

BIOM 505: Biostatistical Methods II

Take-Home Project

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Objectives:

In this project, students are expected to write a scientific paper corresponding to the structure and contents below. More information about the structure of scientific papers and writing guidelines could be found in:

1. <http://www.nature.com/scitable/ebooks/english-communication-for-scientists-14053993/contents> [Unit 2]
2. http://classes.geology.illinois.edu/11SprgClass/geo440/Writing_Scientific_Papers.pdf
3. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3474301/pdf/ijst-07-512.pdf>

Steps (*):

1. Identify a topic of your own interest.
2. About the chosen topic, devise one or more research questions that you would like to study.
3. Devise a set of statistical hypotheses corresponding to your research question(s) in part 2 (a single hypothesis could do).
4. Identify a data source for your project that you are able to obtain. I will be helping you getting one if you cannot find any by your own.
5. Write a one page proposal about your topic and what are you planning to do (i.e. incorporate 1-4 above in your proposal). **Due on Feb. 8, 2018** during class time.
6. Upon my approval on the topic, research question (s), and data source make sure you get the data set as soon as possible.
7. Manage your data set (cleaning, construction) to have it valid for analysis.
8. Complete all descriptive statistics for your manuscript.
9. Complete, after some literature review, the introduction of your manuscript.
10. Start the analysis to validate your hypotheses.
11. Create a power point presentation about your progress. **Due March 27 and 29, 2018 (midterm).**
12. Finalize the methods section and all analyses. You might make some changes to your project based on both my feedback and students' comments to your presentation.
13. Finish the write up of the results.
14. Write the discussion (and conclusion).
15. Write an abstract.
16. Create a poster to be presented on **May 3, 2018** at the EpiStat symposium.
17. Submit a hard copy of your final manuscript on **May 3, 2018 no later than 5 pm.**

(*) I will be referring you to some of my colleagues (epidemiologists or/ and biostatisticians) who will be willing to provide you with some kind of mentorship during your project journey.