

University of Auckland  
Department of Mathematics

## **Policy on Dissertations for BSc(Hons) in Mathematics or Applied Mathematics and BA(Hons) in Mathematics**

The requirements for BSc(Hons) in Mathematics or Applied Mathematics and for BA(Hons) in Mathematics includes a 30 point dissertation, taught as Maths 776. This document outlines Mathematics Department policy for the organization and assessment of dissertations.

The dissertation is intended to satisfy the requirement for a research component in the honours degree. According to the Committee on University Academic Programmes: “Research in the context of a bachelor’s honours degree develops a student’s ability to design and undertake a project under supervision, and to report on this in an appropriate form. It sharpens the student’s analytical and communication skills and provides a supported introduction to planning, conducting and reporting on the type of independent research that may be undertaken at higher levels.”

A dissertation specifically in the area of Mathematics or Applied Mathematics will generally involve reading background material on a particular question, problem, topic or theme, then using the acquired knowledge and skills to make a contribution to this question, problem, topic or theme. In some cases, a dissertation will result in an original contribution or creation of knowledge, but a review of the literature combined with a repetition of some standard investigation of an aspect of the problem is also acceptable.

The effort required for successful completion of a dissertation should be comparable with that required for thirty points of lecture courses, i.e., about 10 hours per week of semester for two semesters, or about 240 hours in total.

### **Supervision and assessment.**

For each dissertation, one member of academic staff from the Mathematics Department will be appointed by the Postgraduate coordinator as supervisor. Co-supervisors and advisors may also be involved. Supervisors and students are expected to meet regularly, with weekly meetings being recommended.

Assessment of the dissertation is done by an examiner and assessor appointed by the Postgraduate coordinator. At least one of these must be external to the University of Auckland. Under normal circumstances, the examiner will be the main supervisor and the assessor will be external. The intention is to have a common assessor for all dissertations in Applied Mathematics submitted in the same semester. However for dissertations in Mathematics and also in Applied Mathematics the appointment of examiners and assessors is at the discretion of the Postgraduate coordinator.

The examiner and assessor are each expected to provide a short (1-2 page) report on the dissertation, including and justifying a recommended grade. Where there is disagreement

on the recommended grade, the postgraduate coordinator will act as mediator between examiner and assessor to try to find a common recommendation.

Dissertations must be submitted by the last day of the second semester of enrolment in Maths 776. Three (hard) copies of the dissertation should be given directly to the Department office.

### **Oral presentations**

All students are required to make an oral presentation on the content of their dissertation, on a day during the examination period of the semester in which the dissertation is submitted. This presentation will not contribute to the grade awarded for the dissertation, but is regarded as an important component of the student's research education and training. The day for presentations will be selected by the Postgraduate coordinator. Supervisors and examiners should attend the oral presentation. The oral presentation should be of about 20 minutes length with 5 minutes for questions. It should include an introduction to the field of research and a description of the work done in the dissertation.

### **Elements of a dissertation**

A dissertation should be 20-40 pages long, and should not exceed 50 pages (excluding Appendices). It should include an introduction to the field of research and a description of the work undertaken in the dissertation, including methods used, results and conclusions. It should be intelligible to readers who are not experts in the field. Dissertations are required to be produced electronically using TeX or LaTeX or another word-processing package.

Every dissertation must contain the following:

1. Title page. The title should be centred in the top third of the title page. The student's name should be centred in the middle third of the title page. Information regarding the degree, subject, university and date should be centred in the lower third of the title page. For instance, a statement such as "A dissertation submitted in partial fulfilment of the requirements for the degree of BSc(Hons) in Applied Mathematics, The University of Auckland, 2008" should be included.
2. Abstract. This should contain a succinct summary (not more than 350 words) of the aim, methods, findings and conclusions of the dissertation.
3. Main text. This must be divided into a logical scheme that is followed consistently throughout the work. For example, the text may be divided into sections and subsections.
4. Appendices. This is an optional section for any additional material that does not fit conveniently into the body of the text (e.g., copies of computer programmes if these are an appropriate part of presentation of the work).

5. List of references. It is important that citations be consistent in style, although there are various possible acceptable styles. Supervisors can provide for more information about a style appropriate for each dissertation.
6. Binding. Dissertations should be printed on A4 printing/photocopying paper, and enclosed in cardboard covers with temporary binding such as spiral binding.

Careful proofreading for grammar, punctuation, spelling and general consistency is essential. A high standard of presentation is very important, and plenty of time should be allowed for this process before submission. In general, time spent on achieving a perfectly word-processed dissertation is unlikely to be rewarded with an increase in marks, but time spent on writing a clear, concise, logical report is likely to be rewarded with a better grade.

Unacknowledged copying or plagiarism is not acceptable and is treated as an examination offence. Plagiarism means using the work of others and presenting it as your own without explicitly acknowledging or referencing where it came from. Submitting someone else's unattributed or less than fully attributed work or ideas is not evidence of your own grasp of the material and cannot earn you marks. Further information on plagiarism can be found at:

<http://www.auckland.ac.nz/uo/about/teaching/plagiarism/plagiarism.cfm>