Optimization Techniques in Transportation Engineering (CE 377K)
Spring 2015

Project Evaluation Guidelines

The project grade will be based on three components, for a total of 35 points:

- A **final report** documenting the work you've done. There is no specific page requirement, but 8–10 single-spaced pages is a reasonable length (excluding tables, figures, and appendices). Your report should include an executive summary, an introduction, a brief review of the optimization methods you used, a description of the data you used, your results, and a conclusion. Please include any computer code or data in an appendix (if a data set is particularly large, no need to include it.) As in the "real world," presentation is important, so be attentive to spelling, grammar, and consistency with mathematical notation and formatting. *The report will be due at 5 PM on Monday, May 18, and is worth 15 points.*
- A **oral presentation** explaining what you've done to the class. Please plan to speak for about 15 minutes, leaving room for a few questions afterwards. *The oral presentation is also worth 15 points.*
- Especially with oral presentations, it's helpful to get feedback from multiple people. Each of you will be individually responsible for scoring all presentations you attend and providing comments (except for your own, of course). *You will receive 5 points if you submit scores and comments for every other group's project, and 0 otherwise.* (The grade your group earns on its presentation will be the average of my score, and the average of your classmates' scores.)

The report will be graded according to three equally-weighted categories on a scale of 1–5: organization, content, and delivery. The presentation also will be graded according to three equally-weighted categories: organization, content, and mechanics. The following pages show what typical 1, 3, and 5 scores look like for each category; 2 and 4 grades may be given for reports or projects which are "in between."

Presentation Organization	
5	The length of the presentation is appropriate (no more than 15 minutes, but enough to convey all important information). There is a clear, logical structure which makes it easy for the listener to follow along. The purpose of the project, and the most important findings and conclusions, are readily apparent.
3	The presentation is slightly too long, but not substantially so. Although the listener can follow the presentation, some transitions may not be completely clear and some effort must be exerted to follow the speaker and discern the main conclusions.
1	The speaker budgets time poorly and speaks too long, or focuses too much on trivial topics and ignores the main points. The structure is either nonexistent or illogical, making it very difficult to understand the purpose of the project, what the speaker has done, and what the results are.
Presentation Content	
5	The speaker describes the problem, method, and results completely and accurately, including a strong motivation for their project, discussion on how data was obtained and model created, any implications their project has for engineering practice, and restricting assumptions that can be relaxed in future research. All technical details are correct, and all terminology is used correctly and precisely. The speaker's technical expertise is above question.
3	The presentation is solid, but is either lacking one or two of the sections listed above, or its coverage of one or two topics is weak. Most of the details are right, and it is clear that the speaker has a good understanding of the material, although there may be some gaps in knowledge or technical usage.
1	The presentation does not cover any of the above sections well (or at all). There may be multiple, significant technical errors. Listeners are unconvinced of the speaker's expertise.
Presentation Delivery	
5	Slides or other aids are effectively used to convey information visually, without distracting from the speaker's delivery. The speaker's voice is clear and audible, and the speaking style is engaging and keeps listeners' attention. Any questions are answered succinctly and appropriately.
3	Visual aids are somewhat pedestrian, and while not overly distracting, are not particularly useful and do not contribute much to the presentation. Parts of the presentation may be difficult to understand due to volume or rate of speech, and listeners may occasionally lose focus. The speaker may become visibly nervous when answering questions, but still does so satisfactorily.
1	Visual aids are distracting and/or difficult to read and understand. The speaker's volume and/or pace are such that it is impossible to understand much of the presentation at all, or the manner of speaking is so boring that listeners cannot pay attention. The speaker appears to have no enthusiasm at all for the topic, and gives the presentation only grudgingly. The speaker is unable to answer even basic questions about the project.

Report Organization	
5	The report has a clearly visible structure to aid the reader in understanding. Sections are clearly marked, and the topics progress in a logical manner which makes it easy for the reader to understand what has been done, and its significance. The report is of an appropriate length: comprehensive, yet succinct.
3	The ordering of the sections could be improved, and certain topics might be covered out of order, but the general structure is sound. The length of some sections can be improved, either made shorter (by focusing more on the key topics) or longer (if its coverage is too shallow).
1	No structure is apparent, and topics simply flow from one to the other with no clear connection. The text wanders, and *non sequiturs* are commonplace.
Report Content	
5	The report contains an introduction to their project topic, justifying its importance; describes the model(s) clearly, correctly, and rigorously; if a real-world study, describes how data was obtained and how the model was solved with enough detail that the study can be reproduced; and clearly identifies the applications and implications of their results, along with potential research directions for making the model more realistic. All steps are done correctly, the data are realistic, and the model is totally correct.
3	One or two of these sections may be missing or done poorly. Although plausible, the author has made several assumptions which are not adequately justified, or has used data without adequately describing the data source, or the engineering judgment used to estimate them. There may be some subtle flaws in the model formulation.
1	Multiple sections are missing, or done so poorly that the reader cannot understand the results of the project. The author's model is obviously wrong, and cannot solve the problem at hand. Values for parameters and other data are simply assumed without any justification whatsoever.
Report Mechanics	
5	The author's spelling, grammar, and usage are flawless, and information is communicated effectively and seemingly effortlessly. Figures and tables are clear, complement the text, and assist readers in comprehending the project results. Mathematical notation is consistent and well-defined. The report's formatting is consistent and aids in communicating the document's structure (e.g., headers, typeface selection, paragraph spacing and indenting).
3	The author's usage of English is average, and while the prose could hardly be considered engaging, it is adequate and any errors are sparing and do not distract. There may be slight inconsistency in mathematical notation, but it is not hard to tell what the author means. Tables and figures may be useful after the reader exerts some effort in understanding them.
1	The author has clearly spent little time proofreading and preparing the document. Tables and figures are completely unhelpful and may be unreadable due to color or other issues. Typographical errors are rampant, mathematical notation is abused, and the formatting is inconsistent, perhaps switching fonts midway through the document, or underlining some headings while boldfacing others. In all, the report looks highly unprofessional.