SYA 5406
SYLLABUS

COURSE INFORMATION

- **Course Hours:** 12:30-1:45, M W
- **Course Meeting Location:** Zoom
- **Credit Hours:** 3 hours
- **Prerequisites:**
  1. Successful completion of **SYA 5455, Introduction to Quantitative Data Analysis**, or an instructor-approved substitute.
  2. Experience with **writing code** in a statistical software package. This experience need not be extensive, but you should be familiar with “reading” raw data into a statistical package and obtaining analysis using commands rather than point-and-click.

COURSE DESCRIPTION

This course explains the use of the Ordinary Least Squares (OLS) regression model, an important tool for the analysis of quantitative data in the social sciences. We'll begin by reviewing the statistical building blocks of OLS in simple (bivariate) linear regression. We'll then extend the bivariate model to multiple regression, focusing on the estimation, evaluation, and interpretation of models with multiple predictor variables. Next, we will consider the assumptions underlying the use of regression techniques, the estimation problems that result from the violation of these assumptions, and techniques to redress these problems.
COURSE INSTRUCTOR

Karin L. Brewster

Professor

brewster@admin.fsu.edu

(850) 644-6416 (main office, Sociology Department)

Office Hours: Thursday afternoons. Please make appointment.

Emails will be responded to within 24 to 48 hours.

COURSE TEACHING ASSISTANT(S)

Tyler Bruefach

tlb15b@my.fsu.edu | Phone: (917) 838-4494

Office Hours: Wednesday 2-4pm (or by appointment)

Schedule a meeting with Calendly: http://calendly.com/tbruefach

LEARNING OBJECTIVES

The overarching objectives of this course are to enable you to become a proficient user of basic regression techniques and to prepare you to move on to the more advanced estimation techniques used in quantitative social science research.

Upon successful completion of this course, you will be able to:

1. Evaluate whether an OLS regression is appropriate for a given research question and whether a given data set meets the assumptions of the OLS model
2. Use Stata statistical software to prepare data for analysis, estimate OLS regression models, and diagnose and resolve violations of the OLS assumptions

3. Interpret regression results, including coefficient estimates, statistical interactions, and measures of model fit

4. Diagnose and resolve violations of the assumptions that underlie the OLS model
COURSE MATERIALS

Required text


Required software

- Excel or Excel-compatible spreadsheet
- Stata

We will use Stata for all course assignments. All FSU students have Stata access through the virtual computing lab at [myfsuvlab.its.fsu.edu](https://myfsuvlab.its.fsu.edu). For directions on accessing and using the virtual lab, visit [https://fsu.force.com/s/article/How-do-I-access-and-open-the-myFSUVLab-apps-1600352707151](https://fsu.force.com/s/article/How-do-I-access-and-open-the-myFSUVLab-apps-1600352707151).

If you are a Sociology or Demography graduate student, you may have direct access to both Excel or Stata/SE via your office computer or the computer labs on the 5th (Sociology) or 6th (Demography) floors.

If you prefer the convenience of your own copy, Stata offers several options under its GradPlan, which you can access at: [https://www.stata.com/order/gradplan-sites/](https://www.stata.com/order/gradplan-sites/). Stata offers annual (12-month) and “perpetual” (lifetime) licenses. Which version of Stata should you choose? That depends on your budget, your computer, and the size of the data sets you anticipate using. For the purposes of this course, the annual version of Stata/IC will be sufficient.

COURSE REQUIREMENTS

**reading**

Reading is **critical** to learning the material presented in this course. If you are the typical student, you will likely find that you must read chapters more than once before you begin to absorb the material they cover.

**quizzes**
Throughout the semester, you will take 11 short quizzes during class. These quizzes will encourage you to stay abreast of the readings, and provide you (and me) some idea of how well you’re grasping key concepts.

**Assignments**

You will complete the end-of-chapter exercises for Chapters 5 through 11 in the Gordon text. These exercises include writing Stata code and interpreting the results, and they are intended to help you ascertain how well you have understood the material presented in the chapters and discussed in class.

**Attendance**

Attendance is expected. This course provides knowledge that you will use throughout your academic careers and as professionals; missed classes mean missed opportunities to learn critical skills.

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**GRADING POLICY**

**Assignments**

Grades will be based on work quality, including completion of required tasks and clarity and accuracy of your written interpretations. Each assignment will be assessed as follows:

- 5 – 10 points: excellent work with correct Stata results, clear understanding of required concepts, and error-free exposition. 9.5 – 10 points
- 0 – 9.4 points: very good work with correct Stata results, acceptable understanding of required concepts, and good exposition with relatively minor errors.
- 5 – 8.9 points: acceptable work that may have Stata errors, some misunderstanding of required concepts and/or problems with exposition.
- 0 – 8.4 points: work indicates misunderstanding of key concepts, has multiple Stata errors and/or substandard writing.
- < 8.0: work marred by Stata errors, poor writing, or is incomplete.
- Missed: no assignment submitted. 0.0 points

**Quizzes**

Quiz scores will be based on the percentage of total answers scored correct. The lowest quiz grade will be dropped.
**Course grades**

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<thead>
<tr>
<th>Assessment Type</th>
<th>Basis</th>
<th>Weight (%)</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>Average percentage grade for 10 after dropping lowest score</td>
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<tr>
<td>Assignments</td>
<td>Average percentage grade for 7</td>
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<td><strong>Course total</strong></td>
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**GRADING SCHEME**

The following grading standards will be used in this class:

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<thead>
<tr>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
<td>100% to 93%</td>
</tr>
<tr>
<td>A-</td>
<td>&lt; 93% to 90%</td>
</tr>
<tr>
<td>B+</td>
<td>&lt; 90% to 87%</td>
</tr>
<tr>
<td>B</td>
<td>&lt; 87% to 83%</td>
</tr>
<tr>
<td>B-</td>
<td>&lt; 83% to 80%</td>
</tr>
<tr>
<td>C+</td>
<td>&lt; 80% to 77%</td>
</tr>
<tr>
<td>C</td>
<td>&lt; 77% to 73%</td>
</tr>
<tr>
<td>C-</td>
<td>&lt; 73% to 70%</td>
</tr>
<tr>
<td>D+</td>
<td>&lt; 70% to 67%</td>
</tr>
<tr>
<td>D</td>
<td>&lt; 67% to 63%</td>
</tr>
<tr>
<td>D-</td>
<td>&lt; 63% to 60%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60% to 0%</td>
</tr>
</tbody>
</table>
COURSE POLICIES

PARTICIPATION & LATENESS POLICY

You will not earn points for attendance and participation, but students who miss class frequently for reasons other than those identified as "excused" by university policy may be asked to drop the class. Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

POLICY FOR MISSED QUIZZES

Quizzes missed because of tardiness or unexcused absence will be scored zero. If you miss a quiz due to an “excusable” absence (e.g., serious illness or injury, jury duty, military service), I will adjust your total quiz grade so as not to penalize you.

POLICY FOR LATE ASSIGNMENTS

Effective time management is an important professional skill; all manner of work products are done on deadline. To encourage your mastery of this skill, I do not accept late work unless you have some unusual and unavoidable competing circumstance (e.g., jury duty, hospitalization). Do not leave assignments until the last minute.

POLICY ON RESPONDING TO STUDENTS

- Email responses typically within 24 to 48 hours, weekdays only.
- Graded assignments typically returned within 2 weeks after due date.

STUDENT RESPONSIBILITIES

- Students should log on to Canvas at least every other day to check for course updates.
- Students are expected to keep up with the class, engage with the course material, and
submit assignments by the due dates.

- Assignments, quizzes, and exams are expected to be products of individual students per the [FSU Academic Honor Policy](http://registrar.fsu.edu/bulletin/undergraduate/information/integrity). Students should not discuss any of the questions with each other before or during the actual assignments, activities, quizzes, or exams without instructor approval.
- To receive maximum points for questions, students need to follow the instructions carefully, follow word limits as instructed, and use spell and grammar checking.
- To be successful in this course, students need to complete all required assignments and tests.

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**GETTING HELP**

**In class:**

I run class sessions informally, so if you don’t understand something I’ve said, please ask for clarification. If you need more help than I can give during class time, please email me or Tyler for an appointment.

**Assignments:**

Quantitative research is fraught with pitfalls: difficult concepts, coding errors, imperfect data. Spending hours in front of a computer screen trying to write code that works or debug code that doesn't is a normal and expected part of research. You should expect to find yourself stuck on at least one assignment in this course. An important part of your education is learning to find your way through problems. The Course Information module includes a document to help you. When you get stuck, take a look at this document and follow the steps.

If you find this doesn't work, Tyler and I are just an email away. Be prepared to show us what you've done and we'll do our best to help you through.

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**TECHNOLOGY REQUIREMENTS**

Course content is accessible through Canvas. Students will need to be able to view videos, write and upload assignments, post to discussion boards, and take assessments. Students should have access to high-speed internet and updated software. Mobile devices may be used.
to view course content, upload assignments, and take assessments as determined by the instructor. To view the most current technology requirements, visit the FSU Canvas support site (http://support.canvas.fsu.edu).

CANVAS SUPPORT

Need help with Canvas? Contact FSU Canvas Support:

# Email: canvas@fsu.edu (mailto:canvas@fsu.edu)
$ Phone: (850) 644-8004
+ Website: support.canvas.fsu.edu (http://support.canvas.fsu.edu)
, Hours: 8am to 5pm, Monday - Friday

UNIVERSITY POLICIES

UNIVERSITY ATTENDANCE POLICY

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Please note: Modifications to this policy have been made to accommodate the unique circumstances of the COVID-19 pandemic. For more information, see this memo that has been distributed to all faculty and instructional staff (https://www.fda.fsu.edu/sites/g/files/upcbnu636/files/Media/Files/Academic%20Policies/Important%20Policies%20AY%202020-2021_revised.pdf) regarding the 2020-2021 academic year.

ACADEMIC HONOR POLICY

The Florida State University Academic Honor Policy outlines the University's expectations for
the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and... [to] strive for personal and institutional integrity at Florida State University." (For more details see the FSU Academic Honor Policy and procedures for addressing alleged violations (http://fda.fsu.edu/academic-resources /academic-integrity-and-grievances/academic-honor-policy).)

PROCESS FOR RESOLVING ACADEMIC PROBLEMS OR GRIEVANCES

Please use this step-by-step guide to resolving academic problems (https://www.fda.fsu.edu/sites/g/files/upcbnu636/files/Media/Files /General%20Academic%20Appeals/Academic_Problem-Solving_Flowchart_Binder_Oct-2020.pdf) to begin the process of communicating with your instructor to resolve any confusion or difficulty you may be having in the course. Detailed information on FSU's grievance procedure, including special instructions for students enrolled in an FSU branch campus, is maintained on the General Bulletin's Academic Integrity & Grievances (https://registrar.fsu.edu/bulletin /undergraduate/information/integrity/index.cfm) webpage. Out-of-state distance learning students should review the Office of Distance Learning Complaint Resolution (https://distance.fsu.edu /about-us/complaint-resolution) page for additional procedures.

AMERICANS WITH DISABILITIES ACT

Florida State University (FSU) values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. FSU is committed to providing reasonable accommodations for all persons with disabilities in a manner that is consistent with academic standards of the course while empowering the student to meet integral requirements of the course.

To receive academic accommodations, a student:

(1) must register with and provide documentation to the Office of Accessibility Services (OAS);
(2) must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and,
(3) should communicate with the instructor, as needed, to discuss recommended accommodations. A request for a meeting may be initiated by the student or the instructor.
Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services has been provided.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the

**Office of Accessibility Services (Tallahassee Campus)**

874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)

**Student Disability Services (Panama City Campus)**

Office of Student Affairs
4750 Collegiate Drive
2nd Floor Barron Building (Room 215)
Florida State University Panama City
Panama City, FL 32405
(850) 770-2172 (office)
(866) 693-7872 (toll free)
Email: **sds@pc.fsu.edu**

https://pc.fsu.edu/students/student-disability-services

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**FREE TUTORING FROM FSU (TALLAHASSEE CAMPUS)**

On-campus tutoring and writing assistance are available for many courses at Florida State University. For more information, visit the Academic Center for Excellence (ACE) Tutoring Services’ comprehensive list of on-campus tutoring options - see the Academic Center for Excellence (ACE) Tutoring Services' website or contact **tutor@fsu.edu**. High-quality tutoring is available by appointment and on a walk-in basis. These services are offered by tutors trained to encourage the highest level of individual academic success while upholding personal academic integrity.

**SYLLABUS CHANGE POLICY**
"Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice."

## COURSE SUMMARY

All course assignments and texts with due dates are listed below. To be successful in this course, be sure to complete all required assignments and tests by the due date.

### Course Summary:

<table>
<thead>
<tr>
<th>Date</th>
<th>Details</th>
<th>Due Date</th>
</tr>
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<tbody>
<tr>
<td>Thu Jan 7, 2021</td>
<td>✭ Baseline assessment (<a href="https://canvas.fsu.edu/courses/151311/assignments/1129049">https://canvas.fsu.edu/courses/151311/</a>)</td>
<td>3pm</td>
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<tr>
<td>Mon Jan 11, 2021</td>
<td>✭ Read chapters 1 - 4 (<a href="https://canvas.fsu.edu/courses/151311/assignments/1121563">https://canvas.fsu.edu/courses/151311/</a>)</td>
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<tr>
<td>Wed Jan 13, 2021</td>
<td>✭ Quiz 1: Key terms, Chapters 1 - 4 (<a href="https://canvas.fsu.edu/courses/151311/assignments/1119544">https://canvas.fsu.edu/courses/151311/</a>)</td>
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<tr>
<td>Wed Jan 20, 2021</td>
<td>✭ Quiz 2: bivariate slope &amp; intercept (<a href="https://canvas.fsu.edu/courses/151311/assignments/1121688">https://canvas.fsu.edu/courses/151311/</a>)</td>
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<td>Wed Jan 27, 2021</td>
<td>✭ Read chapter 5 (<a href="https://canvas.fsu.edu/courses/151311/assignments/1121569">https://canvas.fsu.edu/courses/151311/</a>)</td>
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<tr>
<td>Mon Feb 1, 2021</td>
<td>✭ Quiz 3: assumptions, inference, scaling (<a href="https://canvas.fsu.edu/courses/151311/assignments/1121720">https://canvas.fsu.edu/courses/151311/</a>)</td>
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<tr>
<td>Date</td>
<td>Details</td>
<td>Due Time</td>
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<tr>
<td>Wed Feb 3, 2021</td>
<td>✭ Assignment 1 <a href="https://canvas.fsu.edu/courses/151311/assignments/1121588">Assignment 1</a></td>
<td>due by 11:59pm</td>
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<tr>
<td>Mon Feb 8, 2021</td>
<td>✭ Quiz 4: interpretation partial slope &amp; intercept <a href="https://canvas.fsu.edu/courses/151311/assignments/1121731">Quiz 4</a></td>
<td>due by 1pm</td>
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<tr>
<td>Mon Feb 15, 2021</td>
<td>✭ Read chapter 6 <a href="https://canvas.fsu.edu/courses/151311/assignments/1121572">Read chapter 6</a></td>
<td>due by 11:59pm</td>
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<tr>
<td>Wed Feb 17, 2021</td>
<td>✭ Quiz 5: inference &amp; model fit <a href="https://canvas.fsu.edu/courses/151311/assignments/1121762">Quiz 5</a></td>
<td>due by 1pm</td>
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<tr>
<td>Mon Feb 22, 2021</td>
<td>✭ Assignment 2 <a href="https://canvas.fsu.edu/courses/151311/assignments/1121591">Assignment 2</a></td>
<td>due by 11:59pm</td>
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<tr>
<td>Wed Feb 24, 2021</td>
<td>✭ Read chapter 7 <a href="https://canvas.fsu.edu/courses/151311/assignments/1121574">Read chapter 7</a></td>
<td>due by 11:59pm</td>
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<tr>
<td>Mon Mar 1, 2021</td>
<td>✭ Quiz 6: dummy variable interpretation <a href="https://canvas.fsu.edu/courses/151311/assignments/1121795">Quiz 6</a></td>
<td>due by 1pm</td>
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<tr>
<td>Wed Mar 3, 2021</td>
<td>✭ Assignment 3 <a href="https://canvas.fsu.edu/courses/151311/assignments/1121593">Assignment 3</a></td>
<td>due by 11:59pm</td>
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<tr>
<td>Wed Mar 10, 2021</td>
<td>✭ Quiz 7: interactions with dummy variables <a href="https://canvas.fsu.edu/courses/151311/assignments/1123682">Quiz 7</a></td>
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<tr>
<td>Mon Mar 22, 2021</td>
<td>✭ Read chapter 8 <a href="https://canvas.fsu.edu/courses/151311/assignments/1121575">Read chapter 8</a></td>
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<td>Wed Mar 24, 2021</td>
<td>✭ Quiz 8: interactions with 2 quantitative variables <a href="https://canvas.fsu.edu/courses/151311/assignments/1121574">Quiz 8</a></td>
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<td>Date</td>
<td>Details</td>
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<td>1/18/21, 12:05 PM</td>
<td><a href="https://canvas.fsu.edu/courses/151311">Multivariate Analysis</a></td>
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<td>Mon Mar 29, 2021</td>
<td>* Assignment 4 (<a href="https://canvas.fsu.edu/courses/151311/assignments/1121597">https://canvas.fsu.edu/courses/151311/assignments/1121597</a>) due by 11:59pm</td>
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<td>Wed Mar 31, 2021</td>
<td>* Read chapter 9 (<a href="https://canvas.fsu.edu/courses/151311/assignments/1121578">https://canvas.fsu.edu/courses/151311/assignments/1121578</a>) due by 11:59pm</td>
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<td>Mon Apr 5, 2021</td>
<td>* Quiz 9: nonlinear associations (<a href="https://canvas.fsu.edu/courses/151311/assignments/1123741">https://canvas.fsu.edu/courses/151311/assignments/1123741</a>) due by 1pm</td>
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<tr>
<td>Wed Apr 7, 2021</td>
<td>* Assignment 5 (<a href="https://canvas.fsu.edu/courses/151311/assignments/1121603">https://canvas.fsu.edu/courses/151311/assignments/1121603</a>) due by 11:59pm</td>
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<td>Mon Apr 12, 2021</td>
<td>* Quiz 10: Mediation and suppression (<a href="https://canvas.fsu.edu/courses/151311/assignments/1123833">https://canvas.fsu.edu/courses/151311/assignments/1123833</a>) due by 1pm</td>
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<td>Wed Apr 14, 2021</td>
<td>* Quiz 11: Outliers and multicollinearity (<a href="https://canvas.fsu.edu/courses/151311/assignments/1123840">https://canvas.fsu.edu/courses/151311/assignments/1123840</a>) due by 1:45pm</td>
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<td>Tue Apr 20, 2021</td>
<td>* Assignment 7 (<a href="https://canvas.fsu.edu/courses/151311/assignments/1121613">https://canvas.fsu.edu/courses/151311/assignments/1121613</a>) due by 11:59pm</td>
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