Introduction to Marketing Analytics (MKTG 5733)
Tentative Class Schedule

Please note that this is a **tentative** schedule. Some of the topics, assignments and exercises **will be changed** due to the pace of discussion of the scheduled topics in each class/lab. *Also, there will be some mini cases assigned for some of the weeks that are not shown in the schedule and will be announced via D2L or in the lab. These mini cases are mandatory for section 001 students*. DL students are not required to do the mini cases but are encouraged to do self-study of these cases on their own to enhance their understanding of analytics topics. Large cases will be assigned in weeks 14-16 (for both non DL and DL students) and these will be announced via D2L.

For each topic, I have also identified some of the readings that correspond to my video lectures. But, you can find pretty much all of the definitions of terms, explanations of most the statistical stuff that I discuss in the lecture on the Internet (Wikipedia and other credible sources). So, be proactive and go learn on your own if you are unclear about any topic covered in the video lecture. I expect you to be prepared for each session and be able to discuss and participate in the lab sessions (non-DL students).

The cases/assignments/exercises/projects will be announced in labs and/or via D2L class site. All changes in the schedule will be communicated to you in class and/or via D2L class site. Readings, exercises, assignments, projects, etc. will be assigned and posted on the D2L class site and/or announced in the labs. It is your responsibility to check D2L site every week for changes or announcements with respect to schedule, exercises, assignments, project, readings etc.

Note about Exercise and Labs: Expect something to do (exercise, assignments, case, etc.) in each lab session. Any item due in week 't' assumes that you must have reviewed lecture videos up to week 't-1' and lab videos up to week 't-1'. So, for example, Exercise 1 is due in Week 3. Therefore, I will assume that before doing Exercise 1, you must have reviewed lectures up to week 2 and also reviewed lab videos up to week 2. For DL students, exercise/assignment of any week is due on Monday of that week by 11:59 PM US CST via appropriate drop box. For non-DL students, generally exercises will have to be done during the lab session (Monday) for that week unless mentioned otherwise in the schedule or announced on D2L.

Week# 1

Video Lecture Topics and Associated Readings:

- **Part 1**: Course introduction, course expectations and course requirements.
- **Part 2**: An overview of analytics and data mining certificate program options at OSU, recommended courses and recommended certifications (http://analytics.okstate.edu/)
- **Part 3**: An overview of state of analytics (http://www.sas.com/businessanalytics/, http://www.accenture.com/us-en/consulting/analytics/Pages/index.aspx,)
- **Part 4**: A quick look at using JMP (http://www.jmp.com/academic/learning_library.shtml)

Lab and Exercises:

- Introductory lab session on Monday, Aug. 17. Nothing to turn-in (yippee!.) for DL or non DL students. Software demonstration and/or discussion of topics by instructor in the lab

Week# 2

Video Lecture Topics and Associated Readings:

- **Part 1**: Basics of Marketing, B2B versus B2C marketing, Direct versus Indirect marketing, (http://www.marketingpower.com/aboutama/pages/definitionofmarketing.aspx , http://www.marketingedge.org/), An overview of STP (segmentation, targeting and positioning) strategies in marketing, 4P's of Marketing Mix, Different Types of Segmentation (http://en.wikipedia.org/wiki/Segmenting_and_positioning, http://www.census.gov/ , http://www.claritas.com/MyBestSegments/Default.jsp)
- **Part 2**: Modern versus traditional view of statistics (http://www.statisticsviews.com/details/feature/4892951/Statisticians-are-the-modern-explorers_-An-interview-with-Professor-David-J_-Han.html) ,
- **Part 3**: Important concepts in statistics such as population and sample, parameters and statistics (http://www.stats.gla.ac.uk/steps/glossary/basic_definitions.html#popn) , sampling and non-sampling error, etc., (http://en.wikipedia.org/wiki/Sampling_error), Collecting data (primary versus secondary, experiments versus post-hoc), types of data (quantitative versus qualitative) and scales of measurement such as nominal, ordinal, interval and ratio scales (http://en.wikipedia.org/wiki/Scales_of_measurement) .
- **Part 4**: Demonstrations using JMP software (creating data tables, creating subsets, filters, working with reports, etc.)

Lab and Exercises:

- *Non-DL students*: Software demonstration and/or discussion of topics by instructor in the lab on Monday, Aug. 24. Students may then be asked to do a self-study/group exercise (nothing to turn-in) that will be announced in the lab.
- *DL students*: Make sure you watch the lab video of software demonstration. Then, do self-study of any exercise (nothing to turn-in) that may be announced in the lab.

Week# 3

Video Lecture Topics, Readings, Exercises/Assignments:

- **Part 1**: Events and probabilities (http://en.wikipedia.org/wiki/Probability#Mathematical_treatment),
- **Part 2**: Independent events, addition and multiplication formulas for probabilities
- **Part 3**: discrete random variables, probability distribution of a discrete random variable (http://en.wikipedia.org/wiki/Probability_mass_function),
- **Part 4**: expected value (http://en.wikipedia.org/wiki/Expected_value), dispersion and coefficient of variation of a discrete random variable (http://en.wikipedia.org/wiki/Variance).
- **Part 5**: Demonstrations using software.

Lab and Exercises:

- *Non-DL students*: Complete Exercise 1 in the lab on Monday, Aug. 31.
- *DL students*: Complete Exercise 1 and turn it in via D2L drop box by 11:59 PM CST on Monday, Aug. 31.

Week# 4

Video Lecture Topics, Readings, Exercises/Assignments:

- **Part 1**: Continuous random variable (http://en.wikipedia.org/wiki/Probability_density_function), Normal distribution (http://en.wikipedia.org/wiki/Normal_Distribution,), Standard Normal distribution (http://en.wikipedia.org/wiki/Normal_Distribution#Standardizing_normal_random_variables),
- **Part 2**: Summarizing continuous variables, Chebychev's theorem of numbers (http://en.wikipedia.org/wiki/Chebyshev%27s_inequality), Outlier detection, Moments of distributions (Skewness and Kurtosis).
- **Part 3**: Demonstrations using software.

Lab and Exercises:

- *Note: No designated lab this week due to Labor Day holiday – but, you must do the exercises mentioned below*
- *Non-DL students*: Complete Exercise 2 and turn it in via D2L drop box by Monday, Sep. 7, 11:59PM CST.
- *DL students*: Complete Exercise 2 and turn it in via D2L drop box by Monday, Sep. 7, 11:59PM CST.

Week# 5

Topics, Readings, Exercises/Assignments:

- Sampling and inferential statistics, the concept of sampling distribution of a sample statistic, Central Limit Theorem http://en.wikipedia.org/wiki/Central_limit_theorem#Classical_central_limit_theorem), Confidence Intervals and Hypothesis testing of means (http://en.wikipedia.org/wiki/Statistical_hypothesis_testing,), standard deviations and proportions.
- Demonstrations using software.

Lab and Exercises:

- *Non-DL students*: You will be asked to complete Exercise 3 in the lab on Monday, Sep. 14.
- *DL students*: Complete Exercise 3 and turn it in via D2L drop box by Monday (Sep. 14), 11:59PM CST.

Week# 6

Topics, Readings, Exercises/Assignments:

- Two-sample (independent groups) t-tests (http://home.ubalt.edu/ntsbarsh/Business-stat/otherapplets/TwoPopTest.htm), paired (matched) sample t-tests (http://home.ubalt.edu/ntsbarsh/Business-stat/otherapplets/Paired.htm), Cross-tab and Chi-square tests of independence between nominal variables (http://home.ubalt.edu/ntsbarsh/Business-stat/otherapplets/Catego.htm) , Measures of association among nominal variables, Correlations (http://www.statsoft.com/textbook/stathome.html. – click basic statistics on the right menu bar)
- Demonstrations using software.

Lab and Exercises:

- *Non-DL students*: You will be asked to complete Exercise 4 in the lab on Monday Sep. 21.
- *DL students*: Complete Exercise 4 and turn it in via D2L drop box by Monday, Sep. 21,

11:59PM CST.

Week# 7

Topics, Readings, Exercises/Assignments:

- Simple and multiple regression (http://people.hofstra.edu/Stefan_Waner/calctopic1/regression.html ., http://www.ruf.rice.edu/~lane/stat_sim/reg_by_eye/index.html)
- Demonstrations using software.

Lab and Exercises:

- *Non-DL students*: You will be asked to complete Exercise 5 in the lab on Monday, Sep. 28.
- *DL students*: Complete Exercise 5 and turn it in via D2L drop box by Monday, Sep. 28, 11:59PM CST.

Week# 8

Topics, Readings, Exercises/Assignments:

- Advanced topics in multiple regression (http://www.statsoft.com/textbook/stmulreg.html , http://www.statsoft.com/textbook/general-regression-models/#stepwise)
- Additional readings:
  - Transformation (bulging) rules for multiple regression: This reading will be posted on the D2L class site under week 8 materials
- Demonstrations using software.

Lab and Exercises:

- *Non-DL students*: Complete Exercise 6 in the lab on Monday, Oct. 5.
- *DL students*: Complete Exercise 6 and turn it in via D2L drop box by Monday, Oct. 5, 11:59PM CST.

Week# 9

Topics, Readings, Exercises/Assignments:

- Logistic regression (http://luna.cas.usf.edu/~mbrannic/files/regression/Logistic.html , http://en.wikipedia.org/wiki/Odds_ratio)
- Demonstrations using software.

Lab and Exercises:

- *Non-DL students*: You will be asked to complete Exercise 7 in the lab on Monday, Oct. 12.
- *DL students*: Complete Exercise 7 and turn it in via D2L drop box by Monday, Oct. 12, 11:59PM CST.

Week# 10

Topics, Readings, Exercises/Assignments:

- An overview of experimentation (http://en.wikipedia.org/wiki/Experimentation) and testing in marketing, one-way ANOVA, factorial ANOVA
- Additional readings:
  - A chapter titled “testing techniques” from the book Integrated marketing Communications – will be posted on class D2L site.
- Demonstrations using software

Lab and Exercises:

- *Non-DL students*: Complete Exercise 8 in the lab on Monday, Oct. 19.
- *DL students*: Complete Exercise 8 and turn it in via D2L drop box by Monday, Oct. 19, 11:59PM CST.

Week# 11

Topics, Readings, Exercises/Assignments:

- An overview of marketing segmentation (http://en.wikipedia.org/wiki/Market_segment) and clustering (http://en.wikipedia.org/wiki/Cluster_analysis)as a tool for segmentation
- Demonstrations using software

Lab and Exercises:

- *Note: No designated lab this week because many of us will be traveling to Analytics conference – but, you must do the exercises mentioned below*
- *Non-DL students*: Complete Exercise 9 and turn it in via D2L drop box by Monday, Oct. 26, 11:59PM CST.
- *DL students*: Complete Exercise 9 and turn it in via D2L drop box by Monday, Oct. 26, 11:59PM CST.

Week# 12

Topics, Readings, Exercises/Assignments:

- RFM analysis (An easy to read RFM article titled "Making a Database pay off using RFM analysis," by Arthur Hughes –will be included in materials for this week. Database marketing institute web site (Arthur Hughes) – tons of good information about RFM, LTV including free calculators for RFM, LTV etc. : http://www.dbmarketing.com/)
- Customer Lifetime Value analysis (A comprehensive review article about customer lifetime value titled "customer lifetime value: approaches and best practices" by Kumar, Ramani and Bohling –available through OSU's library link. An overview of CLV and a free web-based tool to calculate CLV from HBS: http://www.harvardbusinessonline.com/flatmm/flashtools/cltv/)
- Demonstrations using software

Lab and Exercises:

- *Non-DL students*: You will be asked to complete Exercise 10 in the lab on Monday, Nov. 2.
- *DL students*: Complete Exercise 10 and turn it in via D2L drop box by Monday, Nov. 2, 11:59PM CST.

Week# 13

Topics, Readings, Exercises/Assignments:

- Decile analysis (http://www.geniqmodel.com/res/DecileAnalysisPrimer.html),
- Lift and Gain Charts (http://ariiproject.wordpress.com/2007/04/12/cumulative-gains-and-lift-charts/)
- Introduction to data mining (http://www.thearling.com/text/dmwhite/dmwhite.htm) , Rapid Predictive Modeling (http://www.sas.com/resources/product-brief/rapid-predictive-modeler-brief.pdf)
- Demonstrations using RPM software

Lab and Exercises:

- *Non-DL students*: You will be asked to complete Exercise 11 in the lab on Monday, Nov. 9
- *DL students*: Complete Exercise 11 and turn it in via D2L drop box by Monday, Nov. 9, 11:59PM CST.

Week# 14

Video Lecture Topics and Associated Readings:

- *To be announced (TBA)- Check D2L*

Lab and Exercises:

- *Non-DL students*: *To be announced (TBA) - Check D2L*.
- *DL students*: *To be announced (TBA) - Check D2L*.

Week# 15

Video Lecture Topics and Associated Readings:

- *To be announced (TBA)- Check D2L*

Lab and Exercises:

- *Non-DL students*: *To be announced (TBA) - Check D2L*.
- *DL students*: *To be announced (TBA) - Check D2L*

Week# 16

Video Lecture Topics and Associated Readings:

- *To be announced (TBA)- Check D2L*

Lab and Exercises:

- *Non-DL students*: *To be announced (TBA) - Check D2L*.
- *DL students*: *To be announced (TBA) - Check D2L*.

Week# 17

Final Exam

- Final exam for all students (DL or non-DL) will be held *in this week (more details later).*