



<b>Course</b>	ECON 3620-001 Mathematics for Economists Fall 2017 MW / 08: 05AM - 09: 25AM BUC 106					
<b>Prerequisites</b>	College Algebra, ECON 2010 and ECON 2020					
<b>Instructor</b>	Gokcer Ozgur Office: Building 72, Room 104 Office Hours: W / 1: 30PM - 04: 00PM E-mail: <a href="mailto:ozgur@economics.utah.edu">ozgur@economics.utah.edu</a>					
<b>Teaching assistant</b>	TBA					
<b>Course readings</b>	Chiang, A. C., and K. Wainwright (2004) <i>Fundamental Methods of Mathematical Economics</i> , 4 <sup>th</sup> Edition (or any earlier edition), McGraw-Hill Education.					
<b>Course description</b>	This course will introduce students how to use mathematical language and techniques to formulate and solve problems in economics. For this purpose, the topics will cover linear algebra, differential calculus, and constrained optimization. It is intended to cover these mathematical concepts that will be studied in the context of their applications to economics. Also, it is aimed to develop students' abilities to use mathematical techniques to solve problems in economics.					
<b>Course objective</b>	At the end of this semester, students would be expected to understand basic mathematical techniques used in economics such as linear algebra, derivative, differential, optimization with and without constraints, and matrix algebra. However, students should be aware that the real use of mathematics in economics is far more advanced than what they will see in the class; therefore, the course is merely designed to be the first step for those who are interested in mathematical economics.					
<b>Teaching and learning methods</b>	This class uses a combination of lectures, assignments and exams. Class attendance and participation are integral aspects of this course, and you will not likely pass the course without consistent attendance and participation. Like any other quantitative class, reviewing class materials and completing assignments will be helpful to understand the course material.					
<b>Grading</b>	Class work/participation		5%			
	Assignments		25%			
	Two Midterm Exams		50%			
	Final Exam		25%			
<b>Grading Scale</b>	A	94-100%	B-	80-83.9%	D+	67-69.9%
	A-	90-93.9%	C+	77-79.9%	D	64-66.9%
	B+	87-89.9%	C	74-76.9%	D-	60-60.3%
	B	84-86.9%	C-	70-73.9%	E	0-59.9%
<b>Assignments</b>	Every Wednesday a new assignment will be posted on Canvas, and students are expected to return their assignments on the following Monday. Assignments should be returned in class. If there is an emergency and you cannot attend the					

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class you can return a **pdf** copy of the assignment with Canvas assignment return. These assignments will be the review questions for the week's work and instructor will solve these assignment questions on every Monday. As a result, late assignments will not be accepted. Assignment questions will be very useful to monitor pace of progress and these questions will serve as review questions for the exams.

**Exams**

There will be two midterms and one non-comprehensive final exam. If you anticipate missing a test due to a time conflict, please notify me in advance. No make-up exams will be given if arrangements are not made before the exam dates.

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**Expectations**

**You can expect me to:**

- Treat students and others with respects.
- Be readily available to meet with students, either during regularly-scheduled office hours or at any other time that works for both of us.
- Grade and provide feedback on assignments within one week of the due date.
- Return e-mails within 24 hours.
- Use Canvas to enhance student learning, communication, and convenience.

**I expect you to:**

- Actively communicate and use Canvas regularly.
- Complete reading and homework assignments, and take all exams.
- Attend each class section. In the event that you missed 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 the University of Utah's academic honesty policy. Do not engage in cheating or plagiarism.

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**University Policies**

**The Americans with Disabilities Act**

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

**Addressing Sexual Misconduct**

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

**Wellness Statement**

Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at [www.wellness.utah.edu](http://www.wellness.utah.edu) or 801-581-7776.

**Veterans Center** If you are a student veteran, the U of Utah has a Veterans Support Center located in Room 161 in the Olpin Union Building. Hours: M-F 8-5PM. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources: <http://veteranscenter.utah.edu/>. Please also let me know if you need any additional support in this class for any reason.

**LGBT Resource Center** If you are a member of the LGBTQIA community, I want you to know that my classroom is a safe zone. Additionally, the U of Utah has an LGBT Resource Center on campus. They are located in Room 409 in the Oplin Union Building. Hours: M-F 8-5PM. You can visit their website to find more information about the support they can offer, a list of events through the center and links to additional resources: <http://lgbt.utah.edu/>. Please also let me know if there is any additional support you need in this class.

**Learners of English as an Additional/Second Language** If you are an English language learner, please be aware of several resources on campus that will support you with your language and writing development. These resources include: the Writing Center (<http://writingcenter.utah.edu/>); the Writing Program (<http://writing-program.utah.edu/>); the English Language Institute (<http://continue.utah.edu/eli/>). Please let me know if there is any additional support you would like to discuss for this class.

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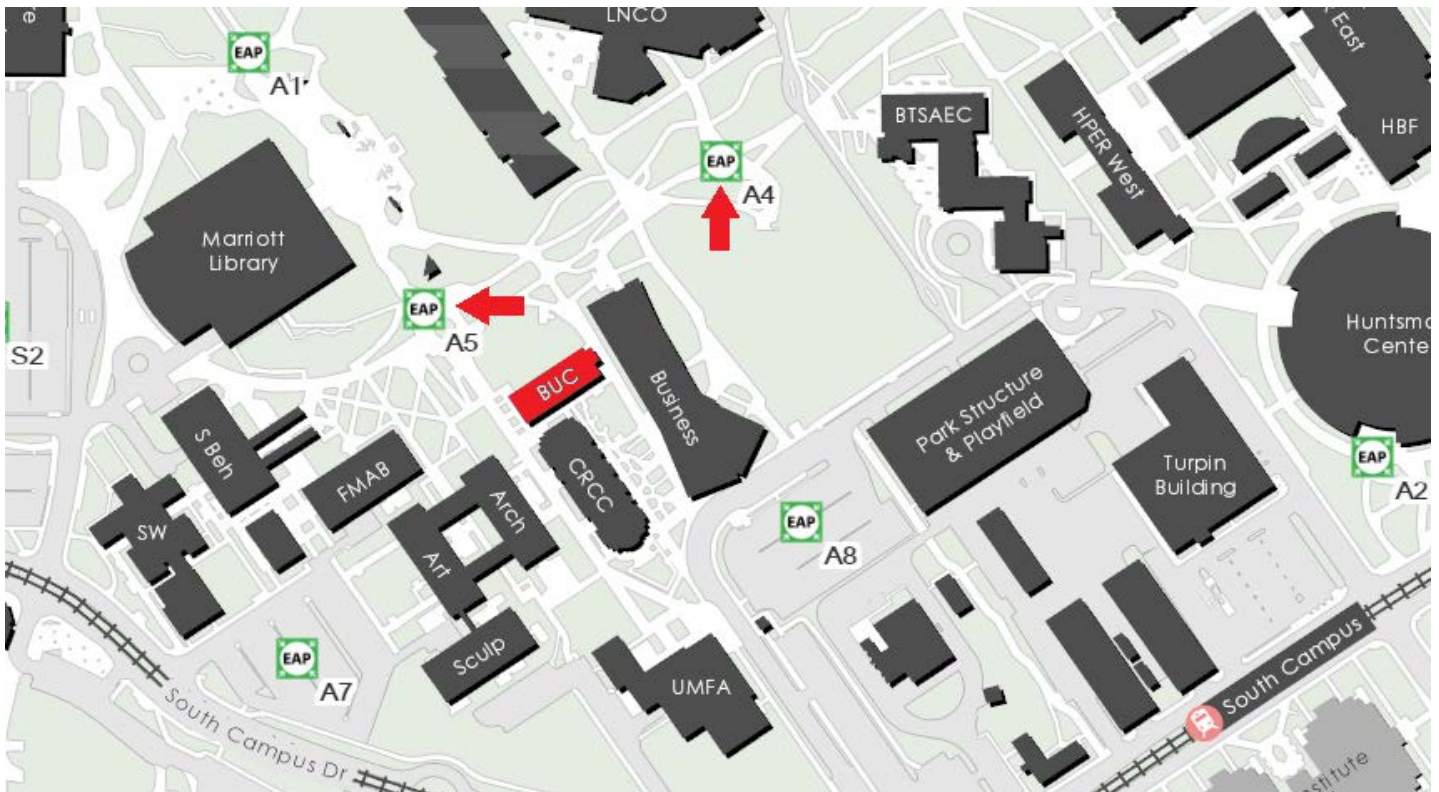
**Syllabus changes** This is a tentative syllabus and my change in due course. Such changes will be discussed in class and announced on Canvas.

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<b>COURSE CALENDER</b>			
These dates are subject to change at the discretion of the instructor.			
Week	Date	Topic	Textbook
Week 1	08/21	1. The nature of mathematical economics and economic models	Chapters 1 & 2
	08/23	2. Equilibrium analysis in economics	Chapter 3
Week 2	08/28	3. Matrices, vectors and matrix operations	Chapter 4
	08/30	4. Matrix operations and determinants	Chapter 4
Week 3	09/04	<b>LABOR DAY</b>	
	09/06	4. Matrix operations and determinants	Chapter 4
Week 4	09/11	5. Non-singularity of a matrix	Chapter 5
	09/13	6. Inverse matrix and Cramer's rule	Chapter 5
Week 5	09/18	7. Matrix applications	Chapter 5
	09/20	8. Comparative statics and derivation	Chapter 6
Week 6	09/25	Review for 1 <sup>st</sup> midterm	
	09/27	<b>1<sup>st</sup> Midterm</b>	
Week 7	10/02	8. Comparative statics and derivation	Chapter 6
	10/04	8. Comparative statics and derivation	Chapter 6
Week 8	10/08-10/15	<b>FALL BREAK</b>	
Week 9	10/16	9. Rules of differentiation	Chapter 7

	10/18	10. Partial Differentiation	Chapter 7
Week 10	10/23	11. Applications	Chapter 7
	10/25	12. Differentials	Chapter 8
Week 11	10/30	13. Total Derivatives	Chapter 8
	11/01	Review for 2 <sup>nd</sup> midterm	
Week 12	11/06	<b>2<sup>nd</sup> Midterm</b>	
	11/08	14. Use of total derivatives, applications	Chapter 8
Week 13	11/13	14. Use of total derivatives, applications	Chapter 8
	11/15	15. Optimization	Chapter 9
Week 14	11/20	15. Optimization	Chapter 9
	11/22	15. Optimization	Chapter 9
Week 15	11/27	16. Optimizing multivariable functions	Chapter 11
	11/29	16. Optimizing multivariable functions	Chapter 11
Week 16	12/04	Optimization with constraints: Lagrange-Multiplier method	Chapter 12
	12/06	Review for final exam	
	12/11	<b>FINAL EXAM</b> Monday, December 11, 2017 08:00 AM	

# CSBS EMERGENCY ACTION PLAN



## BUILDING EVACUATION

EAP (Emergency Assembly Point) – When you receive a notification to evacuate the building either by campus text alert system or by building fire alarm, please follow your instructor in an orderly fashion to the EAP marked on the map below. Once everyone is at the EAP, you will receive further instructions from Emergency Management personnel. You can also look up the EAP for any building you may be in on campus at <http://emergencymanagement.utah.edu/eap>.



## CAMPUS RESOURCES

**U Heads Up App:** There's an app for that. Download the app on your smartphone at [alert.utah.edu/headsup](http://alert.utah.edu/headsup) to access the following resources:

- **Emergency Response Guide:** Provides instructions on how to handle any type of emergency, such as earthquake, utility failure, fire, active shooter, etc. Flip charts with this information are also available around campus.
- **See Something, Say Something:** Report unsafe or hazardous conditions on campus. If you see a life threatening or emergency situation, please call 911!

**Safety Escorts:** For students who are on campus at night or past business hours and would like an escort to your car, please call **801-585-2677**. You can call 24/7 and a security officer will be sent to walk with you or give you a ride to your desired on-campus location.