

ECON 7004 Syllabus

Mathematics for Economists, 3 Credits

Fall 2026

Instructor Information

Instructor: Justin Burkett

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General Course Information

Description

This course is designed for the first semester of the PhD sequence in economics. It will cover mathematical topics that are fundamental to the economic and econometric theory taught in the first year of the PhD program, such as linear algebra, probability and optimization. We will focus on gaining intuition for the concepts and how they pertain to economics. While the applications of these topics will be covered in other first-year classes, we will touch on some economic applications in this course as well.

Recommended Course Materials

- Mathematics for Economists, Carl P. Simon and Lawrence Blume, 1994

Grading Policy:

There are three components of the grade, weighted as follows.

Assignment	Date	Weight
Problem Sets	Biweekly	10%
Midterm	Early October	45%
Final	See Final Exam Matrix	45%

Description of Graded Components

Problem sets will cover the prior two weeks of lecture material and will be assigned through Canvas. They will be graded based on completion to encourage every student to attempt the problem set on their own.

The exams (Midterm and Final) are closed-book, closed-note and cumulative. They will draw from lectures, problem sets and any other assigned problems. The structure of the two exams is similar, and examples of prior exams will be provided.

Course Policies

Attendance and/or Participation

Attendance of all lectures is strongly encouraged but not strictly required. There is no attendance or participation component of the grade, but successful students in the course will generally have attended most lectures and actively participated in lecture. The course otherwise follows institute guidelines for attendance.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review [Georgia Tech's Honor Code](#) and the student [Code of Conduct](#).

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Core IMPACTS

[Core IMPACTS](#) is the University System of Georgia's General Education curriculum. If you are teaching a course that counts towards Core IMPACTS, you should include a syllabus statement about the Core area and associated [career competencies](#). [This resource](#) developed by the Center for Excellence in Teaching and Learning and Online Education at Georgia State University includes template syllabus statements for each of the Core IMPACTS areas that you may adapt for your course.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, [contact the Office of Disability Services](#) (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. [The Student-Faculty Expectations](#) articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Collaboration, Group Work, and Use of Generative AI

You may discuss problem sets with others, but I expect each student to independently produce their solutions. Problem sets are given for you to practice working through the questions on your own, not to show me that you appear to know what you are doing. The same goes for Generative AI. Exams must be completed individually and without assistance.

Extensions, Late Assignments, & Re-Scheduled/Missed Exams

Unless you make arrangements with me in advance, I will not give more than half of the total credit for a late assignment. Once solutions have been posted you will receive a zero for any work you have not turned in.

Student Use of Mobile Devices in the Classroom

Unless you have an emergency, there is no reason to use your phone during class. If it is a true emergency please excuse yourself and take care of it elsewhere. I generally think that a pencil and paper is the most effective way to stay focused in class, but if you must use your laptop to take notes you are free to do so.

Additional Course Policies

- Please be respectful of your fellow classmates. Everyone has the right to comfortably ask questions and to not be distracted by other students.
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Campus Resources for Students

Graduate Student Academic and Professional Success Resources:

A list of resources for graduate students is given on the [Office of Graduate and Postdoctoral Education](#) website. Specific information for [current graduate students](#) includes

- [Academic Resources](#) such as the Communications Center, Language Institute, Library, Catalog, Registrar, resources for conducting research, Advocacy and Conflict Resolution resources, and how to manage unexpected situations that may impact your academic performance;
- [Student Resources](#) such as Campus Services, Child Care/Family programs, Health & Wellness, Career Services, and the Student Resource Guide; and
- [Professional Development](#) such as the programming from the Career Center and other professional development resources and events”

Student Well-Being:

At Georgia Tech, we are concerned about your overall physical, social, and mental well-being. A [comprehensive list](#) of wellness related resources has been compiled and maintained by the Office of the Vice President for Student Engagement and Well-being ([student-resource-guide \(gatech.edu\)](#))