



## **ECON 3620-090 – Mathematics for Economics**

**Spring 2022**

**Syllabus**

### **Course Information**

**Instructor:** Aashima Sinha

**Department:** Economics

**Email:** [aashima.sinha@utah.edu](mailto:aashima.sinha@utah.edu)

**Class Location:** Gardner Commons (GC) 2660

**Class Time:** Online class (no specific meeting time)

**Office Hours:** By appointment. Send me an email if you want to set up a virtual meeting via zoom.

You are required to read the syllabus in its entirety. The syllabus outlines the course objectives, pedagogical methods, course components, assessments, grading scheme, and expectations and policies for this course. Please read the syllabus thoroughly to make sure you understand how the course work. Make sure you have the [right technology set up](#) needed to participate in and complete the course. If you have questions, feel free to contact me or post it in the [class forum](#).

## **COURSE DESCRIPTION**

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This course will introduce students on how economists use mathematics as the primary tool in their analyses in order to understand, and often apply, economic theory. It is intended to cover several important mathematical concepts that will be studied in the context of their applications to economics theories. Also, it is aimed to develop students' abilities to use mathematical techniques to solve problems in economics applications. 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, and be prepared to take courses in the Economics major that have 3620 as a prerequisite. 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.

## COURSE OUTCOMES

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By the end of this course, you will be able to:

- Recognize the components of functions used in economics theory.
- Integrate Math skills in solving economics problems.
- Recognize how Math and previously learned theories are integrated and applied in academic journals or contemporary research.
- Build confidence in using Math skills to help complete advanced economic classes.
- Think about and develop strategies for learning Math, e.g., to solve problems and develop good study habits and skills.

## PREREQUISITE(S)

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College Algebra, ECON 2010 and ECON 2020

## TEXTBOOKS.

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The textbook for this class will be Michael Hoy, John Livernois, Chris McKenna, Ray Rees, Thanasis Stengos (2011). *Mathematics for Economics*. 3rd Edition. Publisher: The MIT Press.

A good complement is Edward T. Dowling. (2011). *Schaum's Outline of Introduction to Mathematical Economics*. 3rd Edition. Publisher: McGraw Hill. This book has a lot of problems and provides their answers.

## GRADING

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There will be one module assigned for each week on Canvas in which the reading lists, videos, and homework will be explained. You are required to review the assigned reading, watch the videos, and work on the assignments. Assignments are classified as:

- Discussion (10%): You are expected to participate in five discussions throughout the semester. Active participation and responses are highly encouraged. All comments must be related to the topic and show respect to your classmates.
- Practice Problems (10%): There will be weekly Practice problems to work on. The problems are from the textbooks, and the solutions will be provided (or else it would be indicated). I will assign a specific number of questions in each Module. There is no point assigned directly to the Practice Problems. However, after you finish the Practice Problems, you need to finish the 'Practice Problem Completion Check to confirm you did finish the Practice'. The checklists overall contribute 10% to your total grade. Keep in mind that this is the most crucial exercise that could sharpen your expertise in this course's materials. The more you work on them, the more you would become better! The checklists will be due the following **Monday at noon**.
- Weekly Homework (15+15= 30%): There are two components of Weekly Homework: Weekly Quizzes and Weekly TWO Math Problems. Weekly Quizzes, all in multiple-choice questions, will be available on Canvas. Weekly TWO Math Problems' questions can be viewed/printed from Canvas on each Module. Students must work on paper or tablet and submit their work on Canvas in pdf format. Both types of homework are due the following **Monday at noon**.
- Learning Plan (5%): You will be assigned to draft a Learning Plan for this course at the beginning and review/adjust it in the middle of the course. The purpose of this assignment is to encourage you to take ownership of your learning process and think about how you are planning to work through the course. You will not be graded on what strategies you will be using. The Plan should supposedly guide you on what activity you need to perform each day in the week. This is because I believe, work discipline is the crucial element to succeed in any job, including studying in college and any career you pursue in the future.
- Midterm (20%) + Final (25%) Exams: The two exams will be held online over Canvas. You can take the exams in the below-mentioned windows. **You have only one attempt allowed and two hours to turn in your answers once you start.**

Midterm Exam period: 12 am Thur 03/03/2022 - 11:59 pm Monday 03/14/2022

Final Exam Period: 12 am Thur 04/28/2022 - 11:59 pm Monday, 05/03/2022

## Grading Scale (all assignments graded on a 0-100% scale)

93-100 = A      90-92.99 = A-  
87-89.99= B+    83-86.99= B      80-82.99= B-  
77-79.99= C+    73-76.99= C      70-72.99= C-  
67-69.99= D+    63-66.99= D      60-62.99= D-  
Below 60= E

## WITHDRAWAL DEADLINE

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Students who wish to receive an incomplete in the course should refer to university policy on an incomplete: <http://www.admin.utah.edu/ppmanual/9/9-7R17.html>. Any other unique dilemmas regarding the continuation of any class should be addressed with your academic support counselor.

## INCOMPLETE GRADES

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Incomplete grades may be granted, at the instructor's discretion.

The mark "I" (incomplete) is given incomplete work because of circumstances beyond the student's control. The grade of "I" is only for students who are passing the course and who have completed 80% or more of the course.

## STUDENTS WITH DISABILITIES

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***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.

## UNIVERSITY SAFETY STATEMENT

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The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit [safeu.utah.edu](http://safeu.utah.edu).

## ADDRESSING SEXUAL MISCONDUCT

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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).

## UNDOCUMENTED STUDENT SUPPORT STATEMENT

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Immigration is a complex phenomenon with broad impact—those who are directly affected by it, as well as those who are indirectly affected by their relationships with family members, friends, and loved ones. If your immigration status presents obstacles to engaging in specific activities or fulfilling specific course criteria, confidential arrangements may be requested from the Dream Center. Arrangements with the Dream Center will not jeopardize your student status, your financial aid, or any other part of your residence. The Dream Center offers a wide range of resources to support undocumented students (with and without DACA) as well as students from mixed-status families. To learn more, please contact the Dream Center at 801.213.3697 or visit [dream.utah.edu](http://dream.utah.edu).

## Course Summary:

Date	Details	Due
Mon Jan 17, 2022	Assignment <a href="#">M1H Math Problems</a>	due by 12pm
	Assignment <a href="#">M1H Quiz</a>	due by 12pm
	Assignment <a href="#">Module 1 Practice Assignment Completion Check</a>	due by 12pm
Mon Jan 24, 2022	Assignment <a href="#">M2H Math Problems</a>	due by 12pm
	Assignment <a href="#">M2H Quiz</a>	due by 12pm
	Assignment <a href="#">Module 2 Practice Assignment Completion Check</a>	due by 12pm
	Assignment <a href="#">Learning Plan</a>	due by 11:59pm
Mon Jan 31, 2022	Assignment <a href="#">M3H Math Problems</a>	due by 12pm
	Assignment <a href="#">M3H Quiz</a>	due by 12pm
	Assignment <a href="#">Module 3 Practice Assignment Completion Check</a>	due by 12pm
Mon Feb 7, 2022	Assignment <a href="#">M4H Math Problems</a>	due by 12pm
	Assignment <a href="#">M4H Quiz</a>	due by 12pm
	Assignment <a href="#">Module 4 Practice Assignment Completion Check</a>	due by 12pm
Mon Feb 14, 2022	Assignment <a href="#">M5H Math Problems</a>	due by 12pm
	Assignment <a href="#">M5H Quiz</a>	due by 12pm
	Assignment <a href="#">Module 5 Practice Assignment Completion Check</a>	due by 12pm
Mon Feb 21, 2022	Assignment <a href="#">M6H Math Problems</a>	due by 12pm
	Assignment <a href="#">M6H Quiz</a>	due by 12pm

Date	Details	Due
	Assignment <a href="#">Module 6 Practice Assignment Completion Check</a>	due by 12pm
	Assignment <a href="#">M7H Math Problems</a>	due by 12pm
Mon Feb 28, 2022	Assignment <a href="#">M7H Quiz</a>	due by 12pm
	Assignment <a href="#">Module 7 Practice Assignment Completion Check</a>	due by 12pm
Mon Mar 14, 2022	Assignment <a href="#">Midterm exam online</a>	due by 12pm
	Assignment <a href="#">M9H Math Problems</a>	due by 12pm
Mon Mar 21, 2022	Assignment <a href="#">M9H Quiz</a>	due by 12pm
	Assignment <a href="#">Module 9 Practice Assignment Completion Check</a>	due by 12pm
	Assignment <a href="#">M10H Math Problems</a>	due by 12pm
Mon Mar 28, 2022	Assignment <a href="#">M10H Quiz</a>	due by 12pm
	Assignment <a href="#">Module 10 Practice Assignment Completion Check</a>	due by 12pm
	Assignment <a href="#">M11H Math Problems</a>	due by 12pm
Mon Apr 4, 2022	Assignment <a href="#">M11H Quiz</a>	due by 12pm
	Assignment <a href="#">Module 11 Practice Assignment Completion Check</a>	due by 12pm
	Assignment <a href="#">M12H Math Problems</a>	due by 12pm
Mon Apr 11, 2022	Assignment <a href="#">M12H Quiz</a>	due by 12pm
	Assignment <a href="#">Module 12 Practice Assignment Completion Check</a>	due by 12pm
Mon Apr 18, 2022	Assignment <a href="#">M13H Math Problems</a>	due by 12pm

Date	Details	Due
	Assignment <a href="#">M13H Quiz</a>	due by 12pm
	Assignment <a href="#">Module 13 Practice Assignment Completion Check</a>	due by 12pm
Mon Apr 25, 2022	Assignment <a href="#">M14H Math Problems</a>	due by 12pm
	Assignment <a href="#">M14H Quiz</a>	due by 12pm
	Assignment <a href="#">Module 14 Practice Assignment Completion Check</a>	due by 12pm
Mon May 2, 2022	Assignment <a href="#">Final Exam online</a>	due by 11:59pm
	Assignment <a href="#">Discussion of Anxiety Related to Math</a>	
	Assignment <a href="#">Discussion of Learning Strategies</a>	
	Calendar Event <a href="#">ECON 3620-090 Spring 2021 Math for Econ</a>	
	Calendar Event <a href="#">ECON 3620-090 Spring 2021 Math for Econ</a>	
	Calendar Event <a href="#">ECON 3620-090 Spring 2021 Math for Econ</a>	
	Calendar Event <a href="#">ECON 3620-090 Spring 2021 Math for Econ</a>	
	Assignment <a href="#">End of Course Discussion</a>	
	Assignment <a href="#">Evaluate and Adjust Your Learning Plan</a>	
	Assignment <a href="#">Mid-term Learning Plan Discussion</a>	
	Assignment <a href="#">Module 1 Practice Math Problem Assignment</a>	
	Assignment <a href="#">Module 10 Practice Math Problem Assignment</a>	
	Assignment <a href="#">Module 11 Practice Math Problem Assignment</a>	



**Date**

**Details**

**Due**

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Assignment [Module 12 Practice Math Problem Assignment](#)

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Assignment [Module 13 Practice Math Problem Assignment](#)

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Assignment [Module 14 Practice Math Problem Assignment](#)

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Assignment [Module 2 Practice Math Problem Assignment](#)

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Assignment [Module 3 Practice Math Problem Assignment](#)

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Assignment [Module 4 Practice Math Problem Assignment](#)

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Assignment [Module 5 Practice Math Problem Assignment](#)

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Assignment [Module 6 Practice Math Problem Assignment](#)

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Assignment [Module 7 Practice Math Problem Assignment](#)

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Assignment [Module 9 Practice Math Problem Assignment](#)

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Assignment [Self-Introduction](#)

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Assignment [Syllabus Quiz](#)

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