# University of Manitoba Department of Agribusiness and Agricultural Economics ABIZ 3080 Introduction to Econometrics Spring 2024

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<u>Course Time and Location</u>: All materials provided through UM Learn

Office Hours: By appointment. You may email me to find a mutually agreeable time.

<u>Textbooks</u>: Hill, R.C., W.E. Griffiths, and G.C. Judge. <u>Undergraduate Econometrics</u>, 2<sup>nd</sup> Edition. John Wiley & Sons, 2001.

Gutermuth, K., and R.C. Hill. <u>Using Excel for Undergraduate Econometrics</u>. John Wiley & Sons, 2001.

#### **Course Description:**

ABIZ 3080 is designed to help students develop the tools they will need to discover and measure relationships among economic variables. Statistical and economic theory will provide the foundation for practical applications. At the conclusion of the course, students should be able to develop an econometric model based upon economic theory, diagnose and correct common econometric model problems, and meaningfully interpret regression results.

#### **Tentative Course Outline:**

| Chapter | Contents                                      |
|---------|---|
| 1       | Introduction to Econometrics                  |
| 2       | Review of Probability                         |
| 3       | Simple Linear Regression                      |
| 4       | Properties of the Least Squares Estimators    |
| 5       | Inference in the Simple Regression Model      |
| 6       | Coefficient of Determination; Functional Form |
| 7       | Multiple Regression                           |
| 8       | Inference in the Multiple Regression Model    |
| 9       | Binary (Dummy) Variables                      |
| 11      | Heteroskedasticity                            |
| 12      | Autocorrelation                               |
| 16      | Time Series Data & Stationarity               |

If time remains at the end of the course, advanced special topics may be introduced.

#### Exams:

Two take-home exams (one mid-term after Chapter 6 is completed, and a final exam after Chapter 16 is completed) will be given in the course; the take-home exams will be project-based and require students to obtain and analyze data sets assigned by the instructor, and meaningfully interpret results.

Students who fail to earn a grade of 50% or better on at least one of the midterm examination and final examination will receive a grade of F in the course, regardless of their performance on the homework & lab assignments.

#### **Homework Assignments:**

Homework assignments provide students with the opportunity to apply the concepts learned in class and will be given on an approximately weekly basis. Students are not permitted to work together on assignments, because turning in the same (or similar) answers constitutes inappropriate collaboration and will be penalized as harshly as possible. Assignments will be submitted through UM Learn and must be legible to receive a grade. Assignments are due at the time specified on the due date; late assignments will be penalized by 25% per day late or portion thereof. All homework assignments are required. Students who do not complete all assignments will receive a grade of "incomplete" in the course.

Note that <u>not all assignments are equally weighted</u> – assignments vary in length & difficulty and so the total marks associated with different assignments can differ significantly; for example a lab might be worth 10 marks, a short assignment worth 25, and a long assignment worth 100 or more. Your Homework & Lab Assignment grade is the sum of all such grades, but they are NOT all equally weighted in calculating your final grade. Longer and more difficult assignments are worth more marks!

#### **Laboratory Assignments:**

Laboratory assignments will be taken from the Excel manual required for the course; instructional videos will be placed on our UM Learn page to demonstrate how to do the laboratory assignments, which in turn will help students complete written assignments and the midterm and final exams. Data files required for the labs can be found on the course homepage. Students who do not complete all lab assignments will receive a grade of "incomplete" in the course.

### **Grading:**

| Midterm Exam               | 25% |
|----------------------------|-----|
| Homework & Lab Assignments | 40% |
| Final Exam                 | 35% |

Students will be provided with written comments, as appropriate, and numeric grades for all materials submitted. At the end of the semester, grades will be converted from numeric values to letter grades in accordance with the University of Manitoba definitions (i.e. A+= exceptional, A= excellent, B+= very good, B= good, C+= satisfactory C= adequate, D= marginal, F= failure). Further information on descriptions associated with letter grades can be found in the University of Manitoba calendar.

## <u>Academic Dishonesty</u>: DO NOT SHARE INFORMATION IN THE "GROUP CHAT"! LET OTHERS DO THEIR OWN WORK, <u>THEY DO NOT LEARN</u> BY YOU SHOWING THEM WHAT TO DO AND WHERE TO FIND THINGS!!

Cheating/Plagiarism will be dealt with harshly, including turning in copied or shared homework assignments or plagiarizing or collaborating inappropriately on the midterm or final exam. Please read the Academic Integrity section in the *University of Manitoba Undergraduate Academic Calendar* to familiarize yourself with relevant University policies.

Where students usually get into trouble in ABIZ 3080 with respect to academic dishonesty is by sharing answers to written and/or laboratory assignments. It is somewhat natural to "work together" on assignments. This can be dangerous for a couple of reasons: first, over my 20 years of teaching this course, people often get "left behind" – they have friends they work with who do all of the work for them, they never really understand what is going on, they copy other people's answers, and then they are lost on exams because they never really engaged with the course.

The second reason it is dangerous to "work together" is that inevitably turning in others' work, even in your own words, leads to me or the Teaching Assistant recognizing that your work is very similar to one or more other students, which can lead to serious penalties for inappropriate collaboration. Just do your own work, and come get help from myself or the TA if you are really struggling. It's way better to take the time to understand what you are doing, and way more satisfying to get a grade that reflects your own effort and knowledge – trust me!

<u>Students with Disabilities</u>: The University of Manitoba's Student Accessibility Services (SAS) office is available to facilitate the implementation of accommodations, and the course instructor is willing to meet with students and their representatives to discuss accommodations recommended by SAS as needed.

Students may consult Schedule A on our UM Learn page for information pertaining to additional supports, resources, etc.