



Abhishek Sharma

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Office Hours:

Friday 3:00 – 4:00 p.m.

ISOM 495, Forecasting Methods, Spring 2019
Saturday 9:00 -12:00, Schreiber Center - Room 605

Catalog Description

- This course covers current concepts in forecasting methods and use, with focus on implementation of these concepts in context to demand projections, economic and financial data analysis. This course uses R statistical language to create and implement various models. Main topics of the course include Regression, Time series analysis and Markov Processes.

Course Overview

- This course includes lectures, homework assignments and tests.

Course Objectives and Learning Outcomes

- Understanding of concepts and development steps related to Forecasting methods.
- Proficiency in modeling, development, and use of forecasting methods.

Textbooks

- Forecasting data and methods (Rob J Hyndman) Freely available online.
- Additional pdf material/handout will be provided by the instructor.
- **Software:** R statistical language, Tableau & Microsoft Excel

Course Requirements and Grading Criteria

HW	50 points (10 points each)
Quiz	50 points (10 points each)
Mid-Term	100 points
Final Exam	100 points

Course Grading Scale

A	Above 275		
A-	Above 269	to	275
B+	Above 263	to	269
B	Above 245	to	263
B-	Above 239	to	245
C+	Above 233	to	239
C	Above 215	to	233
C-	Above 195	to	215
D+	Above 188	to	195
D	Above 180	to	188
F	Above 0	to	179

HW Assignment Submission:

Each HW assignment is worth 20 points. There are five HW assignments. HW assignments are due before midnight on the due date. All HW assignments must be submitted in person during office hours or via Sakai. **YOU CANNOT SHARE ANY PART OF YOUR HW FILES WITH ANY OTHER STUDENT. EVERY STUDENT MUST WORK INDIVIDUALLY ON THEIR OWN FILES. ANY INSTANCE OF SHARING OF HW FILES (OR ANY PARTS OF HW FILES) WILL BE GROUNDS FOR SERIOUS DISCIPLINARY ACTION AGAINST ALL PARTIES INVOLVED.**

LATE SUBMISSION POLICY: NO LATE ASSIGNMENTS ACCEPTED.

NO ASSIGNMENT SUBMISSION VIA EMAIL

Additional notes:

- Check your grades often in the grade book on Sakai.
- Office hours' visits are encouraged and welcomed. Stop by as many times as you wish. If you are experiencing any problems do not hesitate to come to the office hours (or schedule an appointment). Also, feel free to visit during office hours to get advice on follow up classes, discuss career choices, or simply introduce yourself.
- Before you start with any HW assignment, first download all the necessary files onto your computer or flash drive (do not open the files directly from the Sakai site).
- Use e-mail judiciously (in general, e-mail is to be used for short messages, such as scheduling an appointment or requesting clearing of inadvertently submitted files). If you need concrete help with a HW assignment, please come to the office hours.

Final Exam: 05/11/19

Quinlan School of Business Policies:

Attendance

Class attendance and participation are fundamental components of learning, so punctual attendance at all classes, for the full class meeting period, is expected of Quinlan students.

Make-Up Examinations

Loyola University academic policy provides that tests or examinations may be given during the semester or summer sessions as often as deemed advisable by the instructor. Because Quinlan faculty believes examinations represent a critical component of student learning, required examinations should be taken during the regularly scheduled class period. **Make-up examinations are discouraged.** Exceptions may be granted only by the faculty member or department chair, and only for unavoidable circumstances (illness verified by a signed physician's note, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, or religious observance). A make-up final examination may be scheduled only with the permission of the appropriate Quinlan Assistant or Associate Dean.

For a student with a documented special testing need, please consult University policy concerning use of the testing center in Sullivan Center at Lake Shore Campus.

Academic Integrity

All members of the Quinlan School shall refrain from academic dishonesty and misconduct in all forms, including plagiarism, cheating, misrepresentation, fabrication, and falsehood. Plagiarism or cheating on the part of the student in individual or group academic work or in examination behavior will result minimally in the instructor assigning the grade of "F" for the assignment or examination. In addition, all instances of academic dishonesty must be reported to the chairperson of the department involved.

For further information about expectations for academic integrity and sanctions for violations, consult the complete Quinlan School of Business Honor Code and Statement of Academic Integrity on the Quinlan website:

<http://www.luc.edu/media/lucedu/quinlanschoolofbusiness/pdfs/Honor-Code-Quinlan-July2012.pdf>

Notes:

This class may occasionally deviate from the stated course outline below.

The instructor reserves the right to make changes as needed to the course syllabus.

Any issue that is not described in this syllabus will be resolved at the sole discretion of the instructor.

Class by Class/Week by Week Course Outline

Week No	Quizzes <i>(multiple choice, T/F)</i> and Exams <i>(problems, essays)</i>	Text Book Lectures	DUE
Week1 2/23		Forecasting Introduction, R – Programming Basics	
Week2 3/2		Introduction to Time Series/Decomposition R – Programming Exercise	
Week3 3/16		Qualitative Methods Time Series- Exponential Smoothing R – Programming Exercise	HW-1
Week4 3/23		Time Series- Holts Method Time Series- Winters Method R – Programming Exercise	HW-2
Week5 3/30		Explanatory models/ Regression Time Series- Box Jenkins Method (ACF, PACF, AR, MA, ARMA, ARIMA) R – Programming Exercise	
Week6 4/6	Mid-Term		
Week7 4/13		Time Series- Box Jenkins Method (ACF, PACF, AR, MA, ARMA, ARIMA) R – Programming Exercise	HW-3
Week8 4/27		Multivariate Time Series R – Programming Exercise	HW-4
Week9 5/4		Dynamic Regression Models, Markov Processes Evaluating alternative forecasting methods R – Programming Exercise	HW-5
5/11	Final-Exam		