## Newcastle Research Proposal

I would like to study pure mathematics at Newcastle because I am enjoying studying mathematics as an undergraduate and I would like to advance to doctorate level. I have previously taken part in research at St Andrew's, as part of the Laidlaw internship programme, in which I developed and implemented algorithms in GAP, python and C++, concerned with semigroups, groups and digraphs. I have particularly enjoyed working in semigroup theory, group theory and topology, and I would welcome the opportunity to study these areas and the connection between them further. I am interested in a large variety of areas in algebra and analysis, so I would be open to working with staff at Newcastle in pursuing any area of these fields in which they have particular interests.