



# BMIS 650

## Quantitative Analysis

### Spring Semester 2021

#### Resources:

**IBM SPSS Premium Grad Pack** (available from vendors at the link below)

<https://www.ibm.com/us-en/marketplace/spss-statistics-gradpack/details>

Student Discounts and On the Hub are two vendors with which we have had good experiences. Make sure you purchase the **Premium Grad Pack** that includes the Forecasting module.

*Figure 1 University of Montana Logo*

#### Various Reading ~~based on module~~

There are a number of optional readings posted on Moodle. These optional readings address Big Data and several SPSS procedures and outputs.

**Course Objectives:** The first and primary goal of this class is to help students think correctly about quantitative information and how it is used and potentially misused. Another goal of the course is to provide students with some hands-on experience with business analytics in a software environment that they will likely encounter in their careers. For this course, we will use IBM's SPSS analytics software. The full version is available for about \$100 (it's a 12-month license) to college students. See the IBM link above, select a vendor for the Grad Pack and do some shopping. There are versions for both IBM PCs and Mac but I only can help with PCs. It is imperative that you purchase the IBM SPSS Statistics **Premium GradPack, the one that includes the forecasting module** and have it loaded and ready to go on the first day of class. We will learn how to think about quantitative phenomena and how to crunch some numbers.

**Evaluation:** The evaluation in the class will be through cases that require you to analyze data, come to conclusions and answer questions based on quantitative data.

A	93% and above	B -	80% to 82%	D+	67% to 69%
A-	90% to 92%	C+	77% to 79%	D	63% to 66%
B+	87% to 89%	C	73% to 76%	D-	60% to 62%
B	83% to 86%	C-	70% to 72%	F	Below 60%

**Class Pre-Work:** There are tutorials and/or case studies listed in parentheses for each weekly topic. Within SPSS, click on Help and then Topics. In the left-hand menu, expand the Case Studies or Tutorial topics to find each topic. Working through these tutorials will help you keep up in class although we will not do everything that is in the tutorials like uploading files from a database or Excel.

## Tentative Schedule

**M 4:00-5:50**

**M 6:10-8:00**

Week 1: January 11	SPSS Introduction and Descriptive Statistics (Tutorial: Introduction, Reading Data, Using Data Editor, Examining Summary Statistics; Case Studies: Base=> Frequencies, Descriptive)
Week 2: January 18	Martin Luther King Jr. Day: No Class
Week 3: January 25	Descriptive Statistics, Data Transformation in SPSS, Cross Tabulation/Tables (Tutorial: Creating and Editing Charts; Case Studies: Exploratory Data Analysis, Crosstabulation Tables; Case Studies: Analysis of Cross-Classification using Crosstabulation))
Week 4: February 1	Regression/Discriminant Analysis (Assessment 1 Due) (Case Studies: Linear Regression)
Week 5: February 8	Regression/Discriminant Analysis (Case Studies: Discriminant Analysis)
Week 6: February 15	President's Day: No Class
Week 7: February 22	Regression/Discriminant Analysis (Case Studies: Select Predictors)
Week 8: March 1	Forecasting (Assessment 2 Due) (Forecasting Option: Bulk Forecasting, Using Expert Modeler)
Week 9: March 8	Forecasting (Forecasting Option: Seasonal Decomposition)
Week 10 March 15	Forecasting (Forecasting Option: Uncovering causal relationships)
March 30	(Assessment 3 Due)

**Assignments:** Students will complete three assessments. Each assessment will involve an analysis of a data set and an understanding of the meaning and application of the analysis. Each assessment will be completed outside of class time and will involve the analysis of a data set with answers being entered into Moodle. The assessment can be completed any time beginning Tuesday morning until the following Monday at 8:00 am MST of the week in which the assessment is scheduled. Each assessment will be worth 1/3 of your final grade.

### **Mission Statements and Assurance of Learning**

The College of Business at the University of Montana creates transformative, integrated, and student-centric learning experiences, propelling our students to make immediate and sustained impact on business and society. We nurture our students' innate work ethic to develop confident problem solvers and ethical decision makers. We pursue thought leadership and collectively create opportunities for a better life for our students, faculty, and staff.

#### **COB Core Values:**

- Students first: We educate the whole person
- Experiential learning: We create experiences that matter
- Thought leadership: WE create rigorous and relevant knowledge
- Stewardship: We value people, planet and profit

As directed by the Provost, the following paragraph is to be inserted in all syllabus material:

*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. All students need to be familiar with the Student Conduct Code. The Code is available for review online at <http://www.umt.edu/SA/VPSA/index.cfm/page/1321>.*