Math 184 - History of Mathematics
Guidelines for Final Paper

Spring 2017

Format

• Typed (hand-written mathematics is acceptable if you don’t want the hassle of typing it)

• Any form of spacing is fine

• 2500–3000 words plus references (roughly 10–12 pages if double-spaced, not including graphics and references)

Topic and content

• A history of a mathematical topic. The choice of topic is entirely yours and need not be anything directly mentioned in class.

• Should include lots of information; well-organized with sub-categories, including a time-line and relevant maps.

• Include examples, definitions, constructions, theorems, etc.

• Should include a discussion of the interplay between mathematics and culture. For example, the political atmosphere of the time, geography, science, religion, art, music, philosophy, immigration, war, general societal problems and outlooks.

• Should include examples of the type of mathematical problems done, with examples (including those made up by yourself if you wish) and relevant definitions.

• Should include commentary (or brief biography) on those who contributed mathematically to your topic. What motivated them, etc.?

• Include a summary where you give your opinions/reactions/conclusions to what you’ve discovered.

• Should include references: make sure you’ve actually read them, and that some are actually books besides the course text.
Assessment/Timescale

- 1 page progress report submitted by Friday 28th April (week 4). Include topic, section headings, intended references, outline, etc.

- Final paper submission by the end of week 9: Friday 2nd June.

- Late submission of the final paper will NOT be accepted. This will be treated as the equivalent of failing to turn up to the final exam in any other class: only in extreme, thoroughly-documented circumstances will a late submission be considered.

Tips/Ideas/Things to avoid

- Think about your topic far in advance and discuss your ideas with your classmates. Bring them to office hours.

- Most importantly: pick something you are interested in and want to find out about, rather than something that seems easy. The purpose of the paper is to convince the reader that you have spent time investigating and carefully considering your topic. The worst papers are those written the night before submission and that obviously contain sentences the writer doesn’t understand.

- Choose a title and define parameters in your introduction that make it clear you understand the boundaries of the topic. As an example, don’t call your paper ‘The History of Probability’ and pretend, by omission, that Probability stopped with Bayes’ Theorem and Laplace in the early 1800’s. You don’t have to be an expert on modern Probability, but you should acknowledge the continuing development of the subject. If you try to wriggle out of this by calling your paper ‘The History of Probability prior to 1812,’ you should make it clear why 1812 is an important moment in the history of the subject and that again means referencing its importance to modern Probability.

- Start with a topic and then create a timeline consisting of the the people and the primary developments in your subject. Build the essay around this: it will be much more coherent!

- Biography ≠ history! Short biographies may form part of your paper, but shouldn’t be the whole topic. If you restrict to the work of one person it is difficult to discuss how a topic develops over time.

- A modern concise treatment of a topic is not history. For instance, if you write about the history of calculus, don’t fill up your paper with modern versions of the elementary theorems of the subject. A proof/discussion of, say, the Fundamental Theorem presented in the style of Newton or Euler would be entirely appropriate.

- Examples/calculations/pictures are worth a thousand words! Waffling is a bad idea, when a simple example would explain your point perfectly.

- If you find it hard to typeset mathematics, just leave a space and hand-write it. No need to learn \LaTeX or struggle with microsoft’s awful equation editor. Modern notation is appropriate when it helps explain the idea of some ancient calculation. Consider for example, how we write \[
\frac{1}{11} + \frac{1}{213}
\] instead of \[
\begin{array}{c}
\underline{1} \\
\underline{11} \\
\underline{213}
\end{array}
\] when mimicing the Egyptian representation of \[
\frac{1}{11} + \frac{1}{213}.
\] Don’t feel that you have to precisely draw out complex ancient symbols!