

## QFT Homework 7 Due 3 Nov 2022

This homework is due to <https://uwcloud.uwinnipeg.ca/s/Xks9XWXz9yo5CpG> by 10:59PM on the due date. Your file(s) must be in PDF format; they may be black-and-white scans or photographs of hardcopies (all converted to PDF), PDF prepared by LaTeX, or PDF prepared with a word processor *using an equation editor*.

I have listed your name with the problem you will present on 2 Nov. Note that you only need to hand in the first section of problems for a grade.

**Reading Assignment:** Srednicki chapter 16-20, but pay most attention to 16-18.

**For a grade** Submit your answers for the following questions

1. **Vertex Correction in  $\phi^4$**  *Srednicki 16.1* Presentation: Phil

Work in a general number  $d$  of dimensions and take the limit of  $d \rightarrow 4$  at the end.

**Not to be marked** Do not submit your answers for the following questions

2. **Vertex Correction for the Complex  $\phi^4$**  *Srednicki 16.2* Presentation: Naman

As previously, it's easiest to do this by thinking about the differences between this and the previous problem.

3. **Typical Algebraic Exercise** *Srednicki 17.1* Presentation: Bardh

4. **Fermions** *Srednicki 18.1* Presentation: Zunaira

Probably all you will see of spin in this course.