

# ECON 310 Review Sessions

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Class Room: TBD  
Class Hours: T/TR 7:00 pm - 8:00pm

## Course Objectives

The main goal of these review sessions is to provide students with basic programming skills to accomplish all computer assignments throughout the course. When necessary, topics including statistics, asymptotic theory, and linear algebra will be reviewed to help you understand course material.

## Computing

The recommended software for the course is MATLAB. You may also use Julia and Python. However, STATA is strictly prohibited. Check with the Rice Information Technology webpage to see the availability of MATLAB on campus computers. Rice University has initiated a site license agreement with Mathworks for the Matlab software and several of its toolboxes. This license is available and ready to use for all students.

## Course Policy

Attendance is mandatory for these review sessions. Participation counts towards your final grade for this course.

## Homework Policy

Please staple your homework. In addition, if the assignment involves coding, please print out your codes and attach them to the written part. You are encouraged to work in groups with

group size  $\leq 3$ . However, each individual needs to submit his/her own write-up of the solution unless specified otherwise. Please write the group members' names on your assignment upon submission. Due dates will be specified on the problem sets. Late submission will receive zero credit.

## Tentative Plan

Week 1: Introduction to MATLAB

Week 2: MATLAB plotting, go over MATLAB introduction assignment

Week 3: Convergence in probability, bounded in probability, convergence in distribution, law of large numbers, central limit theorem

Week 4: Maximum likelihood estimation, trinity tests examples

Week 5: MATLAB examples of bivariate & multivariate OLS regressions

Week 6: Midterm 1 review

Week 7: Midterm 1 discussion, MATLAB examples of prediction

Week 8: No class (Midterm Recess)

Week 9: Collinearity, MATLAB examples of collinearity

Week 10: Endogeneity, IV estimation, 2SLS, testing endogeneity, MATLAB examples of endogeneity

Week 11: Heteroskedasticity, serial correlation, MATLAB examples of heteroskedasticity

Week 12: Misspecification examples

Week 13: NLS, Binary responses, MATLAB examples of NLS & binary response

Week 14: No class (Thanksgiving)

Week 15: Midterm 2 review