Syllabus
Math Tools for Economists II
ECON 1088-001
2016 Fall

Instructor: Sihong Xie
Class Meeting: Tuesday & Thursday 2:00PM – 3:15PM, ECON 117
Office Location: Economics Building Room 307
Office Hours: Tue 3:15PM – 4:30PM, Thu 11:15PM- 12:15PM and by appointment
Class Website: Desire2Learn (D2L)
Email Address: sihong.xie@colorado.edu
> *This is the best way to contact me outside of my office hours.*
> *Please allow me 24 hours to respond.*

COURSE DESCRIPTON & OBJECTIVES

This course is the second of two courses designed to give you the mathematical background necessary for future courses in business and economics. It is a continuation of ECON 1078 which builds upon the basic foundation developed in that course. Topics to be covered in this course include differentiation, optimization, integration and their applications in economics. These are Chapters 6,7,8,9, and 11 in the textbook. These tools will help you better understand the mathematical framework on which economics models are built and help you to prepare for more advanced courses in economics.

EXPECTATIONS

You can expect me to:
- o   be prepared for the day's work and do my best to assist you in your course work .
- o   treat everyone equally, be professional and respectful at all times.
- o   be available in my office hours, ask thoughtful questions, and give my full attention.

You are expected to:
- o   regularly attend class, arrive and leave on time, and silence your phone.
- o   complete all assignments and turn in homework on time.
- o   be respectful to others and cooperate with your cohorts.
- o   ask questions and take co-responsibility for creating a meaningful class.

REQUIRED TEXT

Essential Mathematics for Economic Analysis, **ISBN 1323259236** for Sydsaeter + Smarthinking package. If you have the fourth edition of this text book from ECON 1078, you can continue to use it. Having a math book around in life is a wise thing to do, so I suggest buying one rather than renting it, especially if you will continue to learn economics, you may want to read all chapters in this book including those chapters that we do not cover in ECON 1078 and ECON 1088.

CALCULATORS

Calculators will NOT be allowed during exams!!!

I want you to understand what you are doing and calculators are a major impediment to understanding, so you don't need a calculator in this course. I will make sure that any actual calculations you need to perform on the tests will be straight forward, so using a calculator is unnecessary.

NOTES

I do not distribute my lecture notes. I will ask you do small practice problems along with lectures during class, so it is a good idea to bring a spiral note book and pens to work with me in class. If you must miss lecture for any reason, please be sure to obtain the notes from a classmate and come to my office to discuss any of the material from lecture.

OFFICE HOURS

Office hours are established to help you succeed! You should use them as a resource to get extra help on lecture material, problem sets, express concerns or difficulties in your study, and to explore ideas you are interested in. Coming to office hours is a good indication that you care about your studies enough to take extra steps.

As a way to better to know you, I ask each of you to individually meet me in my office for 10-15 minutes during the first three weeks. I will bring a sign-up sheet during the first week so you can arrange a meeting with me. As an extra incentive for you to come to this meeting, I give you 1 extra point toward your final grade.

EMAIL

I encourage you to email me with any questions or concerns. Please be polite and considerate in all email communications. I will do my best to respond within 24 hours. This response may come in the form of an email directly back to you or, if the answer would be beneficial to the entire class, a mass email communication to the class or an announcement during the lecture. **Grades will not be discussed over email.**

ATTENDANCE

Attendance is required for this course, and you will not do well in this course unless you attend class regularly. I will **randomly** take **at least** six times attendance throughout the semester. You are allowed to have three unexcused absences without consequence. I will deduct 3.3 point for each subsequent absence until the total 10 points are deducted. For example, if I take totally 6 times attendance, and your attendance is between 4 – 6 times, you get full 10 points. If you have 4 unexcused absence, you get 6.6 points out of the total 10 attendance points. If you miss more than 6 class, you don't get any attendance point. If you miss a class for medical reason, you must bring me the doctor notes that clearly state the date you are absent right after you come back to class. Only a verified doctor note can be used to substitute a minute paper as an attendance count.

LATE HOMEWORK/GRADED WORK

You will have at least one week for any homework assignment. Homework must be turned in on time. The due date for each assignment will be given at the time it is handed out. I will deduct 50% of the grade for that assignment for each day after the due date. Failing to turn in home work will result in zero credit.

MISSED EXAMINATIONS

There will be **no makeup** exams. If a family emergency or health emergency arises, contact me right after you come back to class. Then schedule a meeting with me and bring a documented medical or family emergency notification. Missed exam will be given no weight in the calculation of the final grade and other exams will be reweighted accordingly.

If you have three or more final exams (including mine) scheduled for the same day, you can reschedule my final exam if you would like. If so, you are required to let me know by **Monday, October 3rd, 2016.**

If you are a student athlete, and your game schedules conflicts with exam schedule, please inform me in a written note before **Monday, October 3rd, 2016,** so I can arrange your exam proctored by an athletic administrator.

CHEATING

Cheating is NOT tolerated in this class. "When in doubt, accuse!" is the mantra for this department, so clear yourself from all suspicious behavior. If I have strong suspicions of dishonest behavior, first, I am obligated to impose an academic sanction that includes failure in the course even for a single instance. Second, I am obligated to report all incidents of academic misconduct to the Honor Code Office. Cheating results in severe setback for you and considerable administration time for me, so my best advice to you is DON'T CHEAT!

GRADE ADJUSTMENT

You will be responsible for monitoring your own grades. All communication about grades is through D2L or in person, **not through email**! I will post grades for all graded work in timely manner. If you have questions about grades, you should come to talk to me immediately. I will not accept individual request on changing grades **two weeks after they are posted**.

I reserve the rights to curve the grades for any individual exam or course overall. **No grades will be adjusted after an overall course curve has been applied**. Individual requests for extra credit or grade adjustment will be denied in order to maintain fairness to all students in class.

ASSESSMENT and GRADING

Evaluations will take the following forms:

Attendance	10%
Homework	20%
Midterm Exam 1	20%

Midterm Exam 2	20%
Final Exam	30%

All exams are closed-book exams. All you need to bring to exams are pencils

Attendance:	Attendance will be taken in the form of minute paper. These papers will not be graded and handed back to you. They provide a low pressure environment for you to demonstrate what you have learnt from the class and serve as attendance counts at the same time.
Homework:	You will not fully grasp the material unless you practice on a regular basis. Your text book provides excellent questions with answers in the back of the book. To facilitate the process, I will create four homework assignments for you to practice. Your exam questions will be very similar to these homework questions. The due date for each assignment will be given at the time it is handed out. I will grade each problem set on a scale of 0-10. For each assignment, I will **randomly** choose two questions to grade in detail. 6 points are for completeness of an assignment, 4 points are for correctness on selected questions. Answers to homework questions will be posted on D2L after a home work is collected.
Midterm Exam 1 &2:	Two midterm exams will take place during the regularly scheduled class time.
Final Exam:	The final exam will take place on **Wednesday, December 14, 2016** from 1:30PM to 4:00PM (2.5 hours). Fifty percent (50%) of the questions will be material covered in lectures and class materials before the midterm exam 2, and fifty percent (50%) of questions will be material covered in lectures and class materials after the midterm exam 2.

Grades will be determined as follows:

Your Score	Grade	Your Score	Grade
94.00 – 100	A	73.00 – 76.99	C
90.00 – 93.99	A-	70.00 – 72.99	C-
87.00 – 89.99	B+	67.00 – 69.99	D+
83.00 – 86.99	B	63.00 – 66.99	D
80.00 – 82.99	B-	60.00 – 62.99	D-
77.00 – 79.99	C+	59.99 and below	F

ADDITIONAL INFORMATION

Students with Disabilities
If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Center for Community N200, and http://www.colorado.edu/disabilityservices.

If you have a temporary medical condition or injury, see guidelines at http://www.colorado.edu/disabilityservices/go.cgi?select=temporary.html.
Disability Services' letters for students with disabilities indicate legally mandated reasonable accommodations. The syllabus statements and answers to Frequently Asked Questions can be found at http://www.colorado.edu/disabilityservices.

Religious Observance Policy
Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments, or required attendance. If you have a conflict, please contact me at the beginning of the term so we can make proper arrangements.

For more information on the religious holidays most commonly observed by CU Boulder students consult the online interfaith calendar, http://www.interfaithcalendar.org/.

Classroom Behavior Policy
Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty has the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions.
Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at http://www.colorado.edu/policies/classbehavior.html and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_cod.

Honor Code
All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273).

Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not

limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at honorcode.colorado.edu or http://www.colorado.edu/policies/honor.html.

Discrimination & Harassment Policy
The University of Colorado at Boulder Discrimination and Harassment Policy and Procedures, the University of Colorado Sexual Harassment Policy and Procedures, and the University of Colorado Conflict of Interest in Cases of Amorous Relationships Policy apply to all students, staff, and faculty. Any student, staff, or faculty member who believes s/he has been the subject of sexual harassment or discrimination or harassment based upon race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127, or the Office of Student Conduct (OSC) at 303-492-5550. Information about the ODH, the above referenced policies, and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at http://www.colorado.edu/odh.

Tentative Course Schedule

Date	Course Material	Topics
8/22 - 8/26	6.1, 6.2	Slopes of curves, Derivatives
8/29 - 9/2	6.3, 6.4, 6.5	Increasing and Decreasing Functions, Rates of Changes, Limits
9/5 - 9/9	6.6, 6.7, 6.8	rules for differentiation, Chain Rule,
9/12 - 9/16	6.9, 6.10, 6.11	High order derivatives, Exponential functions, Logarithmic functions
9/19 - 9/23	Review, Exam1	**Exam 1 on September 22**
9/26 - 9/30	7.1, 7.2, 7.7	Implicit Differentiation, Economic examples, Elasticities
10/3 - 10/7	7.8, 11.1, 11.2	Continuity, Functions of two variables, Partial derivatives
10/10 - 10/14	11.6, 11.7	Partial derivatives, Applications
10/17 - 10/12	11.8, 12.3	Partial elasticities, Implicit differentiation along level curve
10/24 - 10/28	Review , Exam2	**Exam 2 on October 27**
10/31 - 11/4	8.1, 8.2	Introduce optimization, extreme points
11/7 - 11/11	8.3, 8.6, 8.7	Economic examples, Local extreme points, Inflection points
11/14 - 11/18	9.1, 9.2, 9.3	Indefinite integrals, Definite integrals, Properties
11/21 - 11/25	Fall Break!	
11/28 - 12/2	9.4, 9.5, 9.6	Economic applications, Integration by parts, by substitution
12/5 - 12/9	Catch up and Review	
Final Exam, Wednesday, December 14, 2016 1:30 pm – 4:00 pm		