

Final Writing Assignment

Outline and bibliography due date: April 8 (Monday) by 5:45pm

- via *email* (YourLastNameOutline.pdf PDF file only) and
- via Overleaf (put .tex and .bib files in a folder called **assignment7** in your MATH2794W YourName project).

Two sample student final papers:

- First sample: [PDF file](#), [.tex file](#), [.bib file](#)
- Second sample: [PDF](#), [.tex](#), and [.bib](#) files; [Hexgraph.png](#), [Hexgraph2.png](#), [Hexgraph3.png](#), [Ygraph.png](#).

Directions for Final Paper Outline and Bibliography:

- First, make sure you understand the directions for the actual paper (written on the next page).
- Spend some considerable time doing outside research to refine and expand on your ideas for your final paper. Keep track of your work (your ideas for topics, articles, textbooks, websites, and other materials you have looked at) either on paper or electronically.
- Download the .tex file template [papertemplate.tex](#) and rename it YourLastNameOutline.tex. Put it in a new folder called **assignment7** in your usual MATH2794W YourName project. Use it as a template for your Final Paper Outline and Bibliography.
- As usual, you need a .bib file (for example, you can call it mybib.bib) and you need the following two lines at the bottom of your .tex file: `\bibliography{mybib} \bibliographystyle{alpha}`
- Your outline should include tentative titles for the sections and subsections of your Final Paper. Use `\label` to create a label for each section and subsection.
- In each section and subsection, type up notes for what you plan to include in the given (sub)section and use `\cite` to cite the references you will use in that (sub)section.
- All references you intend to use should be put into a .bib file. At this stage, your bibliography should contain at least four sources (not including the Math Club talk). Two of the sources should be published (e.g. a peer-reviewed article published in a journal or a textbook).
- Possible places to look for references, in addition to the list of references provided by the speaker (listed on the [course website](#)):
 - the online library resources (such as [www-jstor-org.ezproxy.lib.uconn.edu](#) and [guides.lib.uconn.edu/math](#)),
 - your own textbooks, and other online resources - for example, the website [aimath.org/textbooks/approved-textbooks/](#) has a list of open-source textbooks available for free online.
- Include a tentative title for your paper (which should be different from the title of the related talk).
- Send your YourLastNameOutline.tex PDF file as an email attachment by the deadline.
- Submit your .tex and .bib files in a folder called **assignment7** in your usual MATH2794W YourName project.
- Late Assignment policy for the Outline and Bibliography: Late assignments are accepted (up to 48 hours) with a token.

Directions for Final Paper (actual paper):

- Your Final Paper

- (a) should be at least loosely based on a Math Club talk you have attended (approximately 25%) and
- (b) should incorporate significant outside research that goes in a new direction, explores additional topics, and/or considers new applications (approximately 75%).

Mention somewhere in your paper which information is from the talk (as opposed to outside research).

- Your paper must be at least 6 pages but no longer than 10 pages (not including table of contents, references, tables, and figures) with either 11pt or 12pt font and margins similar to the template: [papertemplate.tex](#). It is OK if you go a little bit over 10 pages.
- If your paper is a little long, you may reduce the margin (thus producing fewer pages) by putting the command `\usepackage{fullpage}` from the preamble (see the sample student papers).
- Your content sections should be at least five FULL pages in length.
- A total of at least two FULL pages of your content sections should contain nontrivial proofs (or explanations), mathematical arguments, and/or derivations related to your paper topic. Said another way, your paper should highlight your ability to both learn some new mathematics and communicate this mathematics effectively using standard mathematical conventions.
- Definitions, theorems, remarks, lemmas, corollaries, figures, and tables should be presented using `\begin{definition}` and `\end{definition}` (and similarly for `theorem`, `remark`, `lemma`, `corollary`, `figure`, and `table`). Every definition, theorem, remark, lemma, corollary, figure, and table in your paper should be introduced by using at least one complete sentence.
- In particular, the definitions and/or theorems from the background section(s) should be referred to throughout the main content sections.
- Come up with your own titles for your sections (and subsections). These titles should be concise and should indicate what each (sub)section is about.
- Your paper should include at least 2-4 references that are used nontrivially throughout your paper. A citation is needed whenever you use ideas from these references. The sentence structures and ideas themselves must be rephrased in your own words (as opposed to quoted). Two of the sources should be published (e.g. a peer-reviewed article published in a journal or a textbook).
- Each reference entry in your `.bib` file needs its own unique label, where the first item in the list that defines your reference is the LABEL. You can then cite this reference in the `.tex` document using `\cite{LABEL}`.
- I recommend writing the introduction last. Your introduction should be at least one FULL page in length and should contain everything an introduction should. See [sample introductions](#).
- The last paragraph of your introduction is your “paper outline paragraph.” It should refer to each section (and subsection, if important enough) using `\ref`. See the last paragraph of the introduction of the sample final paper 1 ([pdf](#), [tex](#)) or sample final paper 2 ([pdf](#), [tex](#)) for an example of such a paragraph.
- Finally, your abstract should be one (or two, at most) paragraphs in length and should contain everything an abstract should. Be very direct. Tell the reader concisely the main statements and goals of the body of the paper. Do *not* use the `\cite` or `\ref` command here, but it’s OK to spell out the names of the authors of your references if they play a big role in your paper. See [sample abstracts](#).

Directions for Final Paper First Draft submission:

1. Late Assignment policy for the first draft:
 - Late first drafts are accepted. For each hour that the assignment is late, one percent (1%) will be deducted from the assignment score.
 - Note that a first draft is required to receive a grade on the final submission. You can submit a first draft even if you miss the deadline for Outline and Bibliography.
 - No written feedback will be provided for a late assignment, but you can schedule an extra in-person meeting to receive feedback.
2. Send your file `LastNameFirstDraft.pdf` as an email attachment by the due date.
3. In the folder called `assignment7` in your `MATH2794W YourName` project, put all source files (`.tex`, `.bib`, image files, etc) needed to produce the PDF file.

Directions for Final Paper (final version):

1. Late Assignment policy for the first draft:
 - Late papers are accepted. For each hour that the assignment is late, one percent (1%) will be deducted from the assignment score.
 - Note that a first draft is required to receive a grade on the final submission. Late first drafts are accepted.
2. Email your paper `LastNameFinal.pdf` and letter `LastNameLetter.pdf` by the due date.
3. In the folder called `assignment7final` in your `MATH2794W YourName` project, put all source files (`.tex`, `.bib`, image files, etc) needed to produce the PDF file.