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BMIS 326.01: Introduction to Data Analytics

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BMIS 326

Introduction to Data Analytics

Spring 2016



Instructor Information

Professor: Dr. Jason Triche
E-mail: 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 213
Meeting Time 12:40 – 2:00 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. There is no textbook for the class. I will use current and relevant content from highly regarded publications and textbooks in the field. I will post all content on Moodle.

Prereq: STAT 216

Grading Evaluation

	<u>Criterion</u>	<u>Weight</u>
○	Exam 1	25%
○	Exam 2	25%
○	Homework	20%
○	Project	25%
○	Class Participation	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).**

Python Code Academy

Some homework assignments will include Python Code Academy. Each student should register for a free account at Code Academy and select the Python course.
<https://www.codecademy.com/learn/python>

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.

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.

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

Makeup Exams

Makeup Exams must be approved prior to missing the exam. No makeup exams will be allowed if the absence is not pre-approved.

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 Lommason 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 26	Read Syllabus, Readings on Moodle, Sign up for Amazon Web Services, Class will not meet in person
Jan 28	Introduction to Big Data, Data Analytics, and Business Intelligence
Feb 2	Exploring Data – Descriptive Statistics
Feb 4	Exploring Data – Dealing with Missing and Incorrect Data and Outliers
Feb 9	Relational Databases
Feb 11	Database - SQL
Feb 16	Database - SQL
Feb 18	NoSQL Databases
Feb 23	NoSQL Databases
Feb 25	Exam 1
Mar 1	Introduction to R
Mar 3	R – Imputing missing values, merging datasets
Mar 8	Classification Trees
Mar 10	Multiple Regression
Mar 15	Multiple Regression
Mar 17	Cluster Analysis
Mar 22	Association Analysis
Mar 24	Text Analysis
Mar 29	Text Analysis
Mar 31	Exam 2
Apr 5	Spring Break
Apr 7	Spring Break
Apr 12	Data Visualization
Apr 14	Data Visualization
Apr 19	Combining Exploring, Analyzing, Visualizing
Apr 21	Work on Projects
Apr 26	Work on Projects
Apr 28	Project Presentations
May 3	Project Presentations
May 5	Project Presentations

Project Paper Due Fri, 5/6 at noon

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