EBGN 525A - Business Analytics
Division of Economics and Business
Fall 2017
Tu/Th 12:30 pm – 1:45 pm – Alderson Hall 340

Instructor

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Office hours: Tuesday 10:30 am – 12:00 pm, Thursday 2:30 pm – 4:00 pm, or by appointment.

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Course Details

Instructional activity: 3 hour lecture

Course designation: ETM Core

Course description:

With the increasing availability of large volumes of raw business data, the process of converting it into meaningful insights has become critical for organizations to stay competitive. Driven by massive volumes of business data, business analytics has become instrumental in unveiling such managerial practices which guide the decision making process in companies at every operational stage. This course includes various descriptive, predictive and prescriptive business analytics strategies. It provides fundamental skills using quantitative tools to organize, process, and critically interpret business data, as well as key concepts in quantitative decision making to model and solve real-world problems.

At the end of the semester, students will learn:

1) How managers handle their data.
2) Different strategies and the use of technology in analyzing the data.
3) Quantitative decision making tools used to model and solve real-world problems.
4) Critical thinking skills used to interpret and learn from data, and derive meaningful insights.

Canvas : This course will make use of Canvas. All course materials will be available on the course site (listed as Business Analytics – Fall.2017.EBGN525A).

Textbook (Required) : Cliff T. Ragsdale, Spreadsheet Modeling and Decision Analysis: A Practical Introduction to Business Analytics, 7th edition, ISBN: 978-1285418681.

Software : This course will make use of Microsoft Excel. It is required that all students have Excel installed on their computers. If you have laptops, please bring them to class to follow along with examples.

This course will also utilize the "Analytic Solver Platform" add-in for Excel. Please carefully follow the instructions below to download it on your computer. Please make sure to install Excel before downloading the add-in.

INSTRUCTIONS TO REGISTER AND ACCESS SOLVER SOFTWARE

Warning for Mac users:

1. If you have a Mac -- our installation-based Analytic Solver Platform software is only available for PC (sorry!). However, we have a cloud-based solution at www.AnalyticSolver.com/student and encourage you register there. Using AnalyticSolver.com is just like using a Google doc -- you need internet access and the files live and breathe in the cloud, as it were. Everything you need for your course should be accessible there: just make sure you're using a Chrome browser and that the files you're uploading are saved as xlsx.

Registration:

1. Point your browser to www.AnalyticSolver.com/Student

2. Fill out the form on this page. Enter your email address, a login password you can remember, your first and last name, and name for your school.

3. Enter your graduation date, **RSMDA** for the Textbook Code and **EBGN525TF17F** for the Course Code. We suggest you copy and paste these two values and ensure you do not reverse them.

4. Check the box to acknowledge that you accept the Frontline Systems license agreement. Note: Frontline receives no money from you, or the textbook publisher, or the university; this free 140-day license is a courtesy we offer to students. Because we think you're great.

5. Click the button Proceed. If you just plan on accessing our cloud-based software, you're done! Just click the get started button.

Download and Install:

1. Make sure that Excel is closed (not running), then run the SolverSetup program.

2. The SolverSetup program will prompt you to choose between Analytic Solver Platform, Risk Solver Platform and XLMiner. Choosing Analytic Solver Platform gives you all the features of Risk Solver Platform and XLMiner, so this is usually the best choice. You can change this choice later in Excel, by choosing a menu option Help – Change Product on the Ribbon.

3. When the SolverSetup program finishes, start Excel (the last Setup dialog prompts you to do this). You should see new tabs on the Ribbon for Analytic Solver Platform or Risk Solver Platform, and XLMiner. Click the Solver Platform tab – you should see a "Welcome" dialog with various links. Use the Help dropdown menu to open Help text, the User Guide and Reference Guide, and load example workbooks.

If all has gone well, you're ready for your course! If you have problems, the best avenues to get help are to email support@solver.com (this creates a support ticket in Frontline's Help Desk) or start a Live Chat from any page on www.solver.com, or from within Excel (Help – Support Live Chat).

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 an 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/

Disability Support : 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 for more information.

Coursework Return Policy : All homework assignments, the exam, and the project will be graded and returned within two weeks of their submission date.

Absence Policy : Class attendance is NOT required. Please note that if any bonus points are given based on in-class exercises, there will NOT be any make-ups for students who were absent that day for any reason.

Course Assignments & Grading

Homework :
There will be nine homework assignments throughout the semester. Please check the course schedule below for the details. Each student must work individually. Homework must be turned in before it is due to be graded. Late submissions **WILL NOT** be accepted for grading. If you would like to discuss your grade for any specific homework, please bring it to my attention **within a week** of the date it was returned to you. Otherwise, it **WILL NOT** be considered for re-grading.

Final Exam : There will be one final exam which will be closed book, closed notes. It will include everything covered during the semester. You can bring a two sided 8.5x11 sheet with your notes and formulas. Please make sure to prepare it by hand. Computer printouts will not be accepted. If you are to be absent during a scheduled exam, you should schedule time for a make-up before you leave.

Class Project : In this class you will be required to complete a term project. Please check the term project handout for the details.

Grading Procedures : Your final grade is based on homework assignments, one final exam, and the class project. The final grade percentage breakdown is as follows:

Homework Assignments: 35%
Final Exam: 30%
Class Project: 35%

To pass the course, your overall grade percentage must be at least 60%. The letter grade assignment from your final grade will be based on the following scale:

A $93 \leq$ Final grade
A- $90 \leq$ Final grade < 93
B+ $87 \leq$ Final grade < 90
B $83 \leq$ Final grade < 87
B- $80 \leq$ Final grade < 83
C+ $77 \leq$ Final grade < 80
C $73 \leq$ Final grade < 77
C- $70 \leq$ Final grade < 73
D+ $67 \leq$ Final grade < 70
D $60 \leq$ Final grade < 67
F   Final grade < 60

Detailed Course Schedule Fall 2017 (*subject to minor revision*):

Week	Day	Date	Chapter	Topic	Homework	Due Date
1	Tue	8/22/2017	Ch1	Introduction		
1	Thu	8/24/2017	Ch9	Regression Analysis		
2	Tue	8/29/2017	Ch9	Regression Analysis		
2	Thu	8/31/2017	Ch9	Regression Analysis	Homework 1 will be assigned	9/12/2017
3	Tue	9/5/2017	Ch10	Data Mining		
3	Thu	9/7/2017	Ch10	Data Mining		
4	Tue	9/12/2017	Ch10	Data Mining	Homework 2 will be assigned	9/21/2017
4	Thu	9/14/2017	Ch11	Time Series Forecasting		
5	Tue	9/19/2017	Ch11	Time Series Forecasting		
5	Thu	9/21/2017	Ch11	Time Series Forecasting	Homework 3 will be assigned	10/3/2017
6	Tue	9/26/2017	Ch12	Introduction to Simulation using Analytic Solver Platform		
6	Thu	9/28/2017	Ch12	Introduction to Simulation using Analytic Solver Platform		
7	Tue	10/3/2017	Ch12	Introduction to Simulation using Analytic Solver Platform	Homework 4 will be assigned	10/10/2017
7	Thu	10/5/2017	Ch2	Introduction to Optimization and LP		
8	Tue	10/10/2017	Ch2	Introduction to Optimization and LP	Homework 5 will be assigned	10/26/2017
8	Thu	10/12/2017	Ch3	Modeling and Solving LP Problems in a Spreadsheet		
9	**Tue**	**10/17/2017**		**Fall Break**		
9	Thu	10/19/2017	Ch3	Modeling and Solving LP Problems in a Spreadsheet		
10	**Tue**	**10/24/2017**		**No Class - Studying for Class Project**		
10	Thu	10/26/2017	Ch3	Modeling and Solving LP Problems in a Spreadsheet	Homework 6 will be assigned	11/7/2017
11	Tue	10/31/2017	Ch4	Sensitivity Analysis and the Simplex Method		
11	Thu	11/2/2017	Ch4	Sensitivity Analysis and the Simplex Method		
12	Tue	11/7/2017	Ch4	Sensitivity Analysis and the Simplex Method	Homework 7 will be assigned	11/14/2017
12	Thu	11/9/2017	Ch5	Network Modeling		
13	Tue	11/14/2017	Ch5	Network Modeling	Homework 8 will be assigned	11/28/2017
13	Thu	11/16/2017	Ch6	Integer LP		
14	Tue	11/21/2017	Ch6	Integer LP		
14	**Thu**	**11/23/2017**		**Thanksgiving Holiday**		
15	Tue	11/28/2017	Ch6	Integer LP	Homework 9 will be assigned.	12/7/2017
15	Thu	11/30/2017		Class Project Presentations		
16	Tue	12/5/2017		Class Project Presentations		
16	Thu	12/7/2017		Class Project Presentations		
	TBA	**TBA**		**Final**		