Representations of Groups
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I did my research with Daniel Chan and learnt about algebraic structures called G-modules. These involve the use of groups to represent linear vector space maps.

For my final project I was given two complicated Non-Abelian groups and set the task of determining all the possible representations up to isomorphism. After some considerable effort I was able to determine the structure of the groups, and then after more effort the possible representations.

Through working with Daniel on a personal basis I felt I learnt a lot about how mathematics research usually proceeds. I also enjoyed the scholarship more than normal undergraduate maths - it felt great solving a real-life problem!

James received an ICE-EM Vacation Scholarship in January 2005.
See www.ice-em.org.au/students.html#scholarship.