ECON9370-
ADVANCED FORECASTING MODELS AND
DATA ANALYSIS IN BUSINESS
Syllabus

Jan.3, 2019 – Jan.26, 2019

Term Duration: Jan. 3, 2019 –Jan. 26, 2019
Credit Points: 4
Level: Postgraduate
Instructor Name: TBA
Home Institution: Beijing Institute of Technology
Lecture Hour: 9:00-11:50
Office Hour: TBA

Course Description

This course concentrates on the use of objective approaches to forecast in business environment, involving the development of a model which is generally constructed by studying past relationships between the item to be forecast and the factors thought to affect it. Objective methods provide a basis for evaluating forecast accuracy and for developing confidence ranges for forecasts. Building and evaluating short-term forecasting models with time- series-analysis techniques will be the focus.

Required Textbook

Business Forecasting, Sixth Edition;
Author: J. Holton Wilson and Barry Keating;
Publisher: McGraw-Hill/Irwin;
ISBN:9780073373645;

Time Series Analysis: Forecasting and Control;

Author: George E. P. Box, Gwilym M. Jenkins, Gregory C. Reinsel and Greta M. Ljung ;

Publisher: Wiley;

ISBN:1118675029;

Course Hours

The course has 14 class sessions and 1 field trip in total. Each lecture session is 180 minutes in length. The classes are from Monday to Friday.

Prerequisite Course

None

Course Schedule

Week	Day	Date	Chapter	Topic	Assignment/ Notes
Week 1	Thu.	Jan.3, 2019	Introduction	Introduction to business forecasting: the forecasting environment and important practical problems	Group Discussion: forecasting environment and five important problems.
Week 2	Mon.	Jan.7, 2019	Chapter 1	General analysis of statistical graphics, the forecast process, data considerations, and model selection.	Course project.
	Tue.	Jan.8, 2019	Chapter 2	What is moving averages and exponential smoothing？	Course project.
	Wed.	Jan.9, 2019	Chapter 3	Forecasting with multiple regression.	Group Discussion: multiple regression
	Thu.	Jan.10, 2019	Chapter 4	Introduction to forecast with regression methods.	Presentation.
Week 3	Mon.	Jan.14, 2019	Chapter 5	Basic introduction to times-series decomposition.	Case study : Times-series decomposition.
	Tue.	Jan.15, 2019	Chapter 6	ARIMA (Box-Jenkins)-type forecasting models.	Case study: outline the models.
	Wed.	Jan.16, 2019	Chapter 7	Combining forecast information, methods and results.	Presentation.
	Thu.	Jan.17, 2019	Chapter 8	Methods of data mining.	Case study : data mining and analyze.
	Fri.	Jan.18, 2019	Field Trip	Site Visit at Fortune 500 Corporation	
Week 4	Mon.	Jan.21, 2019	Chapter 9	Introduction to forecast implementation.	Course project.
	Tue.	Jan.22, 2019	Chapter 10	Combine trend and seasonality model, cycles.	Case Study
	Wed.	Jan.23, 2019	Chapter 11	General introduction to basic ideas in model building.	Group Discussion: model building

	Thu.	Jan.24, 2019	Review	Go over all the points.	Review
	Sat.	Jan.26, 2019	Final Exam		

Grading Policy

Items	Percentage
Attendance	10%
Case study	40%
Final Exam	50%
Total	100%

Academic Honesty

Academic honesty is not only a fundamental part of learning and teaching, but also a core value that this course embraces. Behaviors of academic dishonesty, as outlined hereinafter, are unacceptable and will be penalized:

a) Plagiarism where students present work for assessment, publication or otherwise that is not their own, without appropriate attribution or reference to the original source. Plagiarism can include:

    i) paraphrasing or copying published and unpublished work without a reference;

    ii) adopting the ideas or concepts of others, including the structure of an existing analysis without due acknowledgement by way of reference to the original work or source.

b) Collusion, where students present work as independent work when it has in fact been produced in whole or in part with others unless prior permission for joint or collaborative work has been given by the Course Coordinator. Collusion can include:

    i) a student inappropriately assisting with or accepting assistance with the production of an assessment task;

    ii) submitting work which is the same or substantially similar as another student's work for the same assessment task.

c) Cheating, where a student acts in such a way as to seek to gain unfair advantage or assist another student to do so. Cheating can include:

    i) submitting falsified, copied or improperly obtained data relating to results of practicum, field trips or other work as if they were genuine; submitting an assessment task with the intention of deceiving or misleading the instructor about the student's contribution to the work;

    ii) submitting an assessment task written or answered for the student by another person or which the student has copied from another person;

    iii) submitting the same or a substantially similar piece of work for assessment in two different courses (except in accordance with approved study and assessment schemes);

iv)a student falsely indicating that they have been present at an activity where attendance is required;

v)completing an assessment task outside the conditions specified for that task.

d) Cheating in Examinations means engaging in dishonest practice or breaching the rules regarding examinations, which can include:

i) communicating in any way during an examination with any person who is not an examination supervisor inside or outside the examination venue;

ii) giving or accepting assistance from any person who is not an examination supervisor whilst in the examination venue;

iii)reading, copying from or otherwise using another student's work in an examination or knowingly allowing a student to do so;

iv)possessing, referring to or having access to any material or device containing information directly or indirectly related to the subject matter under examination, other than that explicitly approved by the Course Coordinator;

v) acquiring, or attempting to acquire, possess or distribute examination materials or information without approval;

vi)permitting another person to attend an examination on a student's behalf or attending an examination on behalf of another student;

e) Other dishonest acts including but not limited to:

i)altering or falsifying any document or record for the purposes of gaining academic advantage;

ii) offering or giving money or any item or service to a University staff member or any other person to gain academic advantage for the student or another person;

iii)inventing references.