MARKETING DEPARTMENT
The Wharton School
THE UNIVERSITY OF PENNSYLVANIA

MKTG 271/771-401—Fall 2019
MODELS AND TOOLS FOR MARKETING TACTICS AND STRATEGY

Course Syllabus and Schedule (Version: 9/9/2019)

THIS IS A FULL CLASS: ATTENDANCE AT THE FIRST DAY OF CLASS IS MANDATORY!

Professor Jehoshua (Josh) Eliashberg
744 JMHH
E-mail: eliashberg@wharton.upenn.edu   For course related issues please use Canvas Inbox
Office Hours: Wednesdays, 5-6pm and by appointment
Grader: Yi Liu liuyliuy@wharton.upenn.edu
Office Hours: Mondays 5-6pm and by appointment
Administrative Coordinator: Cuadrado, Megan J <mcuad@upenn.edu>
Course Website: https://canvas.upenn.com
Required Reading Pack (**RP**): Available via **Study.net**
Software: **JMP and Excel (R is also allowed)**

PERSPECTIVES

In today's business environment, marketing executives are involved in complex decision-making and they use analytics to make better decisions. The first objective of this course is to help participants become better executives. By exposing students to various analytical and computer-based tools, developed to assist in decision-making, the course will help to prepare them for careers in industries such as consumer packaged goods, hi-tech, financial services, media and entertainment, pharmaceutical, consulting, and venture capital. The course's main focus is on various existing models, such as models that predict markets dynamic adoption of an innovative product. However, at some point in their career, students may find themselves facing business problems for which a model can potentially assist in making decisions, but no existing model is available. Hence, the second objective of the course is to provide participants with critical skills necessary to evaluate new models to which they may be exposed by attending presentations or reading the literature. The models to be discussed in the class have been implemented and proven useful in a wide range of industries (e.g., business-to-consumers and business-to-business).

The course is not only about models, however. It also covers modeling needs. Some industries such as the media and entertainment or the pharmaceutical industries present unique problems and modeling needs. The third objective of the course is to expose

participants to the nature and essence of such idiosyncratic problems as well as modeling needs in such industries. Overall, the course will make participants understand better critical strategic marketing problems by analyzing them rigorously, and will enhance their skills in either designing or evaluating models-based strategies.

COURSE OBJECTIVES

1. To acquaint participants with computational techniques and appropriate analytical tools employed in solving business problems, and interpret their results.

2. To report data analytics results such that industry managers not familiar with analytics can understand the analysis and recommendation.

3. To give participants critical skills for evaluating new marketing models and quantitative tools.

4. To help participants understand marketing problems more clearly through useful frameworks and by analyzing them quantitatively.

5. To produce managers who will not be taken advantage of by quantitative consultants.

COURSE PREREQUISITES

Mktg 271: MKTG 101, STAT 101.
Mktg 771: MKTG 611; and MKTG 612, 613 or 622; exposure to basic statistical analysis (STAT 611, 613, 621); basic calculus and some tolerance for expressing critical ideas in simple math.

The course will be of particular relevance to students planning careers in marketing, business analytics, and management consulting. The course has been designed for students with some background in quantitative methods as well as some exposure to basic marketing concepts. A midlevel math/statistics course would be helpful, but willingness to learn the methods covered in such a course is as important as mere exposure to them.

COURSE MATERIALS AND APPROACH

In the course we will use a variety of readings, cases, and applications. The most important readings and complete list of cases (**RP**) are contained in the **Study.net.** In addition, lecture notes will be made available on the **Course Canvas** throughout the semester. The readings are designed to introduce key concepts and principles. Cases will allow examining, in detail, the applications of particular data sources and analytical approaches and techniques. The course emphasizes applications and marketing decision-making. To gain a practical experience, you will work on a group project involving data collection, analyses, and telling your story, whose progress will be monitored throughout of the semester. Statistical analyses discussed in class will be based on Excel and JMP software. Instructions how to run the software will be posted on Canvas. There will also be a number of guest lecturers who will

share perspectives into the practice of data-based decision making. **Please note that there may be some changes in the dates the guests are scheduled to visit the class.**

ASSIGNED READINGS

Recommended Text: *Principles of Marketing Engineering (3rdEdition)* **by Lilien, Rangaswamy, and De Bruyn (LRD), 2017.** Available at the library on reserve. Can be purchased at the bookstore and Amazon.
Course Readings Pack is available in Study.net

Assessment

Your final grade in the course will be based on the following criteria and weights:

Individual assignments	30%
In-class quizzes	15%
Class etiquette, attendance, participation	10%
Guest speakers engagement	5%
Group final project presentation	5%
Group written final project report	35%

Assessment Details

Assignments

The purpose of these assignments is to give you "hand-on" experience with solving problems by designing research and employing data analyses. These assignments will help clarify the concepts and techniques discussed in the classroom. **The assignments will be placed in a Canvas folder.** They are **all individual** assignments. **Each assignment should be submitted as:** (i) two hard copies and (ii) a soft copy to be placed in the **Canvas Assignments folder** by the beginning of the class. The **due dates** are given in the class schedule as well as on the assignments sheets. *No late assignment will be accepted. Plagiarized work will result in severe penalty.*

Academic Integrity

Please familiarize yourselves with the University Code of Academic Integrity:
http://www.upenn.edu/academicintegrity/ai_codeofacademicintegrity.html

Please also review Penn's Plagiarism Policy:
http://gethel.library.upenn.edu/PORT/documentation/plagiarism_policy.html

Group Project: Scope and Expectations

Group size should be **of size up to Five**. I expect class members to select their own project groups and to be responsible for managing the division of labor within the group. In case you don't know other members of the class, you will be assigned by us to a group.

The project will allow you explore a data-based real-world marketing problem of interest to you within which you can apply the methods covered in class. The group projects involve considerable amount of time and effort. It is expected that whatever project you and your group will select to pursue it will: **(1) be non-overlapping and different from the homework assignments, (2) address key managerial questions related to consumers attitudes, perceptions, preferences, purchase intent, market size, revenue projections, (3) require gathering secondary and primary data, (4) demonstrate applications of the concepts and techniques covered in the class, and (5) provide evidence based on at least 30 usable respondents to a survey.** If in doubt, please consult with the instructor. Progress status reviews will be conducted on a regular basis. Your project status report is a one-page document summarizing what you have done, key findings, and what you are planning to do next. Team members typically receive the same grade, although adjustments will be made, if necessary, based on instructor and peer assessment of contributions to team work. Peer assessment forms are available at the end of the course syllabus.

Presenting research results convincingly to an audience is, in my opinion, a critical task. We will spend some time on it in the class. The last two sessions will give you an opportunity to practice it (Approximately **10 minutes** per presentation). Each group will be asked to make an in-class **final project presentation** in these sessions. The other members of the class are expected to participate and act as the client. I will let you know the sequence of the presentations prior to December. The final written report should be no longer than **twenty** double-spaced pages in total (excluding exhibits, appendices, and other attachments). **The presentation deck and the final report are due on the last class meeting.**

Quizzes:

There will give 4 **10-minute in-class** individual quizzes and the **lowest grade among these will be dropped.** These quizzes are designed to help you summarize and understand what has been covered in class and prepare for the exam. They will also help me assess whether or not everyone is comfortable with the topics covered in class.

Class Attendance, Etiquette, Participation

Please bring your **name plate** to class and stay in the **same seat** every class meeting. You are expected to treat fellow classmates with respect and are expected to arrive for class on-time. Unexcused absence or chronic lateness will decrease your grade for the course. Every session of the course will involve some discussion. Please be prepared. Some class sessions in this course follow a case discussion format. The case provides a vehicle by which to apply the theories, concepts, and analytical techniques discussed in a class or in the reading materials. Keep in mind that your grade for class participation is not simply a

function of the amount of "air time" you take up. You will be evaluated on how well you respond to questions and on how effectively you take into account the comments and analyses of your classmates.

Electronics policy

No electronic devices allowed in class. Laptops will be allowed to turn on for some in-class exercises. It will be clearly specified in advance.

Guest speakers engagement

I will have various outsiders from different industries visit our class and present on how they approach data-based issues (that we discuss in class as well as others) in the real world. Students will also earn class participation points by attending all guest presentations and by getting involved in the discussion (by asking and responding to insightful questions). It is highly recommended that you familiarize yourself with the guest speaker's firm and its clientele prior to the presentation.

Please note that since these are high-level executives, there may be some *changes* in the dates they are scheduled to visit the class.

As part of the guest speakers engagement, it is expected that you email me via Canvas at the end of the guest speaker's day (i.e., by 12 midnight) your three key takeaways from the session. In particular, I would like to hear from you how the takeaways from the guest speaker are connected to other classes that you have taken, and/or any of your real-world experience.

Student-Faculty Meals:

I will be glad to chat with you over lunch. Signup sheet is available on the course Canvas. Group size should be at least three students and no more than seven.

Marketing 771/271-401
Fall 2019
J. Eliashberg
Tentative Course Schedule

Date	Session	Topics and Assignments	Readings and Preparations
W. August 28	1	**Introduction** • Objective of this course • What you will learn in this course • Course administrative issues • Getting to know each other	
M. Sept. 2	2	**No Class—Labor Day**	
W. Sept. 4	3	**Big Data and Data Scientists**	"Why Future Jobs Will Require Data Analytics Skills" "Principles of Marketing Engineering" (**RP**) Ch. 1(**LRD**)
M. Sept. 9	4	**Planning the data analysis project: some recent technology-based data collection/ analysis techniques and Client/consultant interaction**	Ch. 9 (**LRD**)
W. Sept. 11	5	**Digital Reputation, Data Mining, Text Analysis, and Machine Learning**	Ch. 8 pp. 248-250 (**LRD**) "What Makes Doctors Value Patient Feedback" "Turning Loyal Patients"
M. Sept. 16	6	**More on text analysis, and machine learning: Naïve Bayes Classifier**	"Practical Text Analytics" Chapters 1,2 (**RP**)
W. Sept. 18	7	**New Approaches to Collecting Primary Data: Neurophysiology and Biometrics**	
M. Sept. 23	8	**Quiz #1** **Market Analysis and Sizing Back Then**	Case: E. T. Phone Home Inc.: Forecasting Demand (in RP)
W. Sept. 25	9	**Collecting and Analyzing Multiple Data Types: Some Case Studies**	
M. Sept 30	10	**Holiday—No class**	
W. Oct 2	11	**Market Sizing Now** **Due: 2 Hard copies and a soft copy: Individual Assignment #1**	" Forecasting the Adoption of New Product" (**RP**) "A New Product Growth Model"
M. Oct. 7	12	**On Benchmarks Selection** **The Bass diffusion Model**	Ch. 5, pp. 135-149; 153-158 (**LRD**) "Diffusion Models: Managerial Applications and Software"
W. Oct. 9	13	**Holiday—No class**	

Date	Session	Topics and Assignments	Readings and Preparations
M. Oct. 14	14	**Quiz #2** **More on the Bass and Other Dynamic Models** **Brief review of regression** **Conjoint analysis**	"A Parsimonious Model for Forecasting Gross Box-Office Revenues of Motion Pictures" "A Forecasting System for Movie Attendance" (**RP**)
W. Oct. 16	15	**Conjoint analysis and market share models(Cont.)** **Due: 2 Hard copies in class and a Soft copy in Canvas Assignments Folder: Group Members**	Ch. 6, pp. 178-190 (**LRD**) "Conjoint Analysis: A Do It Yourself Guide" (**RP**)
M. Oct. 21	16	**Real-world Applications of Conjoint Analysis**	
W. Oct. 23	17	**Continued topics** **Product /Service Positioning** **Due: 2 Hard copies and a soft copy: Individual Assignment #2**	Ch.4, pp. 111-117 (**LRD**)
M. Oct. 28	18	**Quiz #3** **Short projects ideas presentations**	
W. Oct. 30	19	**Factor Analysis and Perceptual Maps**	"Analyzing Consumer Perceptions" (**BP**)
M. Nov. 4.	20	**Continued topics** **Some comments on presenting analytics to audience** **New Product Development**	
W. Nov. 6	21	**Quiz #4** **Continued topics** **Decision support and expert systems** **Due: 2 Hard copies and a soft copy: One page group project status report—what has been done and plan for November**	"A Knowledge-Based System for advertising Design"
M. Nov. 11	22	**Projects Progress Reviews** **Due: 2 Hard copies and a soft copy: Individual Assignment #3**	
W. Nov. 13	23	**Analytics in the Books Industry**	
M. Nov. 18	24	**Analytics in the Healthcare Industry**	
W. Nov. 20	25	**Analytics in the Gaming Industry**	
M. Nov. 25	26	**Analytics in the Digital Marketing Industry**	
W. Nov. 27	27	**No Class—Happy Thanksgiving!**	
M. Dec. 2	28	**Course wrap up** **Final Consultation before Presentations**	

Date	Session	Topics and Assignments	Readings and Preparations
W. Dec. 4	29	**Project presentations**	
M. Dec. 9	30	**Projects presentations** **Due: 2 hard copies in class and a soft copy: Groups project report and presentation deck.** **Peers evaluations should be submitted in sealed envelopes in the instructor mailbox.**	

University of Pennsylvania
The Wharton School

Mktg 771/271

Professor Jehoshua (Josh) Eliashberg   **Fall 2019**

Course Bulk Pack in Study.net: Table of Contents

Jehoshua (Josh) Eliashberg

Jehoshua (Josh) Eliashberg is the Sebastian S. Kresge Professor of Marketing and Professor of Operations and Information Management, at the Wharton School of the University of Pennsylvania. He also held visiting scholar positions at the Business Schools of The University of Chicago, Chulalongkorn University (Bangkok, Thailand), Penn State University, INSEAD (Fontainebleau, France), Erasmus University (Rotterdam, The Netherlands), Singapore Management University, Carnegie-Mellon University, The University of British Columbia, UCLA, Time Inc., and at the Operations Research Department at AT&T Bell Laboratories.

Professor Eliashberg's research interests are in developing models and methodologies to solve business problems. His research has focused on various issues including new product development and feasibility analysis, marketing/manufacturing/R&D interface, and competitive strategies. He has particular interest in the media and entertainment, pharmaceutical, and the hi-tech industries. He has authored numerous articles appearing in major academic journals. His work in the entertainment industry has been the subject of articles appearing in BusinessWeek, The Christian Science Monitor, The Financial Post, Financial Times, Forbes, Fortune, Los Angeles Times, The Philadelphia Inquirer, The New York Times, Variety, Newsweek, The Wall Street Journal, and The Washington Post.

He is currently the Series Editor of Springer's International Series in Quantitative Marketing and the Editor-in-Chief of Foundations and Trends in Marketing. He was elected a Fellow of the INFORMS Society for Marketing Science for his contributions to the field in June 2010 and was named a Fellow of The Institute for Operations Research and the Management Sciences in November 2010. His other professional services have included membership on the advisory boards of the National Science Foundation, the American Councils for International Education, and the academic liaison committee of the CMO Council.

Professor Eliashberg has been teaching various courses at Wharton. Prior to joining academia, he was employed for a number of years as an electronic engineer and marketing. He has participated extensively in various executive education programs. His executive education and consulting activities include AccentHealth, AstraZeneca, AT&T, Booz, Allen & Hamilton, Bell Atlantic, Campbell Soup, Cheil Communications, CTV Television Network (Canada), Domino's Pizza, Franklin Mint, General Motors, Givaudan, HBO, IBM, Independence Blue Cross, Inmar, Janssen Pharmaceutica Inc., Johnson & Johnson, L G Electronics, Lucent Technologies, Multimedia Development Corp. (Malaysia), Pathe Cinema (Holland), Philip Morris, The Siam Cement Group (Thailand), Sirius Satellite Radio, Warner Home Video, Weave Innovations Inc., Woodside Travel Trust, and Wyeth/Pfizer Pharmaceuticals. He also serves as an advisor to a number of startup companies.

Group Project Self-Evaluation Form

The purpose of this evaluation form is to communicate the contribution of each individual in the group. Do this by allocating points among group members: give more points to individuals who did more work or for some reason deserve more credit; give fewer points to individuals who did less work or for some reason deserve less credit. The total points available for the entire group **including you** are 100. Therefore, if there are five members in your group, and if you feel that each member did their fair share of the work, then give 20 points to each member. If you give one or more members more than 20 points, then one or more other members must receive less than 20 points. I will consider confidentially all of the evaluations turned in. Please leave the form in a sealed envelope in my mailbox on the last day of the class.

Course: _____

Project Title:_____

	Group Member	**Points**
Your Name:	_____	_____
Other Members:	_____	_____
	_____	_____
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Comments (if any):	_____	
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