

Writing in Mathematics: Spring 2019

- **Instructor:** Professor Chris Kottke
- **Office:** HNS 104
- **Email:** ckottke@ncf.edu
- **Phone:** 914-487-4516
- **Course Webpage:** Canvas Course
- **Meetings:** Mon/Thu 12:30-1:50, HNS 106
- **Office Hours:** Mon 3:30-4:30, Wed 1:30-2:30, Thu 11-12

Course Description: In this class we will analyze and practice the discipline of expository mathematical writing, both through guided reading and discussion of examples, and through regular writing assignments. We will learn to typeset mathematics in \LaTeX and examine genre conventions, audience, style, structure, and the elements of effective writing from the small scale (typesetting of equations, expository paragraphs) to the large scale (the research paper and the survey article). This class will provide a solid preparation for writing a thesis in mathematics. Students will be expected to have some prior experience writing mathematical proofs; third year students are particularly encouraged to participate, but all are welcome.

Learning Outcomes: Through this course you will:

- typeset documents including complex mathematical formulae and diagrams in \LaTeX ,
- write expository mathematical content for a chosen audience in an appropriate style,
- structure and write a research paper,
- navigate the network of mathematical literature and develop an annotated bibliography,
- review and synthesize cutting edge mathematical literature in the form of a survey article,
- evaluate mathematical writing and provide constructive peer feedback, and
- write collaboratively.

Assessment: Your assessment will be based on participation in regular reading assignments (including short written reflections and class discussion), technical \LaTeX problem sets, and written assignments. In addition to some smaller writing assignments, there will be two major writing assignments:

- A single topic research paper (this need not be an original result, but it will be written in the style and format of a mathematical research paper)
- A survey article on a topic of your choice

Pieces of writing will be evaluated according to the rubric included on the next page.

Policies: Students in need of academic accommodations for a disability may consult with the office of Students Disability Services (SDS) to arrange appropriate accommodations. Students are required to give reasonable notice prior to requesting an accommodation. Students may request an appointment with SDS in-person (HCL3), via phone at 941-487-4496, or via email at disabilityservices@ncf.edu.

Mathematical Writing Rubric

	3: Exceeds Expectations	2: Meets Expectations	1: Approaching Expectations	0: Below Expectations
Presentation (content) and Organization Appropriate use of and good choices for examples, definitions, theorems, etc.	Expertly organized and presented. Constructed like professional writing.	Good organization and presentation, though could be further improved.	Either presentation or organization needs improvement.	Both presentation and organization need serious improvement.
Audience, Style, and Genre Conventions Realistic and appropriate audience, use of "we", appropriate connectives, overall mathematical style appropriate to the type of writing.	Excellent command of genre conventions, with appropriate style, and consistent and clear audience. Reads like professional mathematical writing.	Strong command of conventions, with minimal discrepancies or awkwardness in style. Has an identifiable audience.	Moderate command of conventions, with somewhat awkward or inappropriate style for the type of writing. Uneven or unrealistic audience.	Weak observance of genre conventions, awkward style and/or unclear audience.
Syntax and Mechanics Use of grammar, punctuation, clear and concise written style.	Excellent command of syntax and mechanics. Graceful use of language. Reads like professional writing.	Good command of syntax and mechanics. Straightforward use of language with few errors.	Moderate command of syntax and mechanics. Sometimes awkward use of language, with some errors.	Serious grammatical, punctuation or spelling errors. Frequently awkward, overly wordy or unclear.
Mathematical Typesetting Use of inline/set out math mode, punctuation in equations, indentation, etc.	Perfect typesetting.	Some minor typesetting mistakes, but good overall	More frequent typesetting mistakes, somewhat distracting, but not impeding readability.	Frequent typesetting errors impede readability.
Sources and Citations (if applicable)	Well sourced, citations used consistently and correctly.	Adequately sourced with few citation issues.	Weakly sourced and/or frequent missing citations or incorrect usage.	No sources or citations used.