

BROWN SCHOOL
WASHINGTON UNIVERSITY IN ST. LOUIS
Fall 2018
APPLIED LINEAR MODELING
Syllabus applies to both sections

CREDIT HOURS: 3
GRADE: L/G
ROOM: Hillman 270 (Tues), Goldfarb 135 (Wed)
DAY/TIME:
TA: Sophia Fox-Dichter

INSTRUCTOR: Joe Steensma
OFFICE: Goldfarb 333C
OFFICE HOURS:
CELL PHONE: 260-403-6613
EMAIL: jsteensma@wustl.edu

TA OFFICE HOURS: TBD
LAB A: Wednesday 5:30-7:30 pm
LAB B: Thursday 5:30-7:30 pm
LAB ROOM: Goldfarb 330

TA EMAIL: sophiafox-dichter@wustl.edu

I. COURSE DOMAIN & BOUNDARIES

This course is an attempt to teach statistical modeling in English through intuition, rather than in Greek through computation. It is directed toward applied researchers who need to use statistical methods in order to answer substantive questions of interest, but who do not necessarily need to derive by hand the methods they deploy. This does not mean, however, that this is not a rigorous course. The focus of the rigor in this course is in choosing a statistical approach appropriate to the research question, understanding the limitations of that approach given your data, understanding and interpreting your results correctly, and reaching sound conclusions about the substantive question at hand.

As an applied course, your major project for the course will be to work on a problem that is of interest to you using a data set on which you would like to work. (For those of you who are here primarily to learn methodology and do not yet have a research question or data, a variety of available data sets will be listed on Blackboard that you might use.) At the minimum, you will need an outcome (dependent) variable that is either continuous or binary and several predictor (independent) variables of any type.

The principal focus of this course is on multivariate analyses (as used in the statistics literature, analyses studying the effects of a combination of variables on a single variable). This is not a first course on statistical methods, so you must have a background in univariate (single variable) and bivariate (two variable) analyses as covered in the Foundations of Biostatistics course or equivalent. We will spend only the first day reviewing bivariate relationships.

We will use the statistical program SPSS in this class, and will use syntax to keep a record of our analyses. SPSS offers two options for developing syntax: 1) point, click, paste, (and edit if necessary), or 2) write your own syntax. I will provide you with many step-by-step instructions

for analysis, and other instructions are shown in your Discovering Statistics course book.

The course is divided into four parts: Analysis of Variance, Linear Regression, Logistic Regression, and Survival Analysis. All of the exercises in this course are designed to build skills in these approaches, and it is likely that the bulk of your future work will involve these models. However, there are a variety of other approaches designed to solve problems that you might encounter, and, if time permits, we will spend time at end of the course on a quick overview of models for other types of dependent variables. We conclude with three sessions of in-class posters and presentations.

The major product of this course is a poster or presentation that is ready for submission to an academic society of your choice. Each exercise in this course is designed to provide you practice in the areas that lead up to one or more parts of the poster. During the last two meetings, we will collectively view your posters, discuss your studies, and suggest improvements, which you can take into consideration as you prepare to submit to an academic society of your choice.

II. MPH COMPETENCIES

A. Foundational Knowledge

- a. Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health.
- b. Explain the critical importance of evidence in advancing public health knowledge.
- c. Explain the social, political, economic determinants of health and how they contribute to population health and health inequities.

B. Foundational and Specialization Competencies

a. Foundational Competencies: Evidence-Based Approaches to Public Health

- i. Select quantitative and qualitative data collection methods appropriate for a given public health context.
- ii. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate.
- iii. Interpret results of data analysis for public health research, policy or practice.

b. Foundational Competencies: Communication

- i. Select communication strategies for different audiences and sectors.
- ii. Communicate audience-appropriate public health content, both in writing and through oral presentation.

c. Specialization Competencies: Competencies Associated with Biostatistics Specialization

- i. Describe preferred methodological alternatives to commonly used statistical methods when assumptions are not met.
- ii. Apply and interpret common statistical methods for inference (e.g., ANOVA, linear and logistic regression, survival analysis) found in public health studies.

- iii. Describe principles and the application of key concepts from probability and inference (e.g., random variation, measurement error, confounding bias, effect modification) to colleagues without extensive statistical training.

III. BROWN SCHOOL ACADEMIC POLICIES

Academic Integrity: If a faculty member or student suspects that academic or professional integrity has been violated, they are required to submit an Academic Integrity or Professional Integrity Violation form found on Inside Brown for review by the Assistant Dean of the program. The Assistant Dean or designated representative will aid in the investigation of the violation, which includes but is not limited to gathering relevant evidence; conversations with the instructor, student(s) involved, witnesses, and others as necessary. Depending on the seriousness of the case, the Assistant Dean may choose to refer the matter directly to the University Student Conduct Board. This referral procedure will generally be followed if it is believed that the penalty is likely to involve suspension or expulsion from the University. The Assistant Dean for the program or designated representative will offer to meet privately with the student(s) against whom the complaint has been made. It is the student's responsibility to familiarize themselves with the behaviors that constitute an [academic integrity violation](#) requiring referral.

[Student Handbook 2018](#)

Accommodations: If you have a learning disability, sensory, or physical disability or other impairment, and you may need special assistance in lectures, reading, written assignments, and/or exam taking, please contact the Brown School Director of Student Affairs who can provide coordination of accommodations at Washington University and the Brown School. The [Disability Resource Center](#), a University-wide resource, provides diagnostic and academic accommodations support and referrals.

English Language Proficiency: If your English language proficiency is such that you may need special assistance in lectures, reading, written assignments, and/or exam taking, please communicate these needs to your instructor who may refer you to the [English Language Program](#) (ELP). ELP is a University-wide resource that provides classes and academic English language support designed to increase non-native English speaking students' English language proficiency and to facilitate their academic success at Washington University. You may also find the Academic Assistance resources available through the [Office for International Students and Scholars](#) to be helpful.

Professional Use of Electronic Devices in the Classroom: Computers or other electronic devices, including "smart pens" (devices with an embedded computer and digital audio recorder that records the classroom lecture/discussion and links that recording to the notes taken by the student), may be used by students at the discretion of the faculty member to support the learning activities in the classroom. These activities include taking notes and accessing course readings under discussion. If a student wishes to use a smart-pen or other electronic device to audio record lectures or class discussions, they must notify the instructor in advance of doing so. Permission

to use recording devices is at the discretion of the instructor, unless this use is an accommodation approved by Disability Resources.

Nonacademic use of laptops and other devices and use of laptops or other devices for other coursework is distracting and seriously disrupts the learning process for other people in the classroom. Neither computers nor other electronic devices are to be used in the classroom during class for nonacademic reasons or for work on other coursework. Nonacademic use includes emailing, texting, social networking, playing games, instant messaging, and use of the Internet. Work on other coursework may include, but is not limited to, use of the Internet, writing papers, using statistical software, analyzing data, and working on quizzes or exams. The nonacademic use of cell phones during class time is prohibited, and they should be set on silent before class begins. In the case of an emergency, please step out of the room to take the call. The instructor has the right to hold students accountable for meeting these expectations, and failure to do so may result in a loss of participation or attendance points, a loss of the privilege of device use in the classroom, or being asked to leave the classroom.

Religious Holidays: The Brown School recognizes the individual student's choice in observing religious holidays that occur during periods when classes are scheduled. Students are encouraged to arrange with their instructors to make up work missed as a result of religious observance, and instructors are asked to make every reasonable effort to accommodate such requests.

**** PLEASE NOTE: Cheating or any violation of the Academic Integrity Policy will result in a failing grade for this course**

IV. WASHINGTON UNIVERSITY ACADEMIC SUPPORT POLICIES

Accommodations based upon sexual assault: The University is committed to offering reasonable academic accommodations to students who are victims of sexual assault. Students are eligible for accommodation regardless of whether they seek criminal or disciplinary action. Depending on the specific nature of the allegation, such measures may include but are not limited to implementation of a no-contact order, course/classroom assignment changes, and other academic support services and accommodations. If you need to request such accommodations, please direct your request to Kim Webb (kim_webb@wustl.edu), Director of the Relationship and Sexual Violence Prevention Center. Ms. Webb is a confidential resource; however, requests for accommodations will be shared with the appropriate University administration and faculty. The University will maintain as confidential any accommodations or protective measures provided to an individual student so long as it does not impair the ability to provide such measures.

If a student comes to me to discuss or disclose an instance of sexual assault, sex discrimination, sexual harassment, dating violence, domestic violence or stalking, or if I otherwise observe or become aware of such an allegation, I will keep the information as private as I can, but as a faculty member of Washington University, I am required to immediately report it to my Department Chair or Dean or directly to Ms. Jessica Kennedy, the University's Title IX Coordinator. If you would like to speak with the Title IX Coordinator directly, Ms. Kennedy can be reached at [\(314\) 935-3118](tel:3149353118), jwkennedy@wustl.edu, or by visiting her office in Umrath Hall. Additionally, you can report incidents or complaints to Tamara King, Associate Dean for Students and Director of Student Conduct, or by contacting WUPD at [\(314\) 935-5555](tel:3149355555) or your

local law enforcement agency. You can also speak confidentially and learn more about available resources at the Relationship and Sexual Violence Prevention Center by calling [\(314\) 935-8761](tel:3149358761) or visiting the 4th floor of Seigle Hall.

Bias Reporting: The University has a process through which students, faculty, staff and community members who have experienced or witnessed incidents of bias, prejudice or discrimination against a student can report their experiences to the University's Bias Report and Support System (BRSS) team. See: brss.wustl.edu

Mental Health: Mental Health Services' professional staff members work with students to resolve personal and interpersonal difficulties, many of which can affect the academic experience. These include conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety and depression. See: shs.wustl.edu/MentalHealth.

Additional Issues or Concerns: If you feel that you need additional supports in order to be successful in your time at Brown, beyond the mentioned accommodations, please contact Essie Rochman, Director of Student Affairs at erochman@wustl.edu. She can assist you in navigating a myriad of concerns. Her office in Brown Hall, room 320.

V. READINGS

The instructor and TA may distribute additional readings, class notes, class exercises, and other materials during the semester. Most materials will be distributed via Blackboard, and students are expected to check Blackboard on at least a weekly basis for updates and new materials.

Required Texts:

1. Andy Field. *Discovering Statistics Using IBM SPSS Statistics*, 4th edition, Sage, 2013.

VI. ORGANIZATION OF COURSE

In-class meetings are a mix of question and answer sessions, lectures, and hands-on activities designed to introduce you to statistical modeling approaches, discuss various ways in which you can address research questions, and provide an outline for analysis.

To provide you with additional support and protected lab time while working on your projects, this course has office hours and labs. Many of the labs are "optional", but some will be required. The TA will also provide you with e-mail support if you become 'stuck' during your work. The TA and the course instructor will attempt to provide you with a response within 12 hours of your e-mail; this time may be longer during weekends and holidays. If, during the week, it takes longer than 24 hours to receive a response from the professor or TA, please call the professor on the cell phone number provided

In addition to the 4 hours you spend in the class and lab each week, **you should expect to spend an average of an additional 2-4 hours per week on reading and reviewing course materials and 2-4 hours per week working on assignments and projects.**

VII. ROLE OF FACULTY AND STUDENTS

The instructor and TA will facilitate the student's learning experience through lectures, activities, exercises, and outside consultation with students. The instructor and TA will provide timely feedback on student performance.

Students are expected to attend class on time and be prepared; complete all required readings and assignments in a timely manner; and participate actively in class. If any student has problems with attendance, meeting deadlines, or taking a quiz on a given date, it is important that these difficulties be discussed promptly with the instructor or TA.

If you have a disability or impairment that requires an accommodation, please contact the Washington University Disability Student Services at the Disability Resource Center, Voice/TTY: 935-4062, FAX, 935-8272. After having contacted them, please contact the instructors. If English is your second language and you need special assistance in lectures, reading assignments, and/or testing, please contact the instructor and seek assistance from the writing lab, Brown Hall, Room 308, 935-6645.

VIII. ASSIGNMENTS AND GRADING CRITERIA

All required readings are to be completed prior to the session to which they are assigned. Assignments are due at the beginning of class on the due date assigned or by date/time indicated. Assignments turned in after the due date will not be graded, unless you have cleared the delay with Prof. Steensma beforehand.

There are three types of activities designed to solidify your understanding of course material, allow assessment of your class preparation, progress, and comprehension, and prepare you to use statistics in your work after leaving the program:

Research poster/video/ignite style presentation (5 minutes) (25%): You will work on your own to develop a conference-quality poster or presentation on a research topic of your choosing *using one or more of the statistical methods covered in the course (correlation, linear regression, logistic regression, ANOVA, survival analysis, or others)*. Sections of the poster or presentation will be submitted throughout the semester and returned with feedback to assist in final poster or presentation development – **please note that these draft sections are not graded and submitting (or not submitting) will not influence your grade, however, submitted sections will receive feedback; this is your main chance to receive feedback to assist you as you develop your project.** Sections of the poster or presentation should be submitted in one of two formats: (1) in a word document, or (2) placed as appropriate in the Powerpoint poster template (for posters) or in individual Powerpoint slides (for presentations). To be clear, I give a LOT of latitude to students so that they can not only have a topic that they are excited about, but also a format that makes sense for their career path. For example, you may wish to write a policy brief or a white paper...or even submit a paper to a journal. If you would rather do one of these options, please see contact the professor for additional instruction.

While all methods covered in the course are fair game, most students use linear or logistic regression for this project. To use one of these methods you will need to identify data with a continuous or binary outcome variable (e.g., BMI, smoking status, etc) and several predictor variables of any type that you think predict or explain the outcome. It is **STRONGLY RECOMMENDED** that you identify your data before you begin writing sections of your poster/project/presentation. Many times we cannot answer the exact question we are interested in because the perfect data set does not exist or is not accessible.

Sections of your poster/presentation:

- a. Overview:** A brief overview (bullet points) of your intended research project including: (1) a brief description of your data set; (2) the research question you intend to answer; and (3) a list of the variables in the data set you may use to answer your research question (include the outcome/dependent variable and any independent/predictor variables).
- b. Background:** Your background should provide readers with enough information to understand what is already known about the topic (be sure to cite your sources!) and how your study adds to, or confirms, existing knowledge.
- c. Methods:** Your methods should explain the origins of the data, selection of variables, and statistical analyses used (descriptive and inferential).
- d. Results:** Your results should include two parts: descriptive and/or bivariate results describing your sample and statistical modeling results that answer your research question. Because posters and presentations convey information in a visual way, consider including graphs to demonstrate your important/interesting findings rather than using tables of numbers to display all quantitative results.
- e. Discussion:** The discussion should summarize the most important results and their implications for public health or social work. Discussions often also include any limitations of the research that are important to recognize and any ideas for future research extending the analysis.
- f. Completed poster or presentation:** Email your poster or presentation to Prof. Steensma and the course TA by 5pm the day before your presentation. Bring it with you on a USB drive to your assigned poster presentation day. Prepare to discuss your poster with other colleagues in class.*****

Projects (50%). There will be four substantive' projects in addition to the final project.

- The first project is a 'traditional' research paper. It will employ simple linear regression (20%).
- The second project will employ multiple linear regression modeling and can take any form you like (though papers will be constrained to a very specific page limit) (10%).
- The third project will employ multiple logistic regression and will be presented in "bullet point" format. It will have a 5 page (double spaced) maximum page limit (10%).
- The fourth project will be a project that you will be able to complete in lab. It will cover factorial ANOVA (10%).

Projects will be either group projects or individual projects based upon the wants/needs of the class. As a professor, I value group work WHEN DONE CORRECTLY! I do, however, understand the challenges that can come about when group work is not managed correctly. We

will make a collective decision as to how we, as a class, would prefer to learn the material through projects. I will be flexible to accommodate different learning styles. I really want these projects to be meaningful to YOU! I understand that there are many different learning styles and I am willing to accommodate your learning style in order for you to master the material.

Professionalism (5%). Coming to class on-time and prepared, participating in in-class activities and discussions, treating your fellow students and instructors in a professional manner, etc. is required for the remaining 5% of your course grade. The TAs will be consulted in the determination of this score.

Final Exam (20%): There will be a comprehensive final exam in the course

Grade Scale (in percent): **A (100-95), A- (94-90), B+ (89-88), B (87-85), B- (84-80), C+ (79-78), C (77-75), C- (74-70), F (69 and below)**

*final percentage scores are not rounded up; you must get at least 95.0% for an A, 90.0% for an A-, 88.0% for a B+, etc. No exceptions. Please see Dr. Steensma with questions about this policy before the last day of class.

IX. COURSE OUTLINE

AN IMPORTANT NOTE ABOUT THE SCHEDULE: The professor reserves the right to adjust the schedule according to the perceived needs of the class. For example, sometimes the class (for whatever reason) is getting all of the concepts and moving along more quickly. If this were the case, the professor may push ahead in order to get to some additional material (e.g. survival analysis). The opposite, however, might also happen. Sometimes we may need to slow down in order to ensure each student has the opportunity to master the material. I ask that each of you help me in this assessment. Communicate with me if we are moving too fast, too slow, or if there are concepts that you feel need additional coverage. I need that feedback as much as you need feedback on your learning.

Class Schedule, Reading Assignments, Due Dates, etc...

Part I: Linear Regression	
Week 1 Class Date: Aug 28 -29	<p><u>Topics:</u> Introduction & Overview, Short review of t-tests and chi-squared</p> <p><u>Required reading</u></p> <ol style="list-style-type: none"> Field Chap 9.3-9.5, 18.1-18.5 <p><u>*Optional* reading (review topics)</u></p> <ol style="list-style-type: none"> Field Chap 1-2 (The Big Picture), Chap 3 (SPSS), 4 (Graphing) Chapters/notes from your past Biostatistics course on t-tests, chi-squared <p><u>Activities:</u> Intro to course, walk-through of course Blackboard, quiz teams/practice & discussion, bivariate review</p> <p><u>Due:</u> None</p>

<p>Week 2</p> <p>Class Date: Sept 4-5</p>	<p><u>Topics:</u> Simple linear regression – Calculations for OLS and measures of model fit</p> <p><u>Required reading & watching:</u></p> <ol style="list-style-type: none"> 1. Field 8.1-8.4.4 2. Video online <p><u>Activities:</u></p> <ol style="list-style-type: none"> 1. Week 2 required readings 2. Q&A 3. Simple linear regression workshop <p><u>Due:</u> None</p>
<p>Week 3</p> <p>Class Date: Sept 11-12</p>	<p><u>Topics:</u> Expansion of SLR and Correlation with diagnostics</p> <p><u>Required reading & watching:</u></p> <ol style="list-style-type: none"> 1. Field Chap 7 2. Example of this type of analysis: Fagerstrom K, Furberg H. (2008). A comparison of the Fagerström Test for Nicotine Dependence and smoking prevalence across countries. <i>Addiction</i>, 103, 841–845. <p><u>Activities:</u></p> <ol style="list-style-type: none"> 1. Week 3 Field reading 2. Q&A 3. Correlation workshop <p><u>Due:</u> None</p>
<p>Week 4</p> <p>Class Date: Sept 18-19</p>	<p><u>Topics:</u> Multiple regression with continuous predictors and dummy variables</p> <p><u>Required reading:</u></p> <ol style="list-style-type: none"> 1. Field Chap 10.5 2. Polissar L, Diehr P. (1982). Regression Analysis in Health Services Research: The Use of Dummy Variables. <i>Medical Care</i>, Vol. 20, No. 9, pp. 959-966 <p><u>Activities:</u></p> <ol style="list-style-type: none"> 1. Multiple regression lecture in class (no video this week!) <p><u>Due:</u> None</p>
<p>Week 5</p> <p>Class Date: Sept 25-26</p>	<p><u>Topics:</u> Multiple regression model fit & hypothesis testing; Stepwise regression</p> <p><u>Required reading:</u></p> <ol style="list-style-type: none"> 1. Field 8.5.1 2. Norman GJ; Nutter SK; Ryan S; Sallis JF; Calfas KJ; Patrick K. (2006). Community Design and Access to Recreational Facilities as Correlates of Adolescent Physical Activity and Body-Mass Index. <i>Journal of Physical Activity and Health</i>, 3(S1), S118-S128. <p><u>Activities:</u></p> <ol style="list-style-type: none"> 3. Week 4 & 5 required readings 4. Model fit, stepwise methods lecture (no video this week!) <p><u>Due:</u> Simple regression and correlation assignment</p>

<p>Week 6</p> <p>Class Date: Oct 2-3</p>	<p><u>Topics:</u> Checking model assumptions; Multiple regression diagnostics</p> <p><u>Required reading & watching:</u></p> <ol style="list-style-type: none"> 1. Field 8.5.2-8.11 2. Osborne JW, Waters E. (2002). Four Assumptions Of Multiple Regression That Researchers Should Always Test. <i>Practical Assessment, Research, and Evaluation</i>, 8(2). 3. Possible video (Depending on how people are doing...if instructor perceives that students are behind, additional time might be devoted to lecture in this session). <p><u>Activities:</u></p> <ol style="list-style-type: none"> 1. Week 6 all required readings 2. Q&A 3. Model assumptions and diagnostics workshop <p><u>Due:</u> Background section for poster or presentation</p>
<p>Week 7</p> <p>Class Date: Oct 9-10</p>	<p><u>Topics:</u> Intro to logistic regression</p> <p><u>Required reading (no video this week):</u></p> <ol style="list-style-type: none"> 1. Field Chap 19.1-19.8 2. Borrell LN; Crawford ND; Dallo FJ. (2007). Race/Ethnicity and Self-Reported Diabetes Among Adults in the National Health Interview Survey: 2000-2003. <i>Public Health Reports</i>, 122, 616-625. <p><u>Activities:</u></p> <ol style="list-style-type: none"> 1. Intro to logistic in-class activity 2. LAB –Work on Logistic Model 3. <p><u>Due:</u> Multiple Regression Assignment</p>
<p>Week 8</p> <p>Class Date: Oct 23 & 17</p>	<p><u>Topics:</u> Logistic models</p> <p><u>Activities:</u></p> <ol style="list-style-type: none"> 1. Logistic models <p><u>Due:</u> None</p>
<p>Part III: ANOVA</p>	

<p>Week 9</p> <p>Class Date: Oct 30 & 24</p>	<p><u>Topic:</u> One-way ANOVA</p> <p><u>Required reading & watching:</u></p> <ol style="list-style-type: none"> 1. Field Chap 11.1-11.2.8 2. Lecture(s) posted on Blackboard <p><u>Optional but highly recommended:</u> Field Chap 11.3-11.7</p> <p><u>Activities:</u></p> <ol style="list-style-type: none"> 1. Possible Class Quiz (or Jeopardy) 2. ANOVA lab <p><u>Due:</u> Logistic regression assignment</p>
<p>Week 10</p> <p>Class Date: Nov 6 & Oct 31</p>	<p><u>Topics:</u> Two-way ANOVA</p> <p><u>Required reading (no video this week):</u></p> <ol style="list-style-type: none"> 1. Field Chap 13 <p>Optional: Whittier DK; Kennedy MG; St. Lawrence JS; Seeley S; Beck V. (2005) Embedding Health Messages into Entertainment Television: Effect on Gay Men's Response to a Syphilis Outbreak. <i>Journal of Health Communication</i>, 10: 3, 251-259.</p> <p><u>Activities:</u></p> <ol style="list-style-type: none"> 1. Two-way ANOVA in-class activity: Mini-assignment 2. Work on Two Way ANOVA project in lab <p>Due: Methods section for poster or presentation is DUE!!!!</p>
<p>Week 11</p> <p>Class Date: Nov 13 & 7</p>	<p><u>Topics:</u> Repeated Measures Factorial ANOVA</p> <p><u>Due:</u> Two Way ANOVA assignment</p>
<p>Week 12</p> <p>Class Date: Nov 20 & 14</p>	<p>Final Exam Review, Project Review</p>
<p>Week 13</p> <p>Class Date: Nov 27-28</p>	<p>Final Exam (Comprehensive, one hour exam. This exam is NOT intended to cause you a lot of worry. If you use all of the techniques and practice you will be fine. Additional time will be allotted in labs for additional study sessions)</p> <p><u>Due:</u> Final poster or presentation (<u>submit a minimum of 1 calendar week before your presentation date IF you want feedback on the full draft</u>)</p>
<p>Grand Finale</p>	

<p>Week 14 Class Date: Dec 4-5</p>	<p><u>Topic:</u> The Grand Finale</p> <p><u>Activities:</u></p> <ol style="list-style-type: none"> 1. Final project presentations & evaluations 2. Course Evaluations 3. Team Evaluations distributed (to be completed outside class) <p><u>Due:</u></p> <ol style="list-style-type: none"> 1. Final project (Email to Prof Steensma – jsteensma@brownschool.wustl.edu and TA by noon the day of your presentation; bring with you on a USB key in case of internet issues))
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A FINAL NOTE:

The Brown School supports students in quantitative classes with the “StatLab”. This is a great resource for students who need extra help or need some additional coaching. This resource also allows me, the professor, to help students with ‘bigger issues’ or who are struggling to keep up and are greater risk for falling behind. The StatLab is intended to be a ‘triage’ system for students and professors. It is not intended to replace the one-on-one mentoring students get with the professor, rather make that process more efficient and effective. In order for the system to work students must first go to the StatLab because they will (1) help students resolve questions or get additional help (2) assess the problem areas for the student and work with the professor to make a plan for the student and/or (3) refer the student to the professor for more in-depth assistance.

In addition to one of the best teaching assistants I have ever known, you have access to the StatLab. I encourage you to use both of these resources liberally! Of course, I am also willing to help and look forward to working with each of you as you develop as public health scientists and practitioners.