Syllabus (2021-1)

Course Title	Mathematics for Economics	Course No.	22201-02
Department/ Major	Economics	Credit/Hours	3
Class Time/ Classroom	12:30-13:45 Mondays & 14:00-15:15 Thursdays Online Classes		
Instructor	Name: Minjung Park	Department: Economics	
	E-mail: minjungp@gmail.com	Telephone: 02-3277-3603	
Office Hours/ Office Location	Online office hours will be scheduled later		

I. Course Overview

1. Course Description

The course is intended to introduce first- or second-year undergraduate students to basic mathematical concepts and techniques that are helpful in studying advanced courses in economics. Furthermore, this course explores applications of matrix algebra, derivatives, differentials, and optimization to interesting economic problems.

Students from the department of mathematics or statistics are NOT allowed to take this course.

2. Prerequisites

Good understanding of high school level mathematics is required.

3. Course Format

Lecture	Discussion/Presentation	Experiment/Practicum	Field Study	Other
100%	0%	%		%

4. Course Objectives

Through the course, students will acquire sufficient skills at intermediate levels in the following subject matters.

- Linear algebra
- Differential calculus
- Unconstrained and constrained optimization

Students are also expected to be able to apply the mathematical tools to analyze real life problems in economics.

5. Evaluation System

Hybrid of relative evaluation and absolute evaluation

I will use the following distribution of grades:
A+, A, A− : roughly 40%
B+, B, B−: roughly 45%
C+ or below: roughly 15%

The exact distribution of the grades will depend on the overall performance of the class.

Midterm Exam	Final Exam	Quizzes	Presentation	Projects	Assignments	Attendance	Other
40	45	%	%	%	10%	5%	%

Ⅱ. Course Materials and Additional Readings

1. Required Materials

Mathematics for Economists, by Simon & Blume

2. Supplementary Materials

3. Optional Additional Readings

Ⅲ. Course Policies

- Based on the class size in prior years, I expect this class to have more than 50 enrollees, and if so, all the sessions will be held online.
- Assignments: About 2 homework assignments will be distributed during the semester. You should hand in all of them on time. Group discussion is strongly encouraged but each of you should write homework in your own words. Any hints of "copy and paste" in your homework will be considered as a serious violation of the University Regulation on cheating and lead to dire consequences.
- Exams: There will be one midterm exam (April 26th, Monday) and one final exam (June 14th, Monday). Both exams will be open-book, online exams (conducted during the regular class meeting time), unless the COVID-19 situation improves significantly. The final exam is cumulative, covering all materials taught during the semester. Note that no make-up exams will be given without a legitimate reason.
- I reserve the right to fail you if you miss either the midterm exam or the final exam without a legitimate reason.
- You will be considered to have missed the class if you do not watch the online lecture during the designated period (which will be displayed next to each video on the Cyber Campus website.)
- If you miss more than 10 classes total, you will fail the course automatically per the University Regulation on Grading.

IV. Course Schedule

Week	Date	Topics & Class Materials, Assignments
Week 1	(3/4)	Introduction to the Course
	(3/8)	Derivatives (Ch. 2)
Week 2	(3/11)	Derivatives (Ch. 2)
	(3/15)	Min, Max and Curvature (Ch. 3)
Week 3	(3/18)	Min, Max and Curvature (Ch. 3)
	(3/22)	Chain Rule and Inverse Function (Ch. 4)
Week 4	(3/25)	Chain Rule and Inverse Function (Ch. 4)
	(3/29)	Exponents and Logarithm (Ch. 5)
Week 5	(4/1)	Exponents and Logarithm (Ch. 5)
	(4/5)	Systems of Linear Equations (Ch. 7)
Week 6	(4/8)	Solutions to Linear System (Ch. 7-8)
	(4/12)	Solutions to Linear System (Ch. 7-8)
Week 7	(4/15)	Solutions to Linear System (Ch. 7-8)
	(4/19)	Determinant & Inverse Matrix (Ch. 9)
Week 8	(4/22)	Review for the Midterm Exam
	(4/26)	Midterm Exam
Week 9	(4/29)	Determinant & Inverse Matrix (Ch. 9)
	(5/3)	Determinant & Inverse Matrix (Ch. 9)
Week 10	(5/6)	Multivariate Functions & Partial Derivatives (Ch. 13-14)
	(5/10)	Multivariate Functions & Partial Derivatives (Ch. 13-14)
Week 11	(5/13)	Implicit Function Theorem & Quadratic Forms (Ch. 15-16)
	(5/17)	Implicit Function Theorem & Quadratic Forms (Ch. 15-16)
Week 12	(5/20)	Unconstrained Optimization (Ch. 17)
	(5/24)	Unconstrained Optimization (Ch. 17)
Week 13	(5/27)	Unconstrained Optimization (Ch. 17)
	(5/31)	Constrained Optimization (Ch. 18-19)
Week 14	(6/3)	Constrained Optimization (Ch. 18-19)
	(6/7)	Constrained Optimization (Ch. 18-19)
Week 15	(6/10)	Review for the Final Exam
	(6/14)	Final Exam

Ⅴ. Special Accommodations

* According to the University regulation section #57, students with disabilities can request special accommodations related to attendance, lectures, assignments, or tests by contacting the course instructor at the beginning of semester. Based on the nature of the students' request, students can receive support for such accommodations from the course instructor or from the Support Center for Students with Disabilities (SCSD). Please refer to the below examples of the types of support available in the lectures, assignments, and evaluations.

Lecture	Assignments	Evaluation
· Visual impairment : braille, enlarged reading materials · Hearing impairment : note-taking assistant · Physical impairment : access to classroom, note-taking assistant	Extra days for submission, alternative assignments	· Visual impairment : braille examination paper, examination with voice support, longer examination hours, note-taking assistant · Hearing impairment : written examination instead of oral · Physical impairment : longer examination hours, note-taking assistant

- Actual support may vary depending on the course.

* The contents of this syllabus are not final—they may be updated.