

## **Online Math 5386 – Spring 2021 Regression and Linear Models**

**Instructor:** Prof. Jeff Morgan [jjmorgan@central.uh.edu](mailto:jjmorgan@central.uh.edu)

**Required Text:** Introduction to Linear Regression Analysis, 5th Edition, by Montgomery, Peck and Vining, Wiley 2012.

**Additional Required Resources:** In addition to the textbook, students need a computer with a high-speed internet connection, and the open-source software package R, and R Studio. R Studio can be downloaded free from [www.r-project.org](http://www.r-project.org). To download it, go to the web site, click on the download link, select your platform (Windows, Mac etc.), select a CRAN (Comprehensive R Archive Network) mirror site in the U.S. and follow the instructions. Downloading and installation are straightforward. RStudio facilitates importing and exporting of data and text files, and makes it easy to integrate R with other applications. It is available at [www.rstudio.com](http://www.rstudio.com), and can be installed after R is installed.

**Course Site:** This course will be hosted on Space (<https://space.uh.edu>). You will be able to go to this site and access the course beginning January 15, 2021.

**Homework Assignments:** Written (typed or combined) assignments will be given every other week. These will be posted at least 10 days in advance, and students will upload their solutions in a single PDF file to the course site on Space. Unless prior permission is given, late homework assignments will not be accepted.

**Online Fill In The Blank Quizzes:** FITB quizzes be due on the weeks when no written assignment is due. Students will only submit their answers, and they will immediately receive their grade. These quizzes can be attempted multiple times, up to the due date, and the highest grade will be used. Answers can be submitted after the due date, but they will only receive 80% credit.

**Exams:** Students will be given take-home midterm and final exams. Details will be given.

**Additional Learning Materials:** Note and videos will be posted regularly to supplement the material in the text, and the discussion forum on <https://space.uh.edu> will be an important resource for students who need help, and for those wanting to reinforce concepts by providing help.

**Weekly Online Help Sessions:** Online help sessions will be held online from 8-10pm on Thursdays. Information will be posted in the Calendar on Space. These sessions will be recorded and the video and notes will be posted.

**Course Material:** The subjects of this course are the theory, computational methods and applications of multiple linear regression, linear models, generalized linear models, and related topics. By the end of the course you should have gained an understanding of the mathematical underpinnings of linear model theory, experience with the use of a sophisticated data analysis package, and an appreciation of some of the problems and experimental situations the methods apply to. The course covers most of chapters 2-8, 10 and 13 in the text.

**Prerequisites:** Math 5385 (introductory Statistics or an equivalent course), one semester of linear algebra at or above the undergraduate level, and two semesters of calculus.

**Grades:**

- **Forum:** 10% - Students will be expected to participate regularly in the discussion forum, and they will receive points for any posts that ask or answer questions associated with the course.
- **Quizzes:** 15% (explained above)
- **Assignments:** 15% (explained above)
- **Midterm Exam:** 30%
- **Final Exam:** 30%

**Excused Absence Policy:** Regular class attendance, participation, and engagement in coursework are important contributors to student success. Absences may be excused as provided in the University of Houston [Graduate Excused Absence Policy](#) for reasons including: medical illness of student or close relative, death of a close family member, legal or government proceeding that a student is obligated to attend, recognized professional and educational activities where the student is presenting, and University-sponsored activity or athletic competition. Additional policies address absences related to [military service](#), [religious holy days](#), [pregnancy and related conditions](#), and [disability](#).

**Recording of Class:** Students may not record all or part of class, livestream all or part of class, or make/distribute screen captures, without advanced written consent of the instructor. If you have or think you may have a disability such that you need to record class-related activities, please contact the Center for Students with DisABILITIES. If you have an accommodation to record class-related activities, those recordings may not be shared with any other student, whether in this course or not, or with any other person or on any other platform. Classes may be recorded by the instructor. Students may use instructor's recordings for their own studying and notetaking. Instructor's recordings are not authorized to be shared with anyone without the prior written approval of the instructor. Failure to comply with requirements regarding recordings will result in a disciplinary referral to the Dean of Students Office and may result in disciplinary action.

**Syllabus Changes:** Due to the changing nature of the COVID-19 pandemic, please note that the instructor may need to make modifications to the course syllabus and may do so at any time. Notice of such changes will be announced as quickly as possible through the course homepage on Space.

**Resources for Online Learning :** The University of Houston is committed to student success, and provides information to optimize the online learning experience through our website at <https://uh.edu/power-on>. Please visit this website for a comprehensive set of resources, tools, and tips including: obtaining access to the internet and AccessUH, requesting a laptop through the Laptop Loaner Program, using your smartphone as a webcam; and downloading Microsoft Office 365 at no cost. For questions or assistance contact UHOnline@uh.edu.

**UH Email:** Email communications related to this course will be sent to your [Exchange email account](#) which each University of Houston student receives. The Exchange mail server can be accessed via Outlook, which provides a single location for organizing and managing day-to-day information, from email and calendars to contacts and task lists. Exchange email accounts can be accessed by logging into Office 365 with your Cougarnet credentials or through Access UH. They can also be configured on [IOS](#) and [Android](#) mobile devices. Additional assistance can be found at the [Get Help](#) page.

**Webcams:** Access to a webcam is required for most online courses at UH, but it **is not required for this particular course.**

**Honor Code Statement:** Students may be asked to sign an honor code statement as part of their submission of any graded work including but not limited to projects, quizzes, and exams: "I understand and agree to abide by the provisions in the [University of Houston Undergraduate Academic Honesty Policy](#), [University of Houston Graduate Academic Honesty Policy](#). I understand that academic honesty is taken very seriously and, in the cases of violations, penalties may include suspension or expulsion from the University of Houston."

**Course Delivery Formats and Final Exams:** This course is taught Asynchronously, which means there is no designated day or time assigned to the course (although optional synchronous sessions will be held). Asynchronous instruction generally involves accessing content, such as recorded video lectures, readings, discussion prompts, assignments, and assessments during a flexible time frame, with due dates as specified. This course will have a final exam at the course conclusion. The exam will be asynchronous, and the date and time that it will be released and due will be announced during the course.

### **Helpful Information:**

COVID-19 Updates: <https://uh.edu/covid-19/>

Coogs Care: <https://www.uh.edu/dsaes/coogscare/>

Laptop Checkout Requests: <https://www.uh.edu/infotech/about/planning/off-campus/index.php#do-you-need-a-laptop>

Health FAQs: <https://uh.edu/covid-19/faq/health-wellness-prevention-faqs/>

Student Health Center: <https://uh.edu/class/english/lcc/current-students/student-health-center/index.php>

Whenever possible, and in accordance with 504/ADA guidelines, we will attempt to provide reasonable academic accommodations to students who request and require them. Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (<http://www.uh.edu/caps>) by calling 713-743-5454 during and after business hours for routine appointments, if you or someone you know is in crisis. No appointment is necessary for the "Let's Talk" program ([http://www.uh.edu/caps/outreach/lets\\_talk.html](http://www.uh.edu/caps/outreach/lets_talk.html)), a drop-in consultation service at convenient locations, and hours around campus.