

1-2015

BMKT 491.03: Special Topics - Crushing It With Big Data

John W. Chandler

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BMKT491-03 CRN 35226

Crushing it with Big Data

Spring 2015, 2 credits, GBB L26

Wednesday 2:00-5:00; Friday 12:00-3:00 (1/28/15 – 2/27/15)

Office Hours: By Appointment



Google Group: spring2015_bmkt491@googlegroups.com

John Chandler, Ph.D.

o: GBB 337

t: 406-544-8720

e: john.chandler@business.umt.edu or john.chandler@gmail.com

Online Presence

Join the Google group above. In the group's messages you'll see an invitation to the group's calendar, although I'll resend that message after a few days as well. We'll use that email to share information with the whole class. The calendar will have helpful reminders, deadlines, and meetings.

Reading Material

- *Dataclysm* by Chris Rudder. We will read this book as we go through the class. The first reading assignment will be expected on 2/4.
- Shorter readings will be assigned for each Wednesday class, beginning on 2/4.

Prerequisites

The following courses and materials are considered prerequisites for this course:

- Principles of Marketing
- Introductory statistics

In week one, we will do a brief assessment of where people stand statistically and do overview as needed, but reviewing your material in advance of the first week is recommended.

Email Assignments

There will be an email assignment every class. Email will be graded on a plus-minus-zero basis. Two typos guarantees you a minus, three guarantees you a zero. *Get your emails proofread!*

- **Tuesday Emails:** These will be assigned the previous Friday and will be semi-substantial and may require supporting materials. Questions about the reading will form the text of these emails. Emails are due before 11:59 pm MST on Tuesday. The subject of your email should follow this format: LASTNAME_F_201502DD_assignment. F is your first initial, DD is the date of the Wednesday class. For instance, if I was sending a Tuesday email the first time, the subject would be "CHANDLER_J_20150204_assignment". This format will ensure that I can find your submission and give you credit.
- **Thursday Emails:** There's a standing assignment for these. Send me a short note with a link to an article. Your email subject should have the following format: LASTNAME_F_2015MMDD_quicknote. Emails are due before 11:59 pm MST on Thursday. Find

something that you think a person interested in data might enjoy. Include some kind of salutation (e.g., “Hey, John, I just saw this [article](#) and thought it was relevant to the work you’re doing at UMT.”) and include a reason why I’d want to read it (e.g., “It’s a well-written article from the Times looking at how policy is affecting student loan repayment—turns out many people won’t have to repay the full amount.”). Embed the link so it looks nicer. Feel free to keep the style casual, but write out words so you look smart. If you’re looking for content, I recommend [FiveThirtyEight.com](#), [The Upshot](#), or [Occam’s Razor by Avinash Kaushik](#).

Presentations

There will be two presentations for everyone.

- **Pecha Kucha:** We’ll cover this on the first day of class. The short description is that it’s 20 slides for 20 seconds each and the slides automatically advance. I’m going to randomly assign everyone a day to speak and we’ll do 2-3 per class. You will also be expected to post a YouTube video of your talk with narration. Email me that link with the subject format LASTNAME_F_pechakucha.
- **Group Presentation:** We will end the class with group project presentations. This brings me to ...

Group Projects

This course will basically be run as a consulting project. In the last two weeks of the class you’ll have a group project that will culminate in a presentation. Exhaustive detail will be forthcoming. The group will share a common grade for the project

Grading

Assignments may change as we go through the course and, if that happens, then the grading will change as well. At the outset, however, here’s the grading breakdown:

- **Email Assignments (25%):** For Tuesday emails you’ll get 6 for a plus, 3 for a minus and 0 for a zero. For Thursday emails the numbers are divided by 3: 2 for a plus, 1 for a minus and 0 for a zero. The maximum score is $6 \cdot 4 + 5 \cdot 2 = 34$. The percentage of credit will be the percentage of the maximum points you get.
- **Class participation (25%):** I expect you to be an enthusiastic participant in the course and, most importantly, in our consulting work.
- **Pecha Kucha (10%):** Doing this presentation is going to suck. You’ll get at least 70% credit for getting up there and giving a presentation that you’ve practiced and emailing the YouTube video beforehand (or putting it on Moodle—I’m not really sure about the Moodle integration yet).
- **Group Presentation (30%):** Again, more details will be forthcoming on this.
- **Peer Evaluation (10%):** I’ve got a semi-elaborate method of peer evaluation. Basically, the people in your group will rate, on a scale of 1 to 10, if they’d recommend you to a friend forming a group for a project. You want to get an 8, 9, or 10 on that scale. Pull your weight.

Mission Statements and Assurance of Learning

The University of Montana’s School of Business Administration enhances lives and benefits society by providing a world-class business education in a supportive, collegial environment. We accomplish this mission by acting on our shared core values of creating significant experiences, building relationships, teaching and researching relevant topics, behaving ethically, and inspiring individuals to thrive. The

University of Montana MBA Program’s mission is to serve our region by educating leaders to effectively manage organizations in a global business environment. As part of our assessment process and assurance-of-learning standards, the MBA program has adopted six learning goals for our students.

MBA graduates will demonstrate the following:

1. Integrated knowledge of business functions.
2. Communication skills and teamwork ability.
3. Ethical conduct, social responsibility, and professional leadership.
4. Analytical and innovative thinking in business problem solving.
5. Knowledge and application of current trends in information technology.
6. Ability to evaluate implications of operating in the global business environment.

Course Objectives

This course will build proficiency at using data to answer questions. The course material sits at the intersection of many different fields (statistics, business, computer science, etc) but doesn’t assume deep expertise for any. Our goal is to build a generalist skill set with enough technical skills to know the boundaries of what can be inferred from the data and enough business skills to communicate these details to a lay audience with none of the technical background.

During this course students should have learned the following:

- The overall lifecycle of a data science project;
- How to formulate a data science question including identifying metrics and data sets used to answer the question;
- An understanding some of the challenges in assembling data sets at a variety of scales;
- How to prepare a data set for analysis;
- Data visualization principles and how to effectively incorporate graphics into storytelling;
- Data science approaches taken by leading technology companies today;
- An appreciation for the epistemological limits of typical data science approaches;
- Key technologies incorporated within data science; and,
- Refinement in data science storytelling.

This course will be structured as an extensive case study. We will work through a large-scale data science project as the main trunk of our course, venturing out onto branches of study that are either interesting or necessary.

Learning Outcomes

During the course, students will be evaluated on these proficiencies and abilities:

- Giving an “elevator pitch” for a data science project or topic;
- Clearly articulating a data science project overview in an email or written document;
- Assessment of new data sets, determining potential issues with future analyses;
- Comfort with higher-level Excel skills;
- Clearer exposition of data-driven conclusions to a non-technical audience;
- Understanding of client needs and the ability to think creatively to solve those needs.

