysis
  - Factor models
7. Fixed income securities
  - Zero-coupon bonds, coupon bonds
  - Yield to maturity
  - Term structure
  - Continuous compounding
  - Continuous forward rates
  - Sensitivity of price to yield
8. Value-at-Risk
  - One asset
  - Portfolio
9. Options pricing
  - Call options
  - The law of one price
  - Pricing calls
  - Martingales
  - The Black-Scholes model, formula and its use
  - Puts
  - Evolution of option prices
  - Leverage of options and hedging

**Important information.**

If you qualify for accommodations because of a disability, please submit a letter from Disability Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact Disability Services at 303-492-8671 or by e-mail [dsinfo@colorado.edu](mailto:dsinfo@colorado.edu).

If you have a temporary medical condition or injury, see Temporary Medical Conditions: Injuries, Surgeries, and Illnesses guidelines under Quick Links at Disability Services website and discuss your needs with me.

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled

Students and faculty each have responsibility for maintaining an appropriate learning environment.