# Course Syllabus

UNM Department of Economics
Economics Tools

Fall 2014 (08/18/2014 – 12/13/2014)
3 Credits

#48969.004 – TR 9:30-10:45 – DSH 224

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**Course Description:** This course introduces students to the mathematics, data, and writing skills essential for understanding, interpreting, and communicating economic concepts. It is held in UNM's Learning Studio Classroom. The first half of the course is devoted to the math most commonly used in economics concepts. Topics covered are equations, graphs, and formulas; solving for equilibria; comparative statics analysis; single-variable differentiation and optimization; and multi-variable differentiation. Each math topic is accompanied with microeconomic and macroeconomic applications. The second half of the course will cover data analysis and writing skills. Students will compile and analyze data in Excel, and write up their findings in a research paper that follows conventions used by professional economists.

**Prerequisites:** ACT $\geq$ 26, SAT $\geq$ 600, MATH 121, MATH 150, or Compass College Algebra > 66. Pre- or Co-requisites: ECON 105 or ECON 106. This course can be used as a co- or pre-requisite for Econ 300 & Econ 303. Your other option is to take Calculus (Math 180 or Math 162). If you want to go to graduate school in Economics, you should definitely take Calculus, whether or not you take Econ 307!

**Course Structure:** Students focus on a new topic each week. Prior to coming to the first class each week, you will need to familiarize yourself with the material by:

- reviewing learning materials (e.g., required readings, narrated lectures, etc.)
- completing a pre-lab quiz on your own that helps you focus on the most essential information from the learning materials. For the math portion, you also complete a post-assessment quiz to make sure you can work through lab-like problems on your own. You must complete the pre-lab quiz and the post-assessment quiz via Learn, by Sunday at 11:59pm. The quizzes always include this "muddy points" question: What would you like the instructor to spend some more time on in class?

Class time is dedicated to collaborative lab assignments. A typical non-exam week looks like this:

| Days | Task | Who | Where |
|---|---|---|---|
| **Weekend** | | | |
| | -complete post-assessment quiz (based on previous lab) | you | home |
| | -do assigned reading, watch narrated lectures; take notes | you | home |
| | -take pre-lab quiz on basics covered by reading and lecture; indicate muddy points | you | home |
| | -preview upcoming lab | you | home |
| **T** | | | |
| | -clarification of muddy points | instructor | classroom |
| | -work on lab with your team | you | classroom |
| | -share ideas | all | classroom |
| **R** | | | |
| | -clarification of muddy points | instructor | classroom |
| | -work on lab with your team, due at end of class | you | classroom |
| | -share ideas | all | classroom |

**Course Objectives:** After successful completion of this course, students will have the math skills (1 - 6) and data and writing skills (7 - 12) to be able to:

1. Define the scientific method.
2. Interpret common economic graphs and formulas.
3. Distinguish between movements and shifts of graphs.
4. Solve economic problems using algebraic and graphical analysis.
5. Discuss the connection between marginal analysis, calculus, and the ceteris paribus assumption.
6. Differentiate common economic functions (e.g., production functions, utility functions) to find and interpret their marginal values.
7. Locate and access high quality data and literature pertaining to economics.
8. Manage data in excel.
9. Identify, characterize, and evaluate economic measurements.
10. Develop and test simple analytical models.
11. Interpret summary statistics and regression results.
12. Express economic concepts, methods, and findings verbally and in writing using the citation, organization, and formatting conventions that are standard in the field of economics.

**Required Materials:**

Mathematics for Economics and Business by Ian Jacques (editions 5, 6, or 7 acceptable)

- The 7$^{th}$ edition (ISBN 13:978 0 273 76356 7) is available at the UNM bookstore.
- I suggest you purchase the 5$^{th}$ or 6$^{th}$ edition online (e.g., Amazon) or rent it (e.g., bookbyte.com).
- You do not need the MyMathLab Access Card.

The Elements of Style by William Strunk and E.B. White (any edition). New York: Macmillan, various years.

Additionally, students are required to have a calculator, consistent and reliable access to the broadband internet, and basic Microsoft Excel skills.

**Makeup/Late Assignment/Extra Credit:** No make-up or late assignments or make-up exams. Labs are to be turned in during class as a group. Extra credit worth 3% of the course grade is available for students willing to act as "moles." Moles will attend the instructional team's weekly meeting on Friday and provide feedback from the student perspective.

The regular time for the Friday meeting is 9 - 9:50am. We will do our best to accommodate moles who can't make a meeting at that time. There is only one mole slot per week, so sign up early if you want to take advantage of this opportunity. Extra credit worth up to 3% of the course grade may also be available on exams and writing assignments. The maximum extra credit allowed will be 3% of the course grade.

**Attendance:** Each absence during the week results in a proportionate reduction for that week's lab grade. If your class meets TR and you miss one class, your lab grade for that week will be reduced by 50%.

**Course Grades:** There are four components that comprise the course grade in ECON 307: online quizzes (15%), in-class labs (40%), exams (22.5), and a writing assignment and presentation (22.5%).

1. *Online quizzes*: you will complete pre-lab quizzes and, for the math portion, post-assessment quizzes via Learn. The pre-lab quizzes focus on main concepts and definitions from the readings and lectures; and prepare you for the labs. The post-assessment quizzes test your knowledge of the lab material. Quizzes are submitted individually via Learn, by Sunday, 11:59pm. You are given one attempt per quiz; there is no time limit; you can save the quiz and go back to it later.
2. *In-class labs*: you and your group members will complete in-class labs that focus on critical thinking and application problems (first 8 weeks) and on data analysis and writing skills (second 8 weeks). Labs are submitted as a group at the end of class on Thursday. During exam weeks, labs are submitted the class before the exam).
3. *Exams (Math Portion)*: you will complete two exams during the math portion of the course, and one exam during the writing portion of the course. Exams are taken in-class and submitted individually.
4. *Writing Assignments and Presentation (Data & Writing Portion)*: you will complete one writing assignment and give a presentation to the class. The paper will be based on the data collection and analysis activities you perform with your group during the in-class labs. Writing assignments are to be submitted individually. Final papers are due by 11:59pm on Tuesday, December 9th on Learn. Each student will present his or her paper

individually during the scheduled final exam period. Points for this project are distributed as follows: 15% for the final paper and 7.5% for the corresponding presentation.

The following grading scale will be used to determine your final course letter grade- NO EXCEPTIONS.

| Percentage | Letter Grade |
| --- | --- |
| 98-100%* | A+ |
| 92-97.99% | A |
| 90-91.99% | A- |
| 88-89.99% | B+ |
| 82-87.99% | B |
| 80-81.99% | B- |
| 78-79.99% | C+ |
| 72-77.99% | C |
| 70-71.99% | C- |
| 68-69.99% | D+ |
| 62-67.99% | D |
| 60-61.99% | D- |
| < 60% | F |

*Without extra credit.

**Academic Dishonesty Policy** (from UNM's Student Handbook Pathfinder)

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course. Academic dishonesty includes cheating on individual assignments and exams, and plagiarism. Students will learn more about how to avoid plagiarism in the Data and Writing section of the course. See the handbook for more details about UNM's policies.

**Accommodation Statement** (from UNM's Student Handbook Pathfinder)

In keeping with the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, the University is committed to providing equal access to education opportunities for qualified students with disabilities. The University's Accessibility Resource Center (Mesa Vista Hall 2021, 277-3506) provides academic support to students who have disabilities. The student is responsible for demonstrating the need for an academic adjustment by providing the Accessibility Resource Center with complete and appropriate current documentation.