

University of Colorado - Department of Economics - Fall 2019  
ECON 4858 Financial Econometrics  
Professor Carlos Brunet Martins-Filho

Office. Economics Building 105.

**Meetings.** Tuesdays and Thursdays 12:30 PM - 1:45 PM at ECON 117.

**Office hours.** Thursdays 3:00 PM - 4:30 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. Completion of ECON 4818 is desirable, but not necessary.

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

**Class URL.** <http://spot.colorado.edu/~martinsc/Brunet/4858.html>.

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

There will be five sets of homework questions that will not be graded. However, you must turn in your answers at the specified due date. I will provide answers for these questions. Failing to submit answers for a homework set will result in a 10 percent reduction on **course** grade.

There will be two midterm examinations. Each accounts for 30 percent of your course grade.

There will be a final examination. It accounts for 40 percent of your course grade.

Dates for the examinations:

Examination	Date and Time
Midterm 1	October 1
Midterm 2	November 5
Final Examination	December 15, 4:30 PM - 7:00 PM at 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.

This is an advanced textbook, normally used in graduate courses. Its study is recommended for those that have taken more advanced courses in probability, statistics and econometrics and are looking for a deeper understanding of what we discuss in class.

5. Hanselman, D. and Littlefield, B., 2005, Mastering MATLAB 7. Pearson, Upper Saddle River, New Jersey.

This is one of many step-by-step manuals/guide to MATLAB that are commercially available. It is very easy to read and provides speedy access to the many resources this software offers.

6. Frain, J. C., 2014, MATLAB for Economics and Econometrics: A Beginners Guide. Trinity College Economics Papers - Working Paper 0414.

This is another step-by-step introduction to MATLAB with a focus on the Econometrics Toolbox.

### Topics.

Readings are from the textbook and class notes. All topics covered depend on some fundamental statistical concepts and results from Chapter 2 and Econ 3818. As such, throughout the course, we will be repeatedly using the concepts and results from Chapter 2.

1. Returns (Chapter 3)

Gross returns, Net returns and log returns

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7. Fixed income securities (Chapter 9)

Zero-coupon bonds, coupon bonds

Yield to maturity

Term structure

Continuous compounding

Continuous forward rates

Sensitivity of price to yield

**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).

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