Course	MGMT 230 Business Quantitative Methods Spring 2016 Monday & Wednesday 4-5:15 pm Gore B23
Professor	Hal W. Snarr Office: Gore 105 Office Hours: 2-4 pm on Mondays-Wednesdays, and 10-12 am on Tuesdays Phone: 801-832-2634 Email: hsnarr@westminstercollege.edu Canvas: Business Quantitative Methods Sect. 01 16SP
Course readings	Anderson, Sweeney, and Williams Modern Business Statistics with Microsoft Excel
Course overview	This course applies quantitative methods to business and economic problems. The emphasis is on learning to select appropriate problem solving methods, apply the chosen method, use appropriate software tools, and interpret the solution. Business and economic problems are used to demonstrate quantitative decision-making methods and qualitative interpretation and understanding of solutions. Prerequisite: MATH 141, 150
Learning goals	This course addresses the following college-wide learning goals: • Critical, analytical and integrative thinking • Leadership, collaboration, and teamwork • Writing and other communication skills This course addresses the following program learning goals: • Use probability, statistics, and quantitative analysis techniques when evaluating and solving business problems. • Interpret and analyze quantitative data. The learning goals for the course are as follows. *At the end of this course, you will be able to do the following:* • Summarize data • State, test, and communicate the results of various statistical tests • Estimate a multiple regression equation, test the error assumptions, test for model and coefficient significance, interpret coefficients, and communicate findings. • Make well-reasoned decisions in business-related problems under uncertainty • Effectively communicate the results of statically analyses to various audiences
Learning approaches	Prior to class, you will read the chapter to be discussed so that you can participate in class discussions. During each of these you will write the **discussion notes**, which will include the formulas, techniques, and underlying assumptions of a given hypothesis test or analysis. Your score will be recorded as a 100% if the score on the corresponding **online problem set** exceeds 75%. If your score on an online problem set is less than 75%, you will schedule a time to meet with me in my office to submit you discussion

notes and discuss the online problem set. After said meeting, your online problem set score will be the average of the recorded value in the online gradebook and 100, and the corresponding score for your discussion notes will be the same.

After a classroom discussion, we will complete the corresponding **in-class problem** together during class.

After each the in-class problem set, we will complete the corresponding Excel Case Studies. After we complete the cases for a given chapter, students, working in groups of threes, will submit a one-page **Excel Case Study business memo** of one of the cases. The business memo must include a formal statement of the null hypothesis (written as a sentence), sample mean(s), standard error(s), sample size(s), the test statistic, significance level, the test result in a formal statistical statement and in layman's terms, and the resulting "best" business decision. You may not use mathematical or statistics symbols. You are encouraged to have a person in the college's writing lab proof read your memo.

After the cases are completed for a given chapter, students will complete the **online problem set** for said chapter. An instructional YouTube video is embedded in each online problem. Because these problems are algorithmically generated, its solution varies across students. If you do not get a 100% on the problem, you can redo the same problem 5 times. However, each time you redo the problem your score is reduced by 4 percentage points.

Each of you will complete five rental property surveys. You will completely fill out five **Final Project Data Survey** forms. After you have filled out the five forms, you will transfer this information to the spreadsheet that is posted to www.halsnarr.com, and then email me your spreadsheet by 5 pm on February 19th.

There will be two **online quizzes**. The first covers chapters 8-10, and the second covers chapters 11-13.

In lieu of a final exam, students will form groups of three to present their **final presentation**. The analysis will use the rental data we collected early in the semester. All statistical analyses and regressions will be performed in Excel. Each group will summarize the monthly rent and two independent variables that were assigned to the group, perform a simple regression of monthly rent on each of the assigned independent variables, perform one multiple regression of monthly rent on the two assigned independent variables, perform the coefficient significance tests (1 in each simple regression, and 2 in the multiple regression), perform the two coefficient significance tests from the full multiple regression model for the assigned independent variables, compare the coefficient tests for each assigned independent variable, perform a test of model significance on the final multiple regression model, interpret the adjusted coefficient of determination from the final multiple regression model, and interpret the coefficients of the assigned independent variables in the final multiple regression model.

Evaluation	List details about how students will be graded for the course. Include attendance and late assignment policies.

Course Evaluation	Percentage
Discussion Notes	10
In-class problems	10
Final Project Data Survey	10
Online problem sets	20
Excel Case Study Business Memos	10
Online quizzes (midterm & final)	20
Final Group Presentations	20
Total	**100**

Grades will be determined in accordance with Westminster College grading policies. The cutoff percentages for grading purposes are as follows:

A = 94; A- = 90; B+ = 87; B = 83 ; B- = 80; C+ = 77;
C = 73; C- = 70, D+ = 67; D=63; D- = 60; F <60

Written feedback will be provided on all assignments, and more detailed feedback will be provided at any time upon request. If you believe you have received an incorrect grade on any assignment for this class, please bring it to my attention immediately.

Expectations	**You can expect me to:**

- Grade and provide feedback on assignments within one week of the date they are submitted.

- Return email messages and phone calls within 24 hours.

- Use www.MyOpenMath.com and www.halsnarr.com to enhance student learning, communication, and convenience.

- Follow the syllabus and hold each class session as scheduled. In the event of an unavoidable conflict or emergency, I will make every effort to arrange for a qualified substitute to teach the class.

- Be readily available to meet with students, either during regularly-scheduled office hours or at another time that works for both of us.

- Complete final grades and provide students with feedback on final grades within two weeks of the date the last course assignment is submitted.

I expect you to:

- Attend each class session. In the event that you must miss a class, please notify me in advance and assume responsibility for the material you missed.

- Read the course syllabus, ensure you have a clear understanding of the course requirements and evaluation methods used in the course, and fulfill the course requirements.

- Come to class prepared and participate fully, honestly, and professionally in class discussions and online class activities.

- Learn about and abide by Westminster College's academic honesty policy.

Specifically, I expect you to not engage in cheating, plagiarism and furnishing false or misleading information to any faculty or staff member. The policy is explained in detail here:

http://www.westminstercollege.edu/catalog/details.cfm?id=5753#Honesty

- Immediately notify me in the event of an emergency that prevents you from submitting an assignment or completing the course.

- Ask questions if any expectations or assignments are unclear.

- Be courteous of your instructor and fellow classmates when using technology. Always give speakers your full attention and make sure that any use of technology during class enhances your learning and does not distract your or others from course content.

ADA statement	Westminster College is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability that may impact access to this course, please contact the Disability Services (DS), specifically Ginny DeWitt, *Disability Services Coordinator* located in the START Center (801-832-2280). Reasonable academic accommodations are reviewed for all students who have qualified, documented disabilities. Services are coordinated with the student and instructor by the DS Coordinator. Westminster College provides reasonable access to courses but this does not necessarily equate to ensuring your success in any course. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures by contacting the ADA Coordinator (new contact information coming soon) and/or the Office of the General Counsel at 801-832-2565.
Title IX statement	Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds. The act is intended to eliminate sex discrimination and harassment in education. Title IX covers discrimination and harassment based on sex in programs, admissions, and activities. Westminster College's Discrimination, Harassment, and Sexual Misconduct Policy strictly prohibits gender-based discrimination and harassment, sexual harassment, sexual misconduct, sexual assault, rape, stalking, dating violence, domestic violence, sexual exploitation, and any other form of sexual or interpersonal violence.

The policy, which extends to students of the college as well as employees, is available at www.westminstercollege.edu/pdf/titleix/Sexual-Misconduct-Policy.pdf. The policy discusses your rights, the process for investigating complaints, and sanctions for violations of the policy. The policy strictly prohibits retaliation against anyone who reports or participates in an investigation regarding alleged or suspected violations of the policy.

Westminster's Title IX Coordinator is Jason Schwartz-Johnson (801-832-2262, jsj@westminstercollege.edu, located in Malouf 107). The policy has additional support services and resources as well. Please note that to the extent permitted by law, the college aims to protect the privacy of all parties involved in the investigation and resolution of alleged or suspected violations of the policy. However, the college has a duty to investigate and take remedial measures in response to complaints and cannot guarantee confidentiality.

As an instructor, I am also required by our school to report incidents of gender-based discrimination or harassment, sexual harassment, sexual misconduct, or other forms of sexual or interpersonal violence to the Title IX Coordinator and thus cannot guarantee

Title VI statement	Title VI of the Civil Rights Act of 1964 prohibits discrimination based on race, color or national origin in any program or activity receiving federal financial assistance. The Department of Education has interpreted Title VI as prohibiting racial harassment, and such harassment is prohibited in all facets of campus life at Westminster College. If you encounter this type of discrimination/harassment, you can contact the Office of the General Counsel at 801-832-2565.
About the instructor	I have a Ph.D. in economics from Washington State University. From 2004 to 2013, I taught economics and statistics at North Carolina A&T State University. I conduct research using statistics. I have published 14 articles in peer reviewed journals, which examine the effects of public policy on labor supply, welfare participation, fertility, and migration using advanced multiple regression analysis techniques. I have published two MBA level macroeconomics textbooks with Business Expert Press. I have also authored several opinion-editorials. My latest was published in the *Mises Daily*.
Syllabus changes	This syllabus is subject to change. I will email you any changes to the syllabus.

Week	Class activities	Assignment due
1	PPT 8, In-class 8	
2	*MLK Day*, Case 8.1	
3	PPT 9, In-class 9, Case 9.1	
4	Case 9.2, Case 9.3, Case 9.4	
5	PPT 10, In-class 10, Case 10.1	Online HW9 (11:59 pm Friday)
6	Case 10.2, Case 10.3, Case 10.4	Business Memo 9 (5 pm Friday)
7	PPT 11, In-class 11, Case 11.1	Online HW10 (11:59pm Friday)
8	Case 11.2, Case 11.3, Case 11.4	Business Memo 10 (5 pm Friday)
9	*Spring break*	
10	PPT 12, In-class 12, Case 12.1, Case 12.2	Online quiz 1 (11:59pm Friday)
11	Case 12.3, Case 12.4, PPT 13, Case 13.1	Business Memo 11 (5 pm Friday)
12	PPT 15	Online HW11 (11:59pm Friday)
13	Case 15.1	Online HW12-13 (11:59pm Friday)
14	Final Project workshop 1 & 2	Business Memos 12 & 13 (5 pm Friday)
15	Final Project workshop 3 & 4	Online HW15 (11:59pm Friday)
16	Final Presentations	Online quiz 2 (11:59pm Friday)