COURSE INFORMATION

FRE 501 Strategic Economic Analysis of Agri-Food Markets

Instructors: James (Jim) Vercammen (first 10 weeks) james.vercammen@ubc.ca
Seyed (Hamzeh) Hosseini Pozveh (last 3 weeks) h.hosseini@usask.ca

Vercammen's Office: Henry Angus (HA) 264: ph. (604) 827 - 3844

Vercammen's Office Hours: Mon, Tues (10-11:30) and Wed, Thurs (9:30-11:00) in HA 264

Course Lectures: MW 3:00 - 4:30 pm in MCML 154
Course Labs (trade data analytics): Thursday Nov 14, Nov 28, 10:30 – 12 pm in MCML 154

There are two course websites. The content website for the commodity futures and options component of the course (first 10 weeks) is at https://vercammen.github.io/. The content website for the trade data analytics component of the course (last 3 weeks) is the UBC Canvas site (http://canvas.ubc.ca). The Canvas site is used for all quizzes and assignments.

Course Support: Wei Siang (MFRE Alumni), weisiang.chan@gmail.com
Office hours: See course website for details (Canvas)

COURSE DESCRIPTION

FRE 501 has two distinct components. The first 10 weeks of the course focuses on commodity futures and options markets. The last 3 weeks focuses on the analysis of international trade data. The futures and options component uses a flipped learning format, where outside of class students study the on-line material, prepare for regular in-class quizzes and complete assignment questions. The in-class lecture slot is used to highlight key learning outcomes, facilitate a Q&A and enable students to participate in course-related activities. The trade data analytics component uses a traditional lecture format but there is considerable emphasis on hands-on applications. These applications include using R for data visualization, cluster analysis and credit scoring with logistic regression.

LEARNING OBJECTIVES

By the end of the course, students will be able to:

- Describe the institutional rules and mechanics of trading agricultural commodity futures and options;
- Explain important structural features of commodity futures and options markets such as the role of storage, seasonality in the basis and the pricing of put and calls;
- Integrate the various theories of commodity futures and options in order to explain pricing patterns that emerge from simulation data;
- Identify the key determinants of hedging profits and hedging effectiveness;
- Explain how global supply chains can be sliced up using an input-output matrix, and how non-tariff barriers serve as an important determinant of trade; and
- Use R to visualize global supply chain data, cluster trading partners based on non-tariff barriers and run logistic regression as part of trade credit assessment.

ACADEMIC INTEGRITY AND MISCONDUCT

All UBC students are expected to behave as honest and responsible members of an academic community. **See details below.**

In addition, all students are expected to attend class regularly and to arrive on time.

ASSESSMENT

Assignments

Futures and Options (Sept 25, Oct 15, Nov 10)	*– 12%*
Trade data analytics (Dec 2)	*– 9%*
Quizzes on Futures and Options (Sept 11, 23; Oct 2, 11, 28, Nov 6)	*– 24%*
Midterm Exam on Futures and Options (Oct 16)	*– 20%*
Final Exam on Futures and Options (Nov 12)	*– 35%*
Total	***100%***

SCHEDULE and READINGS

Commodity Futures and Options

- A detailed list of the topics and readings, and a description of weekly activities can be found in the main course website: https://vercammen.github.io/schedule.html
- The final exam for this course (held on Nov 12th) examines material on commodity futures and options but not on trade data analytics.

Trade Data Analytics

This module has three components:

- Descriptive analytics with a focus on data visualization
- Descriptive analytics with a focus on data clustering (unsupervised machine learning)
- Predictive analytics with a focus on credit scoring using logistic regression

Each component relates to a specific paper:

Visualization: Timmer, M. P., Erumban, A. A., Los, B., Stehrer, R., & De Vries, G. J. (2014). Slicing up global value chains. Journal of economic perspectives, 28(2), 99-118.

Clustering: Disdier, A. C., & van Tongeren, F. (2010). Non-tariff measures in agri-food trade: What do the data tell us? Evidence from a cluster analysis on OECD imports. Applied Economic Perspectives and Policy, 32(3), 436-455.

Credit Scoring: Kanapickiene, Rasa and Renatas Spicas (2019). Credit Risk Assessment Model for Small and Micro-Enterprises: The Case of Lithuania. Risks: Special Issue "Advances in Credit Risk Modeling and Management" 7, 67: 1 – 23.

Date	Topic/Activity	Comments
Wed, Nov 6	Accounting framework for global supply chains (half lecture)	Timmer et al. (2014)
Mon, Nov 11	No class	Remembrance Day
Wed, Nov 13	2016 Intercountry Input-Output Table (Excel and R format): Methods of Analysis (http://www.wiod.org/database/wiots16)	Timmer et al. (2014)
Thurs, Nov 14	Lab: Practice R data visualization methods	10:30-12 in Room 154
Mon, Nov 18	Theory of non-tariff barriers	Disdier & Tongeren (2010)
Wed, Nov 20	Using R for cluster analysis: reference to Disdier & Tongeren (2010)	
Mon, Nov 25	Theory of trade credit scoring with logistic regression	Kanapickiene & Spicas (2019)
Wed, Nov 27	Using R for credit scoring with logistic regression: reference to Kanapickiene & Spicas (2019)	
Thurs, Nov 28	Lab: PostgreSQL in R (data retrieval)	10:30-12 in Room 154

The following R reference book is available as an e-book through the UBC library course reserve (beginning October 1).

Fischetti, Tony; Mayor, Eric; Miguel, Ruy (2017). R: predictive analysis: master the art of predictive modeling, Packt Publishing.

Late Assignments – please read carefully!

To ensure that all students are treated fairly the assignment due dates will be rigorously enforced. This means that 25/100 points will be deducted for assignments that are 1 to 24 hours late, 50/100 points will be deducted for assignments that are 24 – 48 hours late and 100/100 points will be deducted for assignments that are more than 48 hours late. These penalties are waived if the student misses the deadline for an acceptable reason (e.g. illness) and provides documentation (e.g., a doctor's note).

Academic Misconduct – please read carefully!

Academic honesty is essential to the continued functioning of the University of British Columbia as an institution of higher learning and research. All UBC students are expected to behave as honest and responsible members of an academic community. Breach of those expectations or failure to follow the appropriate policies, principles, rules, and guidelines of the University with respect to academic honesty may result in disciplinary action.

Academic misconduct that is subject to disciplinary measures includes, but is not limited, to the following:

- ***Plagiarism**, which is intellectual theft, occurs where an individual submits or presents the oral or written work of another person as his or her own. In many UBC courses, you will be required to submit material in electronic form. The electronic material will be submitted to a service which UBC subscribes, called TurnItIn. This service checks textual material for originality. It is increasingly used in North American universities. For more information, review TurnItIn website online.*

- ***Cheating**, which may include, but is not limited to falsification of any material subject to academic evaluation, unauthorized collaborative work; or use of unauthorized means to complete an examination.*

- ***Submitting others work as your own**, may include but not limited to i. using, or attempting to use, another student's answers; ii. providing answers to other students; iii. failing to take reasonable measures to protect answers from use by other students; or iv. in the case of students who study together, submitting identical or virtually identical assignments for evaluation unless permitted by the course instructor.*

- ***Resubmission of Material**, submitting the same, or substantially the same, essay, presentation, or assignment more than once (whether the earlier submission was at this or another institution) unless prior approval has been obtained from the instructor(s) to whom the assignment is to be submitted.*

- ***Use of academic ghostwriting services**, including hiring of writing or research services and submitting papers or assignments as his or her own.*

Student Responsibility: Students are responsible for informing themselves of the guidelines of acceptable and non-acceptable conduct for examinations and graded assignments as presented via FRE code of conduct guidelines; course syllabus and instructors; and UBC academic misconduct policies, Review the following web sites for details:
http://www.calendar.ubc.ca/Vancouver/index.cfm?tree=3,54,111,0
http://learningcommons.ubc.ca/academic-integrity/

Penalties for Academic Dishonesty: Academic misconduct is treated as a serious offence at UBC and within the MFRE program. Penalties for academic dishonesty are applied at the discretion of the course instructor. Incidences of academic misconduct may result in a reduction of grade or a mark of zero on the assignment or examination with more serious consequences being applied if the matter is referred to the Dean's office and/or President's Advisory Committee on Student Discipline. Careful records are kept to ensure monitoring and prevent recurrences