Ultrafast Photonics PHS6214E
(Winter semester 2020)

1. Important dates:

Paper due: (see Section 2 below)	April 13, 17:00
Peer review due: (see Section 3 below)	April 17, 17:00
Presentation file due: (see Section 4 below	between 04.21 to 05.05 *TBD via Poll, see Lecture 10)
Presentations via online conference:	between 04.21 to 05.05 *TBD via Poll, see Lecture 10)
Peer review response "rebuttal" due: (see Section 5)	2 days after the presentation (Lect 10)
Final version of the paper due: (see Section 5)	2 days after the presentation (Lect 10)

2. Information on the paper manuscript

You should strive for your paper to have a very clear logical structure and try to have it well written, using easy to understand sentences. Keep in mind that the audience for your papers are your student peers – so try to present clear arguments and avoid citations which you don't understand/didn't read carefully.

Polytechnique Montreal has a zero-tolerance policy for plagiarism. Cite your sources (including figures) appropriately and plentifully! Even if you include citation, you're not allowed to copy-paste any text from the references, unless you use direct quotations. Instead, one of your aims should be to find ways to condense and clarify the information in the references so you can of course paraphrase the referenced content.

Format: Optics Letters format or Phys Rev (double-column), either LaTeX or .docx. Abstract of 100-200 words should identify the topic and the sub-topic which your paper focuses on.

Length of the main text: minimum 5 pages, maximum 12 pages (excluding supplementary section and references).

Content: First 2-3 pages (or more) should provide basic physical understanding of the topic and provide a review. Next 3-2 (or more) pages should focus on a particular sub-topic chosen by you. This choice should be well motivated.

Figures/Equations should all be properly numbered. All terms in the equations must be identified. Each axis and label in the figures has to be explained in either the text or the figure caption but not both.

References: Minimum of 3, starting on a separate page from the main manuscript. (Opt. Lett or RevTeX referencing style)

Supplementary section: Should provide an exemplary calculation/estimation/approximation suitable to your topic with application of the knowledge gained in the class. The calculation should be well motivated in the main text. Approximately half-page to 1 page in length and can include all or any combination of formulas, graphs, numerical code, etc.

3. Information on peer-review process:

Review should be positive and offer constructive criticism. Suggest solutions to the identified problems. Point out how the manuscript can be improved.

1) First skim through the paper. Pay attention to the overall impression and logical structure.
2) Second read is focused on details. Pay particular attention to:
    a. What is the main topic and why is it interesting? Did the author manage to evoke this interest?
    b. Is the sub-topic (if applicable) well motivated?
    c. Is the manuscript well-written? Is the text, logical construction of the sentences easy to understand?
    d. Are the main concepts well explained?
    e. Is the supplementary information section well motivated? Is the presented approach and analysis correct?
    f. Are the abstract and summary of the manuscript to the point?
    g. Is the reference list sufficient enough?
    h. Is the supplementary information correct and provides enough technical information to repeat the calculation/simulation?

General structure (1-2 pages):

Introduction: write 5-10 sentences showing that you understood the main topic/message of the paper. Main part: provide a numerated list of suggestions and comments that you would like the author to address.

> **Example:** In the manuscript titled "….", [First Last Names of the author] provide introduction to the subject area of [….] and focuses a specific example of […] The manuscript is well-written (if applicable) and provides sufficient background information to introduce the topic. I especially enjoyed a clear presentation of the [….] concept, which greatly benefits comprehension of the

entire manuscript. I have found several issues/questions/suggestions that I list below to further improve the quality of the manuscript.

1) ….
2) ….
3) ….

4. Presentation at the "Ultrafast Photonics" virtual conference:

File format: PowerPoint (e.g. pptx) or PDF. If you're preparing your PPT presentation on a Mac, please ensure that all the equations are properly displayed, when transferred onto Windows machine (the main computer for the conference). If in doubt, save a pdf version of the talk. Best if you send your file by (date to-be-determined). Due to the concurrent COVID-19 outbreak, the conference will be held online, using video conferencing software. Please ensure that you can run video conferencing software on your home computer and that you have means of sharing your presentation/screen to show the content of your presentation.

Duration of the talks: 12 min in total. 9min + 3min questions. Adherence to the conference schedule will be maintained, subject to unexpected connection latency and technical issues.

Guidelines: Maximum(!) 10 slides, which includes title/conclusion slides.

- 2-3 slides to introduce your topic. Discuss why it is interesting. Show your creativity. It is important to interest your audience. Make connections to the material in the course, if applicable.
- 4-5 slides to spend on your main sub-topic. Motivate the subject. Present clear/simplified concepts, present minimally-necessary number of mathematical expressions and make sure all of the terms are identified!
- 1 slide on the outlook. What do you think will be new applications and new developments in the field of your topic? Be creative.

- Number each of the slides. This helps to address questions faster (note to the audience: write down/remember the slide number which is related to your question).
- Conclusion/summary.

Some additional guidelines:

- Title slide should clearly display the title of your talk, your name/affiliation and a venue. You can list: "Ultrafast Photonics PHS6214E Conference, Winter 2020".
- Make sure you develop a consistent rule for font sizes and that the text is readable! Distinct font sizes should be used for: title of the slides, main headings, subheadings. Min text size: 22 or 24pt.
- References should be provided on each slide and ideally with a different font / font size to further improve visual distinction. e.g. Times New Roman / 18pt;
- Text/numbering in the graphics should be maximally visible, ideally no smaller than the smallest font size. If you're using a graphics from a reference (make sure it is properly cited!), -- if the font size is too small, try to replace it with an editor in PPT or a graphic editor. Be extra careful not to mis-represent the data!
- To help with further visual distinction, draw attention to few key words on a slide with a text of different (bright) color.
- Conclusion slide should also contain an acknowledgement of anybody who (if any) has helped you with the preparation of the presentation.

5. Manuscript revision and rebuttal

At this stage, you are given an opportunity to address comments you have received from the reviewers as well as add information addressing a particular question at the conference. In all cases, any change to the manuscript should be documented and explicitly explained.

Rebuttal letter:

The purpose of the rebuttal letter is to provide feedback from the author back to the reviewer and also to provide the editor with a clear track record of any manuscript improvements.

The format should be 1-3 page reply which begins with an introduction, thanking the reviewer for their insightful comments (if applicable). The second part should include a written explanation to each remark of the reviewer, adhering to their enumeration.

E.g.

I would like thank the Reviewer for their …. In particular, a few comments indeed helped to clarify some of the perhaps obscure parts of the manuscript…. Below are my point-by-point responses.

Comment: "Here you quote a comment from the reviewer in its entirety"

Reply: Thank you for pointing out this fact/raising this question. I disagree with the proposed modification, because…. (or alt: I agree with the proposed modification and modified the text accordingly: p5 "……." text has been replaced with " ..... ").