# Introduction

This is going to be the notes document for my honors thesis. Hopefully, we will cover locally compact topological groups, (Haar) measures, Tarski's theorem, group algebras, the theory of Banach algebras and C*-algebras, and the proof that a C*-algebra is nuclear if and only if it's amenable as a Banach algebra.

The primary source texts to inform this independent study will be Volker Runde's *Lectures on Amenability* and Timothy Rainone's *Functional Analysis-en route to Operator Algebras*.

# Group Actions and Paradoxical Decompositions