

**EBGN 571A**  
**Division of Economics and Business**  
**Marketing Analytics**  
**Spring Semester 2019**  
T/TH 9:30 – 10:45 AM • CT B60

**Instructor:**

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**Instructional activity:** 3 hours lecture and lab

**Course designation:** Elective

## **Course Description**

The purpose of this course is to introduce you to analytical methods used by marketing and data scientists to understand important marketing relationships. Today, the amount of data available to businesses has reached unprecedented levels and the use of marketing analytics is transforming the way businesses use data to make better marketing decisions. The course is designed for managers who will be utilizing market research to understand, influence or predict demand. Students will learn about the sorts of marketing decision problems in which data based research is most useful – including such problems as target market selection, new product introduction, and pricing. The learning objectives of the course are:

- Define the decision problem and determine what information is needed
- Acquire trustworthy and relevant data and judge its quality, and
- Develop a modeling approach to make be able to make certain types of marketing decisions

To define the problem we start at the end of the process, by envisioning what decisions will be taken based on our research. This allows us to identify the necessary information that is instrumental to making the decision. After we know what information is needed we need to acquire the necessary data and judge its quality. Finally, once trustworthy data is acquired we must develop a robust modeling approach that is appropriate and will lead to informed decision making.

## Recommended Readings and Materials

There are no required course textbooks for this course; however, you may find the following books useful:

- (i) Any basic econometric or applied statistics textbook will be useful as a reference. For example *Introductory Econometrics* by J. Wooldridge or *Principles of Econometrics* by R.C. Hill, W. Griffiths, and G. Lim. Note you don't need the most recent edition.
- (ii) L.D. Delwiche and S. J. Slaughter, *The Little SAS Book: A Primer*, 5<sup>th</sup> edition, SAS Publishing.

In addition a number of additional readings will be posted to canvas throughout the semester.

## Grading Criteria and Method

Individual and team skills are used within the context of this course. The purpose of multidimensional grading criteria is to provide opportunities to exercise each category of skills, all of which are central to be a successful data analyst.

1.	Quizzes:	10%
2.	Exam	25%
2.	Homework's:	30%
3.	Marketing Analytics Project:	35%

The responsibility for attending class sessions rests with each individual student in accordance with his/her individual objectives. Attendance will not directly affect your course grade (unless you miss a graded assignment), but you alone are responsible for material covered, assignments and contributions to the project.

**Policy on academic integrity/misconduct:** The Colorado School of Mines affirms the principle that all individuals associated with the Mines academic community have a responsibility for establishing, maintaining and fostering an understanding and appreciation for academic integrity. In broad terms, this implies protecting the environment of mutual trust within which scholarly exchange occurs, supporting the ability of the faculty to fairly and effectively evaluate every student's academic achievements, and giving credence to the university's educational mission, its scholarly objectives and the substance of the degrees it awards. The protection of academic integrity requires there to be clear and consistent standards, as well as confrontation and sanctions when individuals violate those standards. The Colorado School of Mines desires an environment free of any and all forms of academic misconduct and expects students to act with integrity at all times.

Academic misconduct is the intentional act of fraud, in which an individual seeks to claim credit for the work and efforts of another without authorization, or uses unauthorized materials or fabricated information in any academic exercise. Student Academic Misconduct arises when a student violates the principle of academic integrity. Such behavior erodes mutual trust, distorts the fair evaluation of academic achievements, violates the ethical code of behavior upon which education and scholarship rest, and undermines the credibility of the university. Because of the serious institutional and individual ramifications, student misconduct arising from violations of academic integrity is not tolerated at Mines. If a student is found to have engaged in such

misconduct sanctions such as change of a grade, loss of institutional privileges, or academic suspension or dismissal may be imposed. The complete policy is available at: <http://bulletin.mines.edu/policiesandprocedures/>

I will endeavor to return all graded assignments within one week of being submitted.

More detailed course grade information is discussed below.

## **Course Requirements**

### *Quizzes*

10%

Two quizzes will be given during the semester. These will be based on the recent material covered to prior to the quiz. The date of the quizzes will be announced one week in advance.

### *Exam*

25%

One exam will be given in class on the date given in the schedule. The exam will cover material up through the day of the exam.

### *Homework's*

30%

A number of homework and in-class assignments will be given during the semester. These are a mixture of problem sets and computer assignments. Instructions for the homework assignments will be handed out in class. The first assignment will be handed out on January 24<sup>th</sup>. The data for the computer assignments will be posted on the canvas course website. All homework assignments are to be conducted independently unless you are told otherwise for a particular assignment. Please sign the honor code to this effect and hand it in with the assignment.

### *Marketing Analytics Project*

35%

Working in teams of 3-4 you will conduct an empirical analysis of a marketing problem that is of interest to you. More detailed information on the project will be given during class on March 5<sup>th</sup>. In the meantime start thinking about marketing problems/questions that you are interested in empirically investigating.

## **Statistical Software Packages:**

There are a number of excellent statistical packages available to conduct data analysis, e.g., STATA, GAUSS, and R.<sup>1</sup> In this class we will be using one of the best: SAS. SAS is an excellent statistical package with comprehensive data analysis and graphics capabilities. SAS is widely used in the business community and, good SAS skills can be very helpful in securing positions with a research focus.<sup>2</sup> We will use two components of the SAS system: Base SAS 9.4 and SAS Enterprise Miner which is GUI based system.

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<sup>1</sup> R is gaining in popularity because of its price! If you think you will not have access to SAS in your work place I encourage you to familiarize yourself with option. More details can be found at: <http://www.r-project.org/>

<sup>2</sup> According to a study from Money and Payscale.com, SAS® data skills are the most valuable to have in today's job market, with an associated average pay boost of 6.1 percent

To learn more about SAS, download demos, or to find user groups go to <http://www.sas.com>. Online help can be located at: <http://support.sas.com/documentation/>

To learn more about using SAS Enterprise Miner see <https://www.youtube.com/watch?v=489wJm2X0TY>

Although the startup costs to learning SAS are significant, the extensive data handling capabilities and its wide range of statistical algorithms have contributed to SAS's global popularity in the business community.

### **Additional Course Information**

The Writing Center, located in Stratton 306, is there to help all members of the Mines community with writing projects at any stage of the writing process. Writing Consultants can help you understand an assignment; brainstorm, develop and organize ideas; cite sources; narrow your focus; and/or fine-tune your writing for polish, clarity, adherence to grammatical conventions, etc. To make an appointment, please visit our online scheduling system at: <http://mines.mywconline.com>.

The Colorado School of Mines is committed to ensuring the full participation of all students in its programs, including students with disabilities. If you are registered with Disability Support Services (DSS) and I have received your letter of accommodations, please contact me at your earliest convenience so we can discuss your needs in this course. For questions or other inquiries regarding disabilities, I encourage you to visit [disabilities.mines.edu](http://disabilities.mines.edu) for more information.

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