

**Syllabus**  
**ECON 2311Q: Econometrics I**  
**Spring 2021**

---

<b>Instructor:</b>	Deepak Saraswat ( <a href="mailto:deepak.saraswat@uconn.edu">deepak.saraswat@uconn.edu</a> )
<b>Office Hours:</b>	Tuesdays 1:30 PM – 3:30 PM (EST) or by appointments (send an email)
<b>Lectures:</b>	Tuesdays & Thursdays 9:30 AM – 10:45 AM (EST)
<b>Online Link for Classes:</b>	This is an <u>online</u> course offered <u>synchronously</u> . We will meet over <a href="#">Blackboard Collaborate</a> at the scheduled lecture time. More information is included in the syllabus below.

---

**Welcome**

Welcome to ECON 2311Q (Econometrics-I). Before going over the course structure, grading scheme and other related topics, let us go over some information related to general wellbeing. This is important in general, but crucial in the times of the pandemic that we are all in.

**Reaching Out**

Reaching out to friends, family, and your instructor is highly recommended! In particular, please do not hesitate to reach out to me if you need any help – this includes even talking about how you are doing. My objective as an instructor is to make it possible for all students in this class to be able to succeed: if you put in reasonable effort. Most importantly, success in any course or program depends heavily on your personal health and well-being. Recognize that stress is an expected part of the college experience, and it often can be compounded by unexpected setbacks or life changes outside the classroom. In times like these, reaching out for help when in need is highly recommended.

Online (synchronous and asynchronous) teaching is a fairly new mode of teaching which has been adopted under the pandemic, and that requires *learning by doing* from all of us. I urge us all to be patient with each other and to treat any difficulties we may experience with understanding and compassion. I am here to help you be successful in this class in any way I can. You are encouraged to take advantage of office hours and to ask questions by email or reach out whenever you have questions. I will be happy to accommodate you outside the office hours as well. Ask your classmates for help and offer to help others. Students are also welcome to schedule an appointment to discuss any personal or class related issues. I appreciate your willingness to raise any issues that may stand in the way of your success in this course.

**Take Care of yourself and your Community**

Taking care of your friends and your family can be a stress reliever, but it should be balanced with care for yourself. Helping others cope with their stress, such as by providing social support, can also make your community stronger. During times of increased social distancing, people can still maintain social connections and care for their mental health. Phone calls or video chats can help you and your loved ones feel socially connected, less lonely or isolated.

**Healthy Ways to Cope with Stress**

- Know what to do if you are sick and are concerned about COVID-19. Contact a health professional before you start any self-treatment for COVID-19.
- Know where and how to get treatment and other support services and resources, including counseling or therapy (in person or through tele-health services).
- Take care of your emotional health. Taking care of your emotional health will help you think clearly and react to the urgent needs to protect yourself and your family.
- Take care of your body.
  - Take deep breaths, stretch, or meditate.
  - Try to eat healthy, well-balanced meals.
  - Exercise regularly.
  - Get plenty of sleep.
  - Avoid excessive alcohol and drug use.
- Make time to unwind. Try to do some other activities you enjoy.
- Connect with others. Talk with people you trust about your concerns and how you are feeling.
- Connect with your community- or faith-based organizations. While social distancing measures are in place, consider connecting online, through social media, or by phone or mail.

## **Student Wellness**

The University of Connecticut is committed to supporting students in their mental health, their psychological and social well-being, and their connection to their academic experience and overall wellness. The university believes that academic, personal, and professional development can flourish only when each member of our community is assured equitable access to mental health services. The university aims to make access to mental health attainable while fostering a community reflecting equity and diversity and understands that good mental health may lead to personal and professional growth, greater self-awareness, increased social engagement, enhanced academic success, and campus and community involvement.

As each day brings new updates, possibly with worrying or confusing information about COVID-19 (coronavirus), we each respond to this stress in our own ways. Everyone is different—our various thoughts, emotions and reactions are normal in the face of such widespread uncertainty.

### ***Common Mental Health Related Reactions:***

---

Anxiety, worry, or panic	Increased boredom and loss of interest in daily life activities
Feeling overwhelmed or helpless	Frustration, anger, or irritability
Social withdrawal beyond practicing safe social distancing	Increased sensitivity to physical sensations
Sadness and loneliness	

However, there are many practical and helpful ways in which you can manage stress in these uncertain times. Adopting these self-care practices will not only help you now, but they will also continue to boost your mood and health long after this pandemic has passed.

### Resources for Students Experiencing Distress

Students who feel they may benefit from speaking with a mental health professional can find support and resources through the [Student Health and Wellness-Mental Health \(SHaW-MH\)](#) office. Through SHaW-MH, students can make an appointment with a mental health professional and engage in confidential conversations or seek recommendations or referrals for any mental health or psychological concern.

SHaW's mental health services has moved to exclusively tele-health (online) or phone platforms for providing services to support students. [In order to access services, students must call 860-486-4705.](#)

Mental health services are included as part of the university's student health insurance plan and also partially funded through university fees. If you do not have UConn's student health insurance plan, most major insurance plans are also accepted. Students can visit the Student Health and Wellness-Mental Health located in Storrs on the main campus in the Arjona Building, 4th Floor, or contact the office at (860) 486-4705, or <https://studenthealth.uconn.edu/> for services or questions.

\*\*\*\*\*

### Course Description:

ECON 2311Q is an introductory course in Econometrics. Econometrics is the study of the application of statistical methods to economic data in order to identify, demonstrate and quantify economic relationships. Understanding econometric methods is not only a prerequisite for applied economic research, but also a key skill needed in industry jobs in disciplines related to economics, finance, marketing etc. The course will introduce concepts in probability and statistics, and then will focus on multiple regression methods for analyzing data in economics and related disciplines. The objective of the course is two-fold: a) to enable students in understanding and interpreting the statistical content of research articles, analysis reports etc., and b) to provide the necessary skills and training required to conduct independent analysis on economic data. The mathematics of econometrics will be introduced only as needed and will not be a central focus.

### Prerequisites:

ECON 1200 or both ECON 1201 and 1202; MATH 1071Q or 1110Q or 1125Q or 1131Q or 1151Q or 2141Q; and STAT 1000Q or 1100Q

### Mode of Instruction

This is an online course offered in the synchronous mode. We will meet virtually over [Blackboard Collaborate](#) (link provided in the course page on [HuskyCT](#)) during the scheduled lecture times. I will make use of lecture slides and will provide handwritten notes over the online whiteboard. All lectures will be recorded in real time and posted on [HuskyCT](#) for your review. Although the lectures recordings will be made online, I strongly encourage you to attend the live lectures at the scheduled

time, and use the recordings for review/making up for lectures you missed due to a genuine reason. During the live lectures, all students are requested to keep their cameras on.

### **Course Webpage:**

Supplementary course materials will be provided on [HuskyCT](#). You should check this page regularly.

### **Course Materials:**

Following are the required and recommended textbooks for this course:

- *(Required)* Stock, J. and Watson, M., *Introduction to Econometrics*, 4<sup>th</sup> Edition, Pearson.
- *(Recommended)* Wooldridge, J., *Introductory Econometrics: A Modern Approach*, 7<sup>th</sup> Edition, Cengage.

The online content and the MyLab for Stock & Watson are not required, just the textbook is enough for this course. In addition to the textbooks, a series of lecture notes which follow the material presented in class will be posted on [HuskyCT](#).

### **Assessment:**

Assessment of this course will be based on the following four components:

- Homework Assignments: A series of small problem sets (about 6) including computer exercises will be assigned throughout the semester. These assignments are designed to reinforce course materials, prepare you for exams, and emphasize practical applications of quantitative methods. These assignments may require the use of the statistical software STATA. While cooperation and discussion are encouraged, homework assignments, including computer work, must be the work of the student whose name appears on them (i.e., your own). Homework will be due for online submission on [HuskyCT](#) on due dates. The two lowest homework grades will be dropped while compiling the final grades.
- Discussion Posts: Throughout the semester, 3-4 discussion topics will be posted on [HuskyCT](#) which will require students to post brief responses. These will be graded. These topics will be case studies, excerpts from actual research papers etc., and geared towards providing practical examples/exposure to the methods taught in lectures.
- Midterm Exams: There are two midterm exams. Dates are TBA.
- Final Exam: The final exam will take place as per the schedule set by UConn.

**In addition to the components used for grading, a series of un-graded practice questions/review exams and quizzes will be uploaded on [HuskyCT](#). Solutions to these will be posted later. Students are expected to solve these questions on their own, go over solutions and discuss any issues with me in office hours. These practice problems are designed to prepare you for exams.**

## Grading:

- Homework (20%) + Discussion Topics (10%) + Two midterms (20% + 20%) + Final (30%)

To account for student's effort, partial credit will be considered and provided in all homework assignments and exams.

I will generally follow the following grading scheme; however, I reserve the right to make adjustments as necessary. You will be notified if adjustments are made.

92-100	A	72-76	C
90-91	A-	70-71	C-
87-89	B+	67-69	D+
82-86	B	62-66	D
80-81	B-	60-61	D-
77-79	C+	0-59	F

## Makeup Exam Policy:

Only students with legitimate reasons will be allowed to make up missed exams. The date and time for a student to take a makeup exam will be arranged on a case-by-case basis.

## Student Authentication

The University of Connecticut is required to verify the identity of students who participate in distance learning or online courses and to establish that students who register in these courses are the same students who participate in and complete the course activities and assessments and receive academic credit. Verification and authentication of student identity in this course will include 1) use of [HuskyCT](#) as the prime repository and access point for course content, assessment, and activities, and 2) Confirming student's identification via UConn photo in Student Admin.

## Academic Integrity:

You are responsible for acting in accordance with the University of Connecticut's [Student Code](#). Review and become familiar with these expectations. In particular, make sure you have read the section that applies to you on [Academic Integrity](#). Cheating and plagiarism are taken very seriously at the University of Connecticut. As a student, it is your responsibility to avoid plagiarism.

## Disabilities and Accommodations

In compliance with the University of Connecticut policy and equal access laws, I am available to discuss appropriate academic accommodations that may be required for students with disabilities. Students in need of accommodations should go to the [center for students with disabilities](#) to verify their eligibility for appropriate accommodations. If you are eligible for accommodations such as extra time during exams, please provide documentation and

coordinate with me no later than a week prior to every exam.

### Tentative Course Outline:

Topic	Chapter(S&W)
<b>1. Introduction</b>	1
<b>2. Review of Probability and Statistics</b> a) Random Variables and Probability Distribution Functions b) Estimators and Sampling Distributions c) Statistical Inference: Estimation and Hypothesis Testing d) Jointly Distributed Random Variables, Covariance and Correlation	2 & 3
<b>3. Simple Linear Regression</b> a) Simple Linear Regression Model b) Estimation and Interpretation c) Inference	4 & 5
<b>4. Multivariate Regression Analysis</b> a) The Multivariate Regression Model b) Estimation and Interpretation c) Inference	6 & 7
<b>5. Nonlinear Regression Functions</b> a) Functional Form b) Dummy Variables and Interaction Terms	8
<b>6. Joint Hypothesis Tests and Robust Inference</b> a) Joint Hypothesis Testing b) Robust Inference: Heteroscedasticity, Serial Correlation, Clustering	5, 6 & 7
<b>7. Introduction to Causal Inference</b> a) Need for causal inference, role of selection bias b) Modern research methods for causal inference with case studies: 1. Randomized Control Trials 2. Regression Discontinuity design 3. Difference in Differences design	Various Sources

### Statistical Software:

The course will require use of Stata, one of the primary statistical packages used by economists. Stata is freely available to students at UConn through the computer labs or online with UConn AnyWare. Eligible students can also download Stata at <https://software.uconn.edu/software/stata/>. You are welcome to use other statistical software such as R, but I will only demonstrate how to use Stata in class. Here are some resources for learning Stata:

- [Resources to help you learn and use Stata](#) by UCLA Institute for Digital Research and Education (IDRE): an extensive resource of Stata information, including FAQs, learning modules, a quick-reference guide, annotated output, textbook examples, and more.
- [Introduction to Stata](#) by Carolina Population Center, University of North Carolina at

Chapel Hill: this tutorial is function-oriented, focusing on data-management tasks. It works up from basic tasks, such as how to drop variables, to the tasks needed for complex file organization, such as how to reshape and merge data files.

- [Stata Online Training Page](#) by Princeton Data and Statistical Services: a series of pages giving a step-by-step instruction in Stata. Topics start from basic Stata usage, and progress through common data management tasks through to using Stata for a wide variety of analysis topics.
- [Articles on Statistical Computing](#) by Social Science Computing Cooperative, University of Wisconsin: a large collection of well-written and informative pages about a broad set of topics, including an in-depth [Introduction to Stata for Researchers](#).
- [Stata Tutorial](#) by German Rodriguez, Princeton University: a brief and informative introduction to Stata.