

Spatial Statistics

ES 3161 / GUS 3161 / GUS 5161

Fall Semester 2020

Delivery Format: Online mix of (a)synchronous activities

Instructor Information

Instructor: Charles Kaylor

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Office hours: TBA (after initial poll of students), <https://temple.zoom.us/my/ckaylor>

[Meet the Instructor](#)

- [Course Details](#)
 - [Grading & Assignments](#)
 - [Policies & Services](#)
-

Course Details

Course Prerequisites

Basic mathematics (such as MATH 0701 or higher)

Course Description

This course provides an introduction to statistical analysis with an emphasis on urban applications. Note: This course is cross-listed; students may receive credit for either [ENST 3161](#) or [GUS 3161](#).

Readings

Statistics textbooks are notoriously ill-suited to their purpose. After years of looking for the right one, I settled on Linneman's *Social Statistics: The Basics and Beyond* (2011, Routledge). A lot of the material in this course still references that text, and it will be a helpful guide to you. You can easily obtain it online.

But you are not required to purchase any text for this class.

Rather, as you work through each module, I direct you to various OER (open educational resources) that speak to our topic. These are texts or other resources. I differentiate between required and encouraged.

If you find better tour guides through statistics, I'd love to hear about them as well. I am always looking for stuff that introduces the concepts we cover in ways that students find helpful.

Course Technologies

This course requires the use of Canvas, including access to materials and assignment submission. Some videos posted via Canvas will require the use of speakers. The instructor will utilize web-conferencing tools to deliver synchronous material. In order to participate in synchronous sessions (should they exist), you should have a computer, a webcam, headphones, and microphone.

This course requires heavy use of statistical computer software called JMP, which is freely available to you for download and installation on your own PC or Mac if you are a registered Temple student. Students can gain access to JMP by visiting the [Computer Services Download Site](#). There are more detailed instructions and a video walk-through at the preliminary module for this course as well: [JMP: Getting Up and Running With Our Course Software](#).

This course requires you to submit assignments in a written format and occasionally as a presentation. Word processing and presentation software are necessary. Students can gain access to Microsoft Office by visiting the [Computer Services Download Site](#). Students may submit files generated in GoogleDocs or Microsoft Office or in .pdf.

Students should check their Temple email daily for course updates.

All students are required to comply with [Temple University's Computer and Network Security Policy](#)

Accessibility of course technologies

- [Adobe Acrobat accessibility information](#)
- [Big Blue Button accessibility information](#)
- [Canvas accessibility information](#)
- [Microsoft Office accessibility information](#)
- [JMP support](#)
- [VoiceThread accessibility information](#)
- [Zoom accessibility information](#)

Instructional Methods

This class will be taught online, with some synchronous and some asynchronous activities. As a rule you dive into the material in each model (lectures, demos) on your own before a weekly meeting (see the top for when, depending on which section you are in). At those meetings, you

will have a chance to address issues of theory, operation, and technology. We will also engage in applications of the concepts we are covering at most weekly sessions. As required by University CoVID policy, attendance will be taken at these meetings.

This means that much of the information, assignments, and class activities can be conducted individually when it works for your schedule.

Course Communications

To facilitate communication, the university requires you to have an e-mail account ending in @temple.edu.

During the semester, I will generally respond to emails within 24 hours of receiving them during the week and with 48 hours on weekends.

[Back to top](#)

Grades & Assignments

Grading

Scale

A Range	B Range	C Range	D Range	F Range
A 94 - 100	B+ 87 - 89	C+ 77 - 79	D+ 67 - 69	F 0 - 59
A- 90 - 93	B 84 - 86	C 74 - 76	D 64 - 66	
	B- 80 - 83	C- 70 - 73	D- 60 - 63	

Weighting Details

Written Assignments (35% of final grade)

You will complete 4 written reports on statistical analyses you will conduct this term (specifics will follow). Each assignment is modeled after a statistical analysis. You will identify a research question, homing in on an actual testable hypothesis, performing (and explaining) a statistical test, and interpreting the results and the method by which you draw your inferences.

Group Assignments (25% of final grade):

Since research is often collaborative, three of your written assignments will be completed with a small group. They generally will follow the format of the overall written assignments and be

based on a statistical analysis. At least once during the semester, your group will be asked to report on one of the assignments for this class.

Tests & Quizzes (15% of final grade):

During the semester, you will complete quizzes on roughly a weekly basis. These quizzes will be completed via Canvas and on your own time. The purpose of the quizzes is to reinforce your understanding of formal operations that form the basis of statistical analysis, definitions of key terms and concepts, and how to draw inferences from statistical analysis.

Final Assignment (15% of final grade)

Your final assignment for this class will be a multiple regression analysis. More details to follow. It will follow the template of other assignments, putting together many of the tools you learn through the term.

Class Participation (10% of final grade)

You are expected to attend class. You should do all required reading in advance and come prepared to participate actively in our in-class activities. (see course policies below).

Graduate Students Requirements

In addition to completing the coursework outlined above, graduate students will complete some of their work using R statistical software. Moreover, the final assignment will require graduate students to determine their own research question and obtain their own data. More information on specific graduate requirements can be found at the course Canvas site.

Grading Procedures

You must complete **all** the individual written assignments and group presentations to pass the course.

Grading participation: In an online course your active participation matters immensely. My general guidance for your participation in discussion is in the form of a general rubric: [DiscussionRubric.PNG](#) (adopted without shame from Purdue U).

Late papers: Assignments are due at the time and date specified on the syllabus. In extenuating circumstances, your instructor will allow extra time. Please note: it is far better to ask for an extension in advance rather than simply not to turn in your work). Assignments will be graded down one letter grade for each day they are late unless you receive explicit permission from your instructor.

[Back to top](#)

Policies & Services

GENERAL POLICIES

All [Temple University Academic Policies](#) will be upheld.

TEMPLE AND COVID-19

Temple University's motto is *Perseverantia Vincit* (or Perseverance Conquers), and we will meet the challenges of the CoVID pandemic with flexibility and resilience. The university has made plans for multiple eventualities. Working together as a community to deliver a meaningful learning experience is a responsibility we all share: we're in this together so we can be together.

HOW THIS COURSE WILL BE TAUGHT

Because there is no in-person component to our class, our schedule will not change on 20 November when in-person activities cease.

Rather, our activities will take place online and will be organized by thematic unit (implemented in Canvas as modules).

ATTENDANCE PROTOCOL

If you feel unwell, you should not come to campus, and you will not be penalized for your absence. Instructors are required to ensure that attendance is recorded for each in-person

or synchronous class session. The primary reason for documentation of attendance is to facilitate contact tracing, so that if a student or instructor with whom you have had close contact tests positive for COVID-19, the university can contact you. Recording of attendance will also provide an opportunity for outreach from student services and/or academic support units to support students should they become ill. Faculty and students agree to act in good faith and work with mutual flexibility. The expectation is that students will be honest in representing class attendance.

COURSE MATERIALS

Students are not asked to incur any additional costs to participate in this course. The course software, [JMP](#), is free as are all required texts.

STUDENT SUPPORT SERVICES

If you are experiencing food insecurity or financial struggles, Temple provides resources and support. Notably, the Temple University [Cherry Pantry](#) and the Temple University [Emergency](#)

[Student Aid Program](#) are in operation as well as a variety of resources from the [Office of Student Affairs](#).

TECHNOLOGY SUPPORT SERVICE

- Limited resources are available for students who do not have the technology they need for class. Students with educational technology needs, including no computer or camera or insufficient Wifi-access, should submit a request outlining their needs using the [Student Emergency Aid Fund](#) form. The University will endeavor to meet needs, such as with a long-term loan of a laptop or Mifi device, a refurbished computer, or subsidized internet access.
- Note that some software is available for free download on the [ITS Academic Support page](#). Other specialty software may be available for remote access through ITS.

STATEMENT ON RECORDING IN-PERSON SESSIONS

Lectures and demonstrations are provided in a pre-recorded format. This allows students to view (and review) material however suits their needs.

In person sessions will not be recorded by the instructor. Any recordings permitted in this class can only be used for the student's personal educational use. Students are not permitted to copy, publish, or redistribute audio or video recordings of any portion of the class session to individuals who are not students in the course or academic program without the express permission of the faculty member and of any students who are recorded. Distribution without permission may be a violation of educational privacy law, known as FERPA as well as certain copyright laws. Any recordings made by the instructor or university of this course are the property of Temple University.

EXPECTATIONS FOR CLASS CONDUCT

In order to maintain a safe and focused learning environment, we must all comply with the four public health pillars: wearing face coverings, maintaining physical distancing, washing our hands and monitoring our health. It is also important to foster a respectful and productive learning environment that includes all students in our diverse community of learners. Our differences, some of which are outlined in the [University's nondiscrimination statement](#), will add richness to this learning experience. Therefore, all opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse.

Treat your classmates and instructor with respect in all communication, class activities, and meetings. You are encouraged to comment, question, or critique an idea but you are not to attack an individual. Please consider that sarcasm, humor and slang can be misconstrued in online interactions and generate unintended disruptions. Profanity should be avoided as should the use of all capital letters when composing responses in discussion threads, which can be construed as "shouting" online. Remember to be careful with your own and others' privacy. In general, have your behavior mirror how you would like to be treated by others.

DISABILITY DISCLOSURE STATEMENT

Please bear in mind that COVID-19 may result in a need for new or additional accommodations.

Any student who has a need for accommodation based on the impact of a documented disability should contact [Disability Resources and Services \(Links to an external site.\)](#) (DRS), Ritter Annex 100, (215) 204-1280 or 215-204-1786 (TTY) or drs@temple.edu, to make arrangements. Students requesting accommodations should meet with the instructor as soon as possible after the start of classes to discuss their needs and to provide documentation from DRS. Accommodations are not retroactive.

COURSE MINIMUM GRADE

Although D- is a passing grade, a minimum grade of C- is required in many programs, and courses required by the major.

For more information, please see [Temple University's Academic Policies on Grades and Grading](#).

INCOMPLETE

A student will be eligible for a grade of “Incomplete” only if he/she: 1) has completed at least 51% of the work at a passing level, 2) is unable to complete the work for a serious reason beyond his or her control, and 3) files a signed agreement with the instructor outlining the work to be completed and the time-frame in which that work will be completed. The student is responsible for initiating this process and all incomplete forms must be sent to the Senior Vice Dean for Academic Affairs prior to the start of study days in that semester.

Please refer to the following for further details: [Temple University's Incomplete Policy](#) (Policy #02.10.13).

WITHDRAWAL FROM COURSE

If a student wishes to withdraw from a course, it is the student's responsibility to meet the deadline for the last day to withdraw from the current semester.

See [Temple University's Academic Calendar](#) for withdrawing deadlines and consult the [University policy on withdrawals](#) (Policy # 02.10.14).

STATEMENT OF ACADEMIC RIGHTS AND RESPONSIBILITIES

Freedom to teach and freedom to learn are inseparable facets of academic freedom. The University has a policy on [Student and Faculty Academic Rights and Responsibilities](#) (Policy #03.70.02).

ACADEMIC HONESTY

According to the University Student Code of Conduct, students must not commit, attempt to commit, aid, encourage, facilitate, or solicit the commission of academic dishonesty and impropriety including plagiarism, academic cheating, and selling lecture notes or other information provided by an instructor without the instructor's authorization. Violations may result in failing the assignment and/or failing the course, and/or other sanctions as enumerated in the [University Code of Conduct](#).

In this course, you will have occasion to work with others. Collaborating on assignments is encouraged. Work you submit as your own, is expected to be produced by you alone.

NETIQUETTE

Your instructor and fellow students wish to foster a safe online learning environment. All opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse. You are encouraged to comment, question, or critique an idea but you are not to attack an individual.

Our differences, some of which are outlined in the [University's nondiscrimination statement](#), will add richness to this learning experience. Please consider that sarcasm and humor can be misconstrued in online interactions and generate unintended disruptions. Working as a community of learners, we can build a polite and respectful course atmosphere.

TECHNICAL SUPPORT

For a listing of technical support services available to Temple University students, see the [Tech Support page](#).

CONTINUITY OF INSTRUCTION IN THE EVENT OF EMERGENCY

Students are to register for the TUAAlert System to be made aware of University closures due to weather or other emergency situations and follow all additional university-wide emergency instruction. Students can register for this system on the [Campus Safety Services website](#). In the event of an emergency, class materials/instructions will be provided in a web-based format via Canvas or Zoom. Students registered for the class will be alerted to any alternate testing procedures and submission of assignment requirements from the instructor via email.

[Back to top](#)