Spring 2-1-2018

BMIS 326.01: Introduction to Data Analytics

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BMIS 326
Introduction to Data Analytics
Spring 2018

UNIVERSITY OF MONTANA
School of Business Administration

Instructor Information

Professor: Dr. Jason Triche
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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 8:00 – 9:20 T, Th Sec 3
9:30 – 10:50 T, Th Sec 4

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	20%
Exam 2	20%
Exam 3	20%
Homework	15%
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). 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. (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

- Jan 23 Course Overview, AWS
- Jan 25 Introduction to Big Data, Data Analytics, and Business Intelligence
- Jan 30 Exploring Data – Descriptive Statistics
- Feb 1 Exploring Data – Dealing with Missing and Incorrect Data and Outliers
- Feb 6 Relational Databases
- Feb 8 Relational Databases
- Feb 13 Database - SQL
- Feb 15 Database - SQL
- Feb 20 Database - SQL
- Feb 22 ***__Exam 1__***
- Feb 27 Introduction to R
- Mar 1 R – Imputing missing values, merging datasets
- Mar 6 T-test and correlation test
- Mar 8 Classification Trees
- Mar 13 Classification Trees
- Mar 15 Multiple Regression
- Mar 20 Multiple Regression
- Mar 22 ***__Exam 2***__
- Mar 27 Spring Break
- Mar 29 Spring Break
- Apr 3 Cluster Analysis
- Apr 5 Association Analysis
- Apr 10 Data Ethics/Data Visualization
- Apr 12 Data Visualization
- Apr 17 Combining Exploring, Analyzing, Visualizing
- Apr 19 ***__Exam 3***__
- Apr 24 In class project
- Apr 26 In class project
- May 1 In class project
- May 3 In class project

- May 9 Data Analysis Paper Due

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