Economic Forecasting

Syllabus

Contact Information:  
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Office Hours:  Weekdays, after 6:00 p.m. Saturday 3:30-5:00 p.m., by appointment.

Prerequisites:  Statistics with Computer Applications (ECON 3811) or Introduction to Econometrics (ECON 4811). Students are expected to be proficient computer users and have a working knowledge of Excel. Previous experience with Eviews is useful, but not a prerequisite.

Course Schedule:  This course will meet on the following 12 Saturdays: 1/24, 1/31, 2/7, 2/21, 2/28, 3/7, 3/14, 4/4, 4/11, 4/18, 5/2, 5/9. The class will meet for three hours and 45 minutes, starting at 10:30 am. and ending at 3:15 pm. There will be a 1 hour lunch break.

A typical schedule will be: 10:30 am. –12:00 pm. classroom (NC 1323); 12:00–01:00 pm. Lunch Break; 01:00–03:15 pm. classroom and/or BSS computer lab (location will be announced in class).

The regular computer lab hours are (NC 2028):
- Monday – Thursday 9:00 am - 7:00 pm
- Friday 9:00 am - 5:00 pm
- Saturday, Sunday 12:00 pm - 5:00 pm

Lab Phone number: 303-556-6084


Software:  In this class, you will analyze data using statistical software. I recommend that you familiarize yourself as soon as possible with Excel and EVIEWS. Excel and EVIEWS are available in the economic department's computer lab and in the BSS computer lab (NC 2028). For more information on EVIEWS see http://www.eviews.com.
**Course Description:** The course will cover several topics in Econometrics and Time Series that will give you the tools to understand and predict economic variables. The course is divided into two main parts. In the first part you will be introduced to some basic econometrics concepts like linear regression, goodness of fit, parameter estimation, and hypothesis testing. The students who have already taken Introduction to Econometrics (ECON 4811) or Econometrics I (ECON 5813) will find this part of the course a review of basic regression analysis. However, I strongly recommend that you use the recommended text books as a reference.

In the second part of the class will focus on forecasting. I will introduce the concept of time series estimation and the use of statistical graphics for forecasting. You will learn how to model some of the key components of time series such as trends, seasonality and cycles. The main topics that we will cover during the semester are:

1. Review of linear regression and hypothesis testing.
2. The use of statistical graphics for forecasting.
3. Outliers, correlation, partial correlation.
5. Model cycles, covariance stationary time series, and white noise processes.
6. Forecasting AR, MA and ARMA models.
7. The use of lag operators and the Box-Jenkins methodology.
8. Forecasting with regression models.
11. Unit roots, stochastic trends, and cointegration models.

This is a hands-on course. Actual data will be used in the computer lab. Students will learn how to perform statistical forecasting using Excel and EViews.

**Assignments:** The assignments are an important part of this course. Students should work on them early and often. Assignments will be posted on the class web site the day they are assigned, and solutions, when appropriate, will be posted after they are due. Students are allowed to work on the assignments in study groups, but every student must turn in his or her own work. Late assignments will not be accepted.
Grades: Grades will be based on assignments, two midterm exams, a final exam, and class project scheduled as below:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Date:</th>
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<tbody>
<tr>
<td>Assignments</td>
<td>15%</td>
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<tr>
<td>Midterm #1</td>
<td>20%</td>
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<tr>
<td>Midterm #2</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
<td>30%</td>
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<tr>
<td>Class Project</td>
<td>15%</td>
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</tbody>
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Note: The exam is closed-book and closed-notes.

Grading Scales: Letter Grade | Score Range
A or A- | 90% or above
B+, B, or B- | 75% to 89%
C+, C, or C- | 65% to 74%
D or F | 64% or below

These percentage scales are meant to be approximate. Grades may be curved at the instructor’s discretion. No early or makeup exams will be given.

Class Participation: Attendance to all 12 class days is **required** and vital to your success in this course. The topics covered in each class will build on what was taught in previous classes. As such, missing one class (either the lecture or lab session) may affect your grade. Missing two classes will lower your grade by one-half of a letter grade. Students who miss three or more classes will receive an F for the course.

Class Project: Students are required to work on a forecasting project and turn in a final report by the end of the semester. The paper should be typed using double-spacing, 12-point font, and include page numbers. The paper should be between 10 and 15 pages long (including tables and graphs). The paper should include separate sections for each of the following:

1. **Introduction:** explain the background of your paper, why it is important, and what your analysis is going to show.

2. **Data Description:** includes a detailed description of the data, source and frequency. You may use the data assigned in class, or you may use your own data.

3. **Empirical Methods:** explain the benefits of the methodology and forecasting techniques that you use. Clearly state the assumptions underlying these techniques and why you think these assumptions are appropriate to your data.
4. Results: show your forecast results along with tables and graphs. Discuss and evaluate your forecasts.

5. Conclusion: summarize your results.

6. References: you need to cite all data sources and references (see examples of how to reference articles and books at the end of the syllabus).

Communication: In addition to announcements made and written handouts distributed in class, I may need to contact you between classes, which I'll do through individual and group email messages. **One of the requirements for this course is that you maintain your CU DENVER.EDU email address, check it regularly for messages, and be sure that it is working.** You are responsible for any messages, including assignments and schedule changes, I send you via email. You also may contact me via email, in addition to seeing me in class and during office hours.

Course Policies: Class attendance and participation is essential for success. It is your responsibility to clarify missed assignments with classmates or with me prior to the next class.

Plagiarism is the use of another person’s words or ideas without crediting that person. Plagiarism and cheating will not be tolerated and may lead to failure on an assignment, in the class, and dismissal from the University.

The University of Colorado at Denver and Health Sciences Center is committed to providing reasonable accommodation and access to programs and services to persons with disabilities. Students with disabilities who want academic accommodations must register with Disability Resources and Services (DRS), 177 Arts Building, 303-556-3450, TTY 303-556-4766, FAX 303-556-2074. I will be happy to provide approved accommodations, once you provide me with a copy of DRS’s letter.

Exceptions to the class policies may be made on an individual basis at the instructor’s discretion. Requests for exceptions to any class policy must be discussed with me in advance.

How to reference a book:


How to reference articles:

ACADEMIC CALENDAR
Dates and Deadlines
Spring 2009

- Students are responsible to abide by these deadlines.
- If your name is not on the official class roster, you are not officially registered in the course.
- Students must use their official e-mail address on record; communication regarding registration will be sent via e-mail to students during the registration period.

November 10
- Registration begins. Before registration, all students must pay a $200 registration advance payment. This $200 will be applied to your tuition and fees. Students can register on or after their assigned time.
- Apply for spring graduation. See your advisor.

January 19
- Martin Luther King Holiday (No Classes; Campus Open)

January 19
- Last day to withdraw from all classes and receive refund of $200 advance payment.

January 20
- First day of Spring semester classes.
- Faculty/staff using waiver may register.
- Last day to petition residency.

January 25
- LAST DAY TO:
  - Add courses and waitlist using S.M.A.R.T
  - Note: If your name is not on the official class roster, you are not officially registered in the course.

January 26
- No adds permitted today.
- Last day to drop a course without a $100 drop charge.

January 27
- First day instructor may approve a request to add a student to a closed course using a Schedule Adjustment Form.

January 27
- Between January 27 & February 4:
  - Open courses may be added using a Schedule Adjustment Form with instructor’s approval.
  - Late starting module or intensive courses may be added up until the first day of the class. After that, those courses may be added with instructor’s permission.
  - Independent study, internship, thesis, and dissertation credit may be added with required signature approvals.

February 4
- LAST DAY TO:
  - DROP full-term courses with tuition adjustment.
  - After this date, dropped courses require instructor’s approval and will appear on your transcript.

  - ADD full term courses (except thesis, independent study and internships). After this date, student will be charged the full tuition amount for additional course(s) added - College Opportunity Fund hours will not be deducted from eligible student’s lifetime hours.

  - Withdraw from the term.
  - After this date, complete withdrawal (all courses dropped) requires the signature of your dean (no tuition adjustment). Signature of financial aid required if student has financial aid (loans, grants, or scholarships).

  - Request a No Credit or pass/fail grade for a course.
  - Register as candidate for degree.
  - Last day to apply for spring graduation.
  - Petition for reduction in dissertation hours.
  - Submit faculty/staff waiver forms.

April 6
- Last day to drop or withdraw without a petition and special approval from student’s dean.

March 23-29
- Spring Break (No Classes; Campus Open)

May 1
- Last day to authorize for College Opportunity Fund (COF) via S.M.A.R.T. Students may continue to authorize through finals at the Registrar’s Office.

May 11-16
- Finals Week.

May 16
- End of semester.

May 25
- Spring Final grades available on S.M.A.R.T.

INTENSIVE AND MODULE COURSES:
Adds after 1st class to start of 3rd class require instructor signature. Drops after 2nd class to start of 3rd class require instructor signature. Drop charges apply the first day of class or later. Drops or withdrawal after 3rd class meeting require special approval from student’s dean. No tuition adjustment.

Intensive courses are short format (less than five weeks). They require the same number of classroom hours, and the same amount of work as a full-term class.

Module courses are classes lasting five or more weeks but less than the full term. They require the same number of classroom hours, and the same amount of work as full-term courses. Module courses meet:
- First five weeks: January 20-February 21
- Second five weeks: February 23-March 28
- Third five weeks: March 30-May 2

ACADEMIC CALENDAR 2009

Summer 2009 (tentative)
Maymester classes begin................................................................. May 19
Memorial Day Holiday-Campus closed........................................... May 25
Maymester classes end........................................................................ June 5
Summer classes begin........................................................................ June 8
Independence Day Holiday – No classes; campus closed..................... July 4
End of term......................................................................................... August 1

Fall 2009 (tentative)
Classes begin....................................................................................... August 17
Labor Day Holiday – No classes; campus closed.................................. Sept 7
Fall Break – No classes; campus open.............................................. Nov 23-29
Thanksgiving Day Holiday – No classes; campus closed...................... Nov 26
End of term......................................................................................... Dec 12

BILLING INFORMATION
(See S.M.A.R.T. for your current account balance)

- Please be aware there is a required registration advance payment of $200.00. This payment must be made before you can register. The ONLY exception to this requirement is if the Financial Aid Office has received your FAFSA data and you have completed the University Application for Financial Aid.

- 1st day of the term through the following Monday – If the student withdraws from all classes for the term, he/she will forfeit $200, which corresponds to the $200 registration advance payment.

- Beginning the second Tuesday of the fall and spring terms until census date. If a student drops a course, a $100 drop charge will be assessed. If a student withdraws during this time frame (therefore dropping all classes), all tuition and other fees will be removed, but a drop charge of $100 will be assessed for each course.

STUDENTS ARE RESPONSIBLE FOR COMPLYING WITH TUITION/FEES DEADLINES. UNPAID TUITION WILL BE SUBJECT TO 1.75% SERVICE CHARGE. ADDITIONALLY, PAST DUE ACCOUNTS MAY BE ASSESSED A 20% INTERNAL COLLECTION FEE ON THE UNPAID BALANCE FOR DETAILED INFORMATION ON PAYMENT DATES AND POLICIES, CALL 303-556-2710 or visit Student Billing Policy.

The University of Colorado Denver has implemented an official E-Bill (electronic billing) program. Beginning with the Fall 2008 Term, UC Denver no longer mails paper billing statements to students. All registered students must access their student account bill through the CU Access portal.