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1. I prepare and post an outline such as this before class, use it during class, and *revise and repost it after class*. If you download or print it, be sure you know whether you have the final version!
 - a. I'm adapting outlines I used two years ago, when the class met three days each week. Thus I'll frequently have to adjust the demarkations between each lecture and the next.
 - b. If I have to correct an outline more than a week after the class, I'll notify you by email.
 2. Discuss the [course syllabus](#).
 - a. Because of the unexpectedly high enrollment, the grading system has changed since an earlier flyer was posted.
 3. Why do you want to study history of mathematics?
 4. What are some other reasons?
 - a. To gain more understanding of your major subject
 - b. To find ways to make mathematics more interesting to students
 - c. To encourage your own study (the inventor of this theory was not super-human, so ...)
 - d. To gain insight into a particular topic (the inventor was thinking about ..., so ...)
 - e. To enhance national or local image or appreciation of a particular culture
 - f. Because it's fun
 5. Brief sketch of me
 - a. AB 1961 in mathematics, including computer science
 - b. 1961–1967 on and off
 - i. Library work
 - ii. SFSU graduate study
 - iii. Military operations research software development
 - iv. Stanford graduate study
 - v. SFSU lecturer
 - c. PhD 1970 in geometry and logic, Saskatchewan
 - d. 1969–2009 professor at SFSU
 - i. Research and writing in geometry
 - ii. Administration
 - iii. Development and writing in software engineering
 - iv. Research and writing in history of mathematics
 - e. 2009– professor emeritus
 - f. Current major projects on
 - i. Mario Pieri (1860–1913), a colleague of Giuseppe Peano, and
 - ii. Alfred Tarski (1901–1983), a renowned logician.
 6. This course

- a. will emphasize the human and social aspects of our subject. Mathematics was invented by people with most characteristics in common with you and me, in environments that greatly influenced what they did, how they did it, and how it was received.
 - b. Struik's [1948] 1987 text will give a general tour. I'll help interpret it.
 - c. I'll emphasize history of some subjects that I know most about and are most relevant to your own studies. These include
 - i. calculus,
 - ii. geometry,
 - iii. foundations of arithmetic, and
 - iv. logic and its applications, including computer science.
 - d. I'll tailor what I present to what you ask about, and hope I can help you find answers to questions you've always wanted to ask!
7. Emphasize the course [bibliography](#).
8. Boyer 1949 is a review of the original edition of the Struik [1948] 1987.
 - a. Find it via our library.
 - b. It praises Struik's appropriateness and convenience,
 - c. and picks some nits.
 - d. Boyer regards Struik's presentation of Euler's work as the best in the book,
 - e. and his treatment of the 1800s as its most significant part.
 - f. But that assumes too much mathematical knowledge.
 - g. "The musings of the author with respect to *Wissenssoziologie* are intriguing and provocative, but one wonders if they are on the same level of reliability as the main body of the work. ... Let this be a reminder that mathematics is moulded less by social pressures than by a love of knowledge for its own sake." (Boyer 1949, 287–288)
9. *Throughout the course, I'll help interpret the texts, particularly on matters that are beyond your background.*
10. Enrollment
 - a. If you want me to use a non-SFSU address to email you, please send me a note using that email address.
 - b. I called the roll, and announced that two students who were not present and who evidently lacked the Math 227 prerequisite would be dropped. I admitted the first two from the waiting list.
 - c. I could not determine electronically whether some students have satisfied the prerequisite. *Those must show or email me an (unofficial) transcript with that information, else they will be dropped after the second class meeting!*
 - d. I recommended that students attending but not enrolled nor on the waiting list should sign a sheet signifying their attendance.
 - e. Students not yet enrolled should consult their adviser or the Mathematics Department chairman.
11. Volunteers were recruited
 - a. to report to the class very briefly (5 minutes) on three short reviews (5 pages total) of Struik [1948] 1987: Dehn 1955, Rowe 1989, and Rowe 2001. These reports should contrast those reviews with Boyer 1949.

- b. And to report very briefly on the short reviews Richards 1982 and Grattan-Guinness 2007 of our text Kennedy [1980] 2002.
12. *Assignment*
- a. Part 1, on our text Struik [1948] 1987, which from now on, I'll simply call "Struik":
 - i. Skim Struik's prefaces and read his introduction.
 - ii. Particularly note his discussions on
 - (1) The book's limitations
 - (2) Advice to students
 - (3) Principles he followed
 - iii. Also, consider these questions:
 - (1) Who was Dirk Struik? (A good paper topic.)
 - (2) Who is the book's audience?
 - iv. Figure out what his terms mean, and formulate your own questions about them. Particularly these: *function theory*, *fluxional* (you may want to ask some faculty members). I'll help with foreign terms.
 - b. Part 2, on our text Kennedy [1980] 2002, which, from now on, I'll simply call "Kennedy":
 - i. The course will focus on the life and legacy of an influential and controversial scholar, all of whose mathematical work lies within your grasp: Giuseppe Peano (1858–1932). Hubert Kennedy's biography of him is available free on the Internet: follow the link in the course [bibliography](#).
 - ii. *Make sure you have access to that document. Do not trust that it will remain online all semester.*
 - iii. Skim Kennedy's prefaces and read his chapter 1.
 - c. In classes I'll stress various points covered in those texts and some other sources; you will be responsible for that material on the quizzes.