Instructor :	Aidin Hajikhameneh
Of ce Location :	DMH 142
Email :	aidin.hajikhameneh@sjsu.edu
Of ce Hours :	Tuesday, 11:00am-12:00pm (through Canvas); and by appointment
Class Days/Time :	Online
Prerequisites :	ECON 1A, ECON 1B, & MATH 30 or MATH 71

1 Course Description

1.1 Catalog Description

Applications of linear algebra and differential calculus to economic analysis. Topics include market equilibrium, properties of production functions, multipliers, optimization methods, comparative statics analysis. Prerequisite: ECON 1A, ECON 1B, & MATH 30 or MATH 71

1.2 Additional Description

Mathematics and mathematical modeling are essential components of an economist's toolkit. The main objective of this course, hence, is to provide students with the basic mathematical knowledge required to analyze economic problems. To this end, during the semester, we will mainly focus on the following topics: single and several variable calculus, calculation of derivatives (including partial derivatives), optimization (constrained & unconstrained), matrix algebra, and linear programming.

 SJSU classes are designed such that in order to be successful, it is expected that students will spend, for each unit of credit, a minimum of forty- ve hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course related activities including weekly assignments, in-class simulations, and three exams. Careful time management

PC, Mac, Linux, iOS or Android, use the following links and password:

https://sjsu.zoom.us/j/83297021545?pwd=R2ZMME1ERGtraXYwVEl6M3NERUlsdz09

Password: 344387

2.3 Exams in ProctorU

All exams are held synchronously via ProctorU. All students take their exam at same time. For details of exams' weight and time, see Sections 6.2 and 9, respectively.

ProctorU is an online proctoring service that allows you to take your exam from your home. ProctorU is available 24/7. Creating a ProctorU account is simple! All you will need to do is visit the following link; https://go.proctoru.com/registrations and select the "Test-Taker" option.

Please be sure to review the Student Resource Page to prepare yourself and your work-space for your appointment. ProctorU encourages students to test their computer by logging in to your ProctorU account and clicking "Test your Equipment" to make sure your computer is optimal for testing to ensure you have the best possible testing experience. You will be able to test your equipment and connect with a ProctorU representative for tech support 24/7 if needed.

In order to use ProctorU you will need to have a high-speed internet connection, a webcam (internal or external), a Windows or Mac Operating System, and a government issued photo ID. Please note

CLO 3: solve simple real-world optimization problems both mathematically and graphically.

4 Required Texts/Readings

4.1 Primary Textbook (Required)

Essential Mathematics for Economic Analysis, 5th Edition, by Knut Sydsaeter, Peter Hammond and Arne Strom.

If you choose to use an older version of the text, it is your responsibility to account for any differences in assigned readings and homework problems.

4.2 Other Readings (Not Required)

"Intermediate Microeconomics: A Modern Approach" by Hal Varian is the textbook if you want a refresher on microeconomics.

"Mathematics for Economists", by Lawrence Blume & Carl P. Simon for an advance treatment of topics covered in this course.

5 title

6 Assignments and Grading Policy

Grades for this course are composed of three homework assignments, two midterms, and a nal exam. The grading rubric and a description of each component is provided below:

Grade Breakdown :

Homeworks	30% (10% each)
Midterm Exams	40%
Final Exam	30%

6.1 Homework

There will be 3 homework assignments. Each is worth 10% of the nal grade. Take the homework assignments seriously. Students often learn more from carefully thinking through the homework questions than taking exams. Working in groups on homework assignments is allowed (and advised). Each student must prepare a separate write-up. Students should submit their homework assignments through Canvas in a PDF le. The le name should be of the following format:

First name-Last name-Student number-Course name-Homework #

For example:

Aidin-Hajikhameneh-123456789-Microeconomic Analysis-Homework 1

See Section 9 for homework due dates and due times. No late homework will be accepted.

6.2 Midterm and Final Exam

Each midterm is worth 20% of your grade. The nal exam is worth 30% of your grade. The two midterms mainly cover calculus related subjects such as functions, derivatives, and optimizations. The nal exam only covers matrix algebra and linear programming. Exams will be mainly composed of multiple-choice

Category	Letter Grade	Numerical Grade
A	A^+	97-100
	A	93-96
	A	90-92
B	B^+	87-89
	B	83-86
	B	80-82
C	C^+	77-79
	C	73-76
	C	70-72
D	D^+	67-69
	D	63-66
	D	60-62
F	F	Below 60

Table 1: Grading Criteria.

7   University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Of ce of Graduate and Undergraduate Programs' Syllabus Information web page.

8   MYSJSU Messaging

Copies of the syllabus, assignments, notes etc. can be found on Canvas Leaning Management System. Check the Canvas for updates regularly.

9 Econ 104 Course Schedule and Readings

All due dates and due times are according to Paci c Standard Time (PST).

Week	Date	Topics & Readings	Due
1	1/26, 1/31	Overview of the course & Properties of Functions (Ch. 4 and 5)	
2	2/7	Properties of Functions (Ch. 4 and 5) (cont.)	
3	2/14	Differentiation (Ch. 6)	
4	2/21	Differentiation cont. (Ch. 6)	
5	2/28	Derivatives in Use (Ch. 7)	
6	3/7	Single Variable Optimization & (Ch. 8) Functions of Many Variables (Ch. 11)	
7	3/14	Functions of Many Variables (cont.) & (Ch. 11) Multivariable Optimization and (Ch. 13)	HW1 Due March 14 by 4:00 pm
8	3/21	Midterm I	From 4:00 to 6:00 pm
9	4/4	Constrained Optimization (Ch. 14)	
10	4/11	Matrix and Vector Algebra (Ch. 15)	
11	4/18	Determinants and Inverse Matrices (Ch. 16)	HW2 Due April 18 by 4:00 pm
12	4/25	Midterm II	From 4:00 to 6:00 pm
13	5/2	Determinants and Inverse Matrices (Ch. 16) (cont.)	
14	5/9	Linear Programming (Ch. 17)	
15	5/16	Review	HW3 Due May 16 by 4:00 pm
Final Exam	5/19	5:15pm-7:30pm.	

Table 2: Spring 2022 Course Schedule.