

## Term Paper Assessment Rubric - History of Math (Spring 2018)

The term paper will be assigned one of the following grades, based on the criteria which follow.

A+ 100 pts – A 95 pts – A- 91 pts – B+ 88 pts – B 85 pts – B- 81 pts – C+ 78 pts – C 75 pts – C- 70 pts – D 65 pts – F 50 pts – Incomplete 0 pts.

- (1) **Mathematical content.** The paper should include detailed and precise mathematical exposition pertaining to the paper topic. This includes proofs and computations when they are relevant. For example a paper on Omar Khayyam might carefully describe his solutions of cubic equations, or his treatment of Euclid's fifth postulate. Similarly, a paper on the history of induction might include examples of important inductive proofs, and/or a proof of the equivalence of mathematical induction to the method of infinite descent. The level of mathematical detail expected in the paper is *relative* to the difficulty of the subject matter—if the student is discussing an elementary topic, like triangle centers, then mathematical explanations should be complete and thorough; whereas if the student is describing highly sophisticated mathematics, like Wiles's proof of Fermat's last theorem, then an educated layman's perspective is sufficient. Each student is assumed to be educated up through geometry, calculus, and elementary set theory.
- (2) **Historical content.** The paper should include carefully researched exposition pertaining to the historical, cultural, and sociological conditions surrounding the term paper topic. If the topic is a mathematical problem, the paper should address at least the following three questions: What is the history of the problem and why was it considered important? Who worked on the problem and why? What were the historical consequences of the problem's mathematical development and of its solution? If the topic is a mathematician, the paper should address at least the following three questions: What was the person's life like, and what kind of society and culture did she work in? Which mathematical problems did she work on, and what were her significant scientific contributions? Did she change the development of mathematics and/or society, and if so how?
- (3) **Organization and structure.** The paper must be between 2000 and 2500 words, including references. The student must submit a hard copy or an electronic copy on the rough draft submission date (4/23/2018), as well as an electronic copy on the final submission date (5/4/2018). The paper must be clear and easy to follow. The rough draft will NOT be graded by the same criteria as the final paper—it will be graded for completion, and returned to the student with suggestions and comments. However, if the rough draft is severely inadequate (for instance, if it would earn a grade of F) then the final paper grade may be lowered as a consequence.
- (4) **Grammar and spelling.** The paper should be grammatically correct, with correct punctuation and spelling, and without typographical errors.
- (5) **Works cited.** The bibliography should be included at the end of the paper, and references should be made in an accepted style (APA, MLA, etc.). It should include legitimate print references—internet references should be used sparingly if at all, and treated with appropriate skepticism. It is highly recommended, although not required, that the student cite *original* sources if possible—for example a student writing about Cauchy should have no trouble finding an original quotation or mathematical argument of Cauchy in one of his actual publications. All papers will be assessed for plagiarism, and if detected, plagiarism may be grounds for a 0 on the paper, an F for the semester and/or a report to the Office of Registration and Records.