Instructor:	Sandra Betton Ph.D. CFA	**Office:**	MB 12-215
Tel.:	(514) 848-2424 x 2783	**E-mail:**	sbett@jmsb.concordia.ca
			(begin subject line with 611)
Office hours:	Thursday 3-4 pm or by appointment	**Class folder:**	MSCA 611 on FirstClass

COURSE OBJECTIVES

The objective of this course is to introduce you to a number of different research methodologies and to give you the skills needed to apply those concepts to a research question. We will be using simulation both to explore the econometric concepts and to value an exotic financial security. By the end of this course you should be familiar with a number of different databases, be comfortable using simulation and be able to develop and test hypothesis using sophisticated financial econometrics.

TEXTBOOK and Other Readings

Required Text:

Brooks, Chris, Introductory Econometrics for Finance, 2nd Edition, Cambridge University Press, 2008

Kothari and Warner, article on FirstClass

Weston, J. Fred, Mark L. Mitchell and J. Harold Mulherin, Takeovers, Restructuring, and Corporate Governance, 4th Edition[1]. Chapters 6 (Theories of Mergers and Tender Offers) and 8 (Empirical tests of M&A performance) will be useful. Available on reserve.

EVALUATION:

Students will be expected to be prepared for class and to participate in class discussions. All submitted work is expected to be well written and well presented. You expected to be well prepared for any discussion, present well and write in a clear and precise manner.

---

[1] Note: this textbook has not changed very much from edition to edition; feel free to use an earlier version. Text is also on reserve in the library

<u>**Grade Components:**</u>

The final grade will be determined based on the following:

1) **Bloomberg certification (5%).** If you obtained Bloomberg certification more than 1 year ago, you will need to do an additional module to obtain the 5%.
2) **Database guides (10%)**
   - Done in groups of up to 3
   - Select a data base from the list below and a due date.
   - Databases will be allocated on a first come – first served basis
   - For the database, provide the following information:
     o Any CIT guides that are available
     o How to access the database
     o The type of data contained in the database – provide a few examples of data
     o Ease of use – provide a few examples of how to obtain data in a format that is useable to someone doing research
     o Time period of coverage (when does data start/end)
     o Coverage – how many firms, which countries etc
   - The write up should be in the form of a guide to the database, just repeating the CIT guide is not acceptable. Maximum 5-7 pages, excluding any CIT guides or sample searches/output.
   - On the due date, post your database guide in the course FirstClass folder so that everyone in the class can use the information
   - Possible databases:
     o CRSP
     o CFMRC
     o Osiris
     o Zephyr
     o IBES
     o Option Metrics
     o RiskMetrics/ISS corporate governance
     o Datastream
     o Ibbotsen
     o WRDS (describe the system and the types of databases that are available at JMSB)
     o Statistics Canada
     o DirectEdgar

3) **Concept simulation (15%)**
   - Done in groups of up to 3
   - Presented to the class (max 20 minutes, write up posted on FirstClass on the Sunday before the due date).
   - The objective of the simulation is to evaluate the impact, and possible characteristics, of "badly behaved" data on OLS estimates
     o For example, we know that standard OLS assumes that errors have zero autocorrelation. What if they have negative autocorrelation? The simulation would involve:
       ▪ Simulate data where the errors have a negative autocorrelation
       ▪ Estimate the OLS model
       ▪ Evaluate the impact on the OLS model parameters

- As a researcher, what would make you suspect that the errors had negative autocorrelation?
- Select a concept from the list below, allocated on a first come first served basis. Arrange a meeting with me as soon as you have chosen your topic to discus your approach.
- Concepts
  - **A.** Heterskedasticity (general violations of OLS assumptions)
  - **B.** Censored and truncated dependent variables
  - **C.** Autoregressive and moving average data
  - **D.** Simultaneous equations
  - **E.** Vector Autoregressive data
  - **F.** Autoregressive volatility
  - **G.** Markov switching model
  - **H.** Random effects panel data
  - **I.** Fixed effects panel data

4) Exotic security valuation (20%)

5) Methodology paper (total 50%)
- To be carried out individually
- The write up is expected to be well written – just giving me the output is not acceptable.
- **Part 1 – Event study (20%)**
  - Each student will be assigned a time period
  - Carry out an event study on merger and acquisition announcements for that time period using both the prediction error approach and the dummy variable approach
    - Recommend you read the two chapters from Weston et al.
  - Write up should include:
    - Data description section
    - Methodology description
    - Results
    - Conclusions
    - I expect the write up to be about 10 pages

- **Part 2 – Concept application to results of part 1 (30%)**
  - Using the results from Part 1, answer the following questions:
    - Does the offer premium, target response, target runup and initial abnormal return predict the success of the initial offer?
    - You believe that there has been a long run relationship between the returns on the bidder and the target prior to the announcement of the deal. Test this hypothesis.
    - You believe that significant mergers and acquisitions have an effect on the volatility of the bidder's returns. Test this hypothesis.
  - For each question, the write up should include:
    - Data description section (can copy, where necessary, material from Part 1)
    - Hypothesis development
    - Methodology description
    - Results
    - Conclusion
    - I expect the write up for each question to be about 10 pages

ACADEMIC INTEGRITY:

The Code of Conduct (Academic) at Concordia University states that the *"integrity of University academic life and of the degrees, diplomas and certificates the University confers is dependent upon the honesty and soundness of the instructor-student learning relationship and, in particular, that of the evaluation process. As such, all students are expected to be honest in all of their academic endeavours and relationships with the University."* [Graduate Calendar, Code of Conduct (Academic).]

All students enrolled at Concordia are expected to familiarize themselves with the contents of this Code. You are strongly encouraged to visit the following web address: http://johnmolson.Concordia.ca/ugrad/codeofconduct.pdf which provides useful information about proper academic conduct.

GRADING CORRESPONDENCE

Letter Grade	Numerical equivalent
A+	95% and above
A	90% - 94%
A-	85% - 89%
B+	80% – 84%
B	75% - 79%
B-	65% - 74%
C	55% - 64%
F	Less than 55%

SYLLABUS

This outline lists the topics covered during the course, and the required readings. The schedule may change depending on class progress and interests; any changes will be announced in class and posted in the first-class folder. You are expected to be prepared prior to class.

Week	Date	Topic	Reading	What's due	
				Concept simulation	Meth'odology paper
1	**Jan 11**	Introduction: research, econometrics and ethics	1, 13		
2	**Jan 18**	Simulation Review of linear regression model	12 2, 3, 4		
3	**Jan 25**	Linear regression model continued			
4	**Feb 1**	Event studies	Kothari & Warner	**Database guides due**	
5	**Feb 8**	Limited dependent variables	11	A	
6	**Feb 15**	Univariate time series	5	B	PART 1
7	**Mar 1**	Multivariate models	6	C	
8	**Mar 8**	Long run relationships	7	D	
9	**Mar 15**	Modeling volatility and correlation	8	E	
10	**Mar 22**	Switching models	9	F	
11	**Mar 29**	Panel data	10	G	
12	**Apr 14**[2]	Review and finish		H, I	PART 2
Guest lecture by Dr. Ravi Mateti on simulation and valuation of derivatives to be scheduled during semester					
TBA		Simulation of exotic security			

Note: University closed April 3 and 5

---

[2] University closed Monday April 5, make up date: Wednesday April 14