SPECIAL TOPICS AECN896 SEC 950 Fall 2021

AECN 896- Section 950

Math Prep Course

Instructor: Diya Ganguly(diya.ganguly@huskers.unl.edu)

Course Location: Room 57, Filley Hall

Meeting Times: Mondays, 1 PM to 2:50 PM Wednesdays, 2 PM to 2:50 PM Tuesdays and Thursdays, 9 AM to 12 PM , Exam on Friday (Time :1 PM to 2 PM)

Office Hours: Wednesdays 3:30 PM to 5 PM

Course Description: The main objective of this 1 credit hour course is to provide incoming AECN graduate students the mathematical tools and concepts required for microeconomic models and applications

Required Textbook: Nicholson, Walter, and Christopher Snyder. 2017. Microeconomic Theory: Basic Principles and Extensions, 12th ed. Boston, MA: Cengage Learning.

Reference: Silberberg, E., & Suen, W. C. (2001). The structure of economics: A mathematical analysis. Boston, Mass: McGraw-Hill.

Grading Policy: Week 1 consists of 4% of your grade, Week 2 consists of 48% of your grade and Week 3 consists of 48% of your grade. Of this 48% Homework accounts for 32% of your grade and exam accounts for 16% of your grade.

Final course grades are calculated as follows: A+=96.67-100%; A=93.34-96.66; A-=90-93.33; B+=86.67-89.99; B=83.34-86.66; B-=80-83.33%; C+=76.67-79.99; C=73.34-76.66; C-=70-73.33%; D+=66.67-69.99; D=63.34-66.66; D-=60-63.33%; F<60%.

Academic Dishonesty:

Students are expected to adhere to guidelines concerning academic dishonesty outlined in Section 4.2 of University's Student Code of Conduct (http://stuafs.unl.edu/ja/code/). Students are encouraged to contact the instructor for clarification of these guidelines if they have questions or concerns. The Department of Agricultural Economics has a written policy defining academic dishonesty, the potential sanctions for incidents of academic dishonesty, and the appeal process for students facing potential sanctions. The Department also has a policy regarding potential appeals of final course grades. These policies are available for review on the department's website (http://agecon.unl.edu/undergraduate).

Emergency Response:

- Fire Alarm (or other evacuation): In the event of a fire alarm: Gather belongings (Purse, keys, cell phone, N-Card, etc.) and use the nearest exit to leave the building. Do not use the elevators. After exiting notify emergency personnel of the location of persons unable to exit the building. Do not return to building unless told to do so by emergency personnel.
- Tornado Warning: When sirens sound, move to the lowest interior area of building or designated shelter. Stay away from windows and stay near an inside wall when possible.
- Active Shooter
    - Evacuate: if there is a safe escape path, leave belongings behind, keep hands visible and follow police officer instructions.
    - Hide out: If evacuation is impossible secure yourself in your space by turning out lights, closing blinds and barricading doors if possible.
    - Take action: As a last resort, and only when your life is in imminent danger, attempt to disrupt and/or incapacitate the active shooter.
- UNL Alert: Notifications about serious incidents on campus are sent via text message, email, unl.edu website, and social media. For more information go to: http://unlalert.unl.edu.
- Additional Emergency Procedures can be found here: http://emergency.unl.edu/doc/Emergency_Procedures_Quicklist.pdf

Special Needs:

Students with disabilities are encouraged to contact the instructor for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska-Lincoln to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office, 132 Canfield Administration, 472-3787 voice or TTY.

COVID-19: Please refer to the following UNL websites for updated information:

https://covid19.unl.edu/2019-novel-coronavirus-covid-19

https://news.unl.edu/free-tags/forward-to-fall/

Face Coverings:

An individual in this course has a documented need for face coverings to be required in this course. Without divulging personal or identifying information, such a documented need might be that a member of their household is unable to be vaccinated or has a health condition that makes vaccines less effective for them. As a result, the College of Agricultural Sciences and Natural Resources has determined that face coverings will be required in this course. If you are unwilling to comply with this requirement, please visit with your advisor about different sections or possible alternative courses that you might take in lieu of this one.

Tentative Course Outline:

Week 1		
Self-Study Week – Practice Worksheet		
Week 2		
Monday 23 Aug (1 PM to 2:50 PM)	Overview on Optimization and Economic Models I: Functions, Slopes, Elasticity, Maxima and Minima	
Tuesday 24 Aug (9 AM to 12 PM)	Overview on Optimization and Economic Models II: Functions of several variables, Partial derivatives, Chain Rule, Level Curves and Convexity Unconstrained Maximization	Homework 1 due
Wednesday 25 Aug (2 PM to 2:50 PM)	Envelope Theorem Constrained Maximization	
Thursday 26 Aug (9 AM to 12 PM)	Envelope Theorem in Constrained Maximization Inequality Constraints- Kuhn Tucker Conditions	Homework 2 due
Friday– 27 Aug (1 PM to 2 PM)		Exam 1 (based on Week 1 material)

Week 3		
Monday Aug 30 (1 PM to 2:50 PM)	Second Order Conditions and Curvature	
Tuesday Aug 31 (9 AM to 12 PM)	Homogeneous Functions Homothetic Functions Euler's Theorem Matrices and Determinants	Homework 3
Wednesday Sep 1 (2 PM to 2:50 PM)	Conditions for Concave and Convex Functions	
Thursday Sep 2 (9 AM to 12 PM)	Mathematical Statistics Discrete and Continuous Variables Probability Density Functions Expected Value Variance, Standard Deviation Covariance	Homework 4 due
Friday Sep 3 (1 PM to 2 PM)		Exam 2 (based on Week 2 material)