The Kellstadt Graduate School of Business
DePaul University

GSB 519 – Business Analytics Tools

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Special note: This syllabus is for the online format of the class as the University decides to deliver the entire classes via online due to pandemic.

Goal of this course: This course covers some of the most important topics in mathematics, probability theory, statistics and regression analysis. The objective is to provide practical knowledge of mathematics, probability theory, statistics, and regression techniques that are the most relevant and useful in a graduate business program and even after completion of the MBA program. The course develops ideas, concepts, and vocabulary that graduates of quality MBA programs are expected to know. This course is analytical and theoretical to the extent that is necessary in order to develop correct insights and practical understandings of the topics presented.

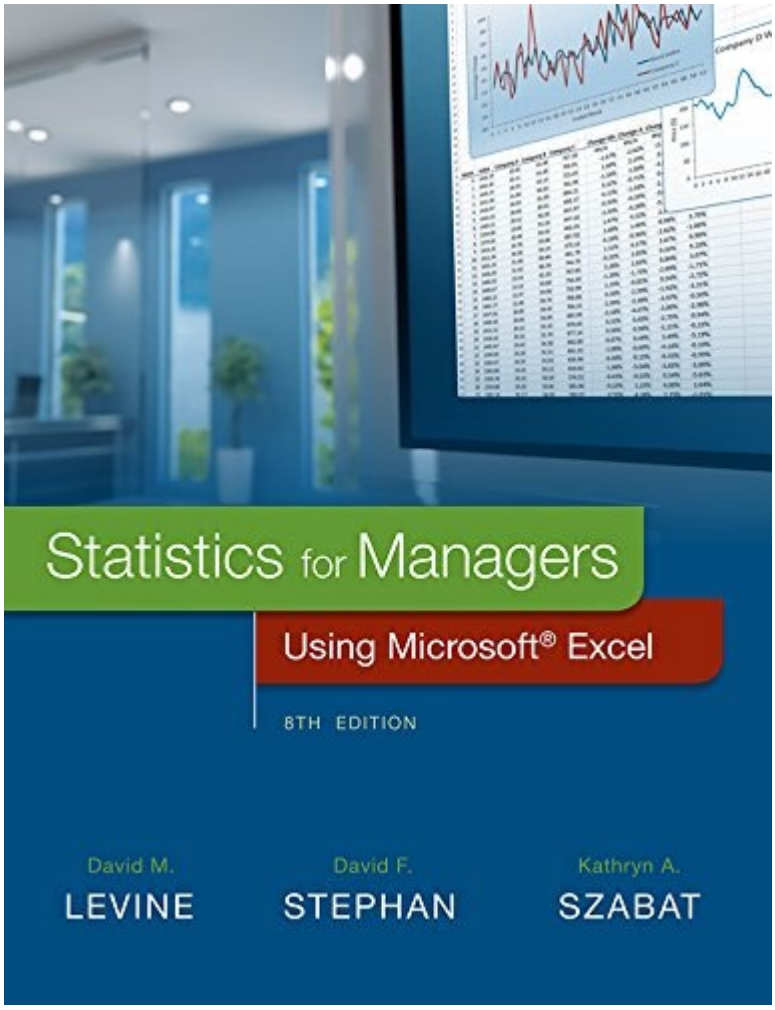
Course Materials
Many chapters in Levine textbook will serve as basic readings for statistics, which will be supplemented with class handouts that will be posted in D2L.

Main Textbook: David Levine, David Stephan, and Kathryn Szabat (2016), Statistics for Managers, Using Microsoft Excel, 8th edition, Pearson.

Note that earlier editions, such as the 6th or 7th edition, can be used as well.

Software: Excel is the main software for the course, mainly for the regression analysis.

FYI, Textbook cover



Course Requirements
It is very important to closely follow lectures (online), since the materials covered in lectures form the core of the course.

There will be 3 requirements:

(1) A mid-term and a final exam: The midterm exam will be given on **May 5** and the final on **June 10**. Both exams will be take-home exams (i.e., open-book test). Please note that these dates are tentative and will be confirmed later.

(2) Problem sets (homework): 7 Problem sets (mostly from textbook) will be assigned in about each session. Each problem set will be graded on a simple scale 0 (no submission) and 1 (submission).

Grading: Course grade will be determined by the midterm (40%), the final (42%), problem sets (18%). Note that D2L records the data on class engagement.

Grading Scale: A=94% and above; 88%≤A-<94%; 82%≤B+<88%; 77%≤B<82%; 72%≤B-<77%; 67%≤C+<72%; 63%≤C<67%; 59%≤C-<63%; 55%≤D+<59%; 50%≤D<55%; and F<50%.

General policy
You should be aware of and abide by the University's policy on academic integrity (http://academicintegrity.depaul.edu). Also, the instructor reserves the right to change the topics or schedules if necessary.

Makeup Exams
In cases of severe illness or other extreme circumstances, a student may request a makeup exam. You must inform me of and obtain permission for the absence prior to the exam time, and provide appropriate documentation. I reserve the right to investigate the legitimacy of the request and to assess a grade penalty, or to award a grade of zero if proper procedure is not followed.

Desire2Learn (D2L)
All class material will be posted on D2L (https://**d2l.depaul**.edu/). All communication will be through D2L, although I will make announcements in class and occasionally send emails as needed. "I DIDN'T CHECK D2L" will not be a valid excuse for missing announcements or assignments

Special Notice on Online Class, Discussions, and Emails

(1) The course will be delivered as **"asynchronous"** online.

That is, I will deliver the lecture via pre-recorded format (which would be posted in D2L).

(2) To facilitate individual students' questions and concerns, I will hold a virtual office hour so that we can connect in real time via live ZOOM.

(3) Both midterm and final exams will be take-home exams (open-book test). Further details will be provided in advance before the exam is assigned and posted in D2L.

(4) In addition to my recorded lecture (which will be the main medium of delivering the lecture), I will post the regular lecture slides (that I usually use for face-to-face lecture in classroom) in D2L.

(5) Check the D2L frequently, especially “news items” and “contents”, where I post new announcement and class materials for the class, respectively.

D2L will be key source of information about the class and course materials.

Also, I will write emails to the class as well.

(6) Please read the Zoom instruction to make yourself familiar with it so that it comes handy whenever you need it.

(7) Importantly, <u>for general questions about the lecture materials and others, you are encouraged to use “Discussions” in D2L, while reserving the email correspondences only for discussions of personal matters/concerns</u>.

CLASS SCHEDULE*

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*The following course schedule is only tentative and may have to be modified if necessary.

Mar 31: Review of Algebra

Apr 7: Review of Algebra
Sampling, Graphs, and Descriptive Statistics (Chapters 1, 2, 3)

Apr 14: Basic Probability (Chapter 4), Discrete Probability Distributions (Chapter 5)

Apr 21: Discrete Probability Distributions (Chapter 5)

Apr 28: Normal Distribution (Chapter 6)

May 5: Mid-term take-home exam (open-book test)/No lecture

May 12: Other Continuous Distributions (Chapter7), Sampling Distributions (Chapter 7)

May 19: Sampling Distributions (Chapter 7)

May 26: Confidence Interval and Hypothesis Testing (Chapters 8, 9), Simple Regression (Chapter 13)

June 2: Simple Regression, Multiple Regressions (Chapters 13, 14)

June 10 (to be confirmed): Final take-home exam (open-book test)
(Final exam will be assigned at least a week in advance, say, June 3)
