

PMATH 945 / QIC 890 : Approximate representation theory — Fall 2019

Lecture

Place and time: QNC 1201, 1-2:20 MW

Instructor: William Slofstra

Email: weslofst@uwaterloo.ca

Office hours: Wednesday 2:30-3:30 in QNC3314

Website: <http://elliptic.space/pmath945.html>

Content

The course will cover some of the basics of approximate representation theory, focusing on stability, finite-dimensional approximations, and applications to nonlocal games and randomized benchmarking.

References

Approximate representation theory is a new subject, so there is no textbook we can use. I will post lecture notes to the course website, as well as a list of potential references.

Grading

Final grades will be calculated as follows:

- Homework: 50%
- Final project: 50%

Prerequisites

Since this course is open to students from different backgrounds, there are no official prerequisites. However, it will be difficult to understand the course material without some knowledge of real analysis (especially normed vector spaces) and some knowledge of abstract algebra (especially groups and algebras).