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Fall 9-1-2017

### BMIS 326.01: Introduction to Data Analytics

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# BMIS 326

## Introduction to Data Analytics

### Fall 2017



#### Instructor Information

Professor: Dr. Jason Triche  
E-mail: [jason.triche@business.umt.edu](mailto:jason.triche@business.umt.edu) (best way to reach me)  
Office Phone: 243-6272  
Office: GBB 314  
Office Hours: T, Th 2:00 – 4:00 pm or by appointment

#### Course Information

Meeting Place GBB L26  
Meeting Time 12:30 – 1:50 T, Th

This course is a 3-credit hour, full-semester offering covering introduction topics in data analytics. This course introduces the terminology and application of big data and data analytics. Students will complete cases in a variety of disciplines as they become acquainted with some of the software, tools, and techniques of data analytics.

Prereq: STAT 216 or equivalent

#### Textbook

Mayer-Schonberger, V. & K. Cukier. *Big Data: A Revolution That Will Transform How We Live, Work, and Think*. New York, NY: Houghton Mifflin Harcourt Publishing. 2014. (required)

You can get this book on Amazon for about \$10. Here is the link: <http://a.co/1Kl9Xqj>

#### Grading Evaluation

Criterion	Weight
Exam 1	25%
Exam 2	25%
Homework	25%
Data Analysis Paper	20%
Quizzes	5%

Letter grades will be based on the following scale:

A	93% and above
A-	90% to 92%
B+	87% to 89%
B	83% to 86%
B-	80% to 82%
C+	77% to 79%
C	73% to 76%
C-	70% to 72%

D+	67% to 69%
D	63% to 66%
D-	60% to 62%
F	Below 60%

## Expected Learning Objectives and Assessment

Students will:

- Understand the terminology used in the Big Data field of study.
- Explore the applications of Big Data in a variety of disciplines.
- Use, at an introductory level, data analytics tools.
- Explain the story told by the output of the data analyses.
- Discuss the issues of privacy and ethics raised by the use of Big Data tools.

## Assignments

### Homework

Homework will assigned throughout the semester. Some homework will be individual and some homework can be completed in groups. I will specify individual or possible group on each assignment. If done in groups, make sure everyone in the group understands each question and/or task. This will help tremendously on exams. All homework is due as specified in Moodle. **\*\*\*No late assignments will be accepted and they will be assigned a score of zero (0).\*\*\***

### Exams

The exams will be a combination of multiple choice, short answer, and essay questions covering the content discussed in class, homework, readings from Moodle, and in-class exercises. No makeup exams will be allowed if the absence is not pre-approved. Missing an exam without pre-approval results in a zero.

### Project

There will be a project assigned which will utilize the material and technologies covered in class. The project will be completed in cross-disciplinary teams assigned by the instructor.

### Quizzes

Quizzes will be announced and un-announced. There will be no make-up for quizzes unless the absence is an university excused absence. The lowest quiz score will be dropped.

## Policies

### Academic Honesty

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. The University of Montana Student Conduct Code specifies definitions and adjudication processes for academic misconduct and states, "Students at the University of Montana are expected to practice academic honesty at all times." (Section V.A., available at [http://www.umt.edu/vpsa/policies/student\\_conduct.php](http://www.umt.edu/vpsa/policies/student_conduct.php)). All students need to be familiar with the Student Conduct Code. It is the student's responsibility to be familiar the Student Conduct Code.

[SoBA Professional Conduct](http://www.business.umt.edu/Soba/SoBAEthics/CodeofProfessionalConduct.aspx). (link:  
<http://www.business.umt.edu/Soba/SoBAEthics/CodeofProfessionalConduct.aspx>)

### **Disability Services for Students**

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or 406.243.2243. I will work with you and Disability Services to provide an appropriate modification.

### **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.

As part of our assessment process and assurance-of-learning standards, the School of Business Administration has adopted the following learning goals for our undergraduate students:

- Learning Goal 1: SoBA graduates will possess fundamental business knowledge.
- Learning Goal 2: SoBA graduates will be able to integrate business knowledge.
- Learning Goal 3: SoBA graduates will be effective communicators.
- Learning Goal 4: SoBA graduates will possess problem solving skills.
- Learning Goal 5: SoBA graduates will have an ethical awareness.
- Learning Goal 6: SoBA graduates will be proficient users of technology.
- Learning Goal 7: SoBA graduates will understand the global business environment in which they operate.

## Schedule

- Aug 31 Course Overview, AWS
- Sep 5 Introduction to Big Data, Data Analytics, and Business Intelligence
- Sep 7 Exploring Data – Descriptive Statistics
- Sep 12 Exploring Data – Dealing with Missing and Incorrect Data and Outliers
- Sep 14 Relational Databases
- Sep 19 Relational Databases
- Sep 21 Database - SQL
- Sep 26 Database - SQL
- Sep 28 \*\*\*Exam 1\*\*\*
- Oct 3 Introduction to R
- Oct 5 R – Imputing missing values, merging datasets
- Oct 10 Classification Trees
- Oct 12 Classification Trees
- Oct 17 Multiple Regression
- Oct 19 Multiple Regression
- Oct 24 Cluster Analysis
- Oct 26 Association Analysis
- Oct 31 Anova
- Nov 2 \*\*\*Exam 2\*\*\*
- Nov 7 CyberSecurity - LMG Security
- Nov 9 CyberSecurity - LMG Security
- Nov 14 Data Ethics/Data Visualization
- Nov 16 Data Visualization
- Nov 21 Combining Exploring, Analyzing, Visualizing
- Nov 23 Thanksgiving
- Nov 28 Combining Exploring, Analyzing, Visualizing
- Nov 30 In class project
- Dec 5 In class project
- Dec 7 In class project
- Dec 12 In class project
  
- Dec 15 Data Analysis Paper Due

I will announce all changes to the schedule in class and on Moodle.