

**MBA652      Statistical Modeling for Business Analytics**  
**Course Syllabus**

**Semester:** 2018 Spring  
**Timings:** M, W: 5:10 pm – 6:25 pm,  
**Classroom:** New IME Building – Room C5  
**Instructor:** Dr. Devlina Chatterjee, Room 211, IME Building,  
Ph: 259 6960 (Office)  
Email: devlina@iitk.ac.in

**Objective of the course:**

This is an applied econometrics course. It is expected that students taking this course will gain skills and experience in data analysis, economic modeling and interpretation of results. The course will include hands-on model building using the open source statistical software - R. Emphasis will be laid on the ability to set up the model correctly and interpretation the results of the models. Students should also develop the ability to critically evaluate the quality of statistical models used in research studies.

**Syllabus:**

Introduction to Economic Questions and Data, Review of Probability, Review of Statistics, Linear regression with one regressor, Regression with multiple regressors, Non-linear regression functions, Assessing studies based on linear regression (internal and external validity), Regression with a binary dependent variable, Panel Data Regression, Introduction to Time-series regression and forecasting, Estimation of Dynamic Causal Effects, VAR, ARCH and GARCH models.

**Text Book:**

*Introduction to Econometrics* by James H. Stock and Mark W. Watson (Addison-Wesley, 3rd Edition)

**Reference Material:**

- *Introductory Econometrics: A Modern Approach*, by Jeffrey M. Wooldridge (South-Western Cengage Publishers, 4th Ed.)
- R resources: <http://www.r-tutor.com/r-introduction>, <http://www.statmethods.net/>

**Evaluation scheme:** In order to benefit from this course, active participation is required from the students in classes and also out of classes doing assignments and project work.

- Attendance\* - 10%
- Quizzes (2 or 3) - 10%
- Term Projects (2) - 30%
- Mid-term exam - 20%
- Final exam - 30%

\*(minimum of 65% attendance required - else deregistered from the course).

Attendance mandatory on the days of project presentations)

**Academic Integrity:**

If you are caught cheating or copying on any assignment, quiz or exam, you will

- i. get **ZERO** marks on that assignment/quiz/exam.
- ii. an additional penalty may be given including and upto assigning a grade F in the course.