

MATH 7008 MATHEMATICAL INVESTIGATIONS

Credit Points 10

Legacy Code 301106

Coordinator Stephen Weissenhofer ([https://directory.westernsydney.edu.au/search/name/Stephen Weissenhofer/](https://directory.westernsydney.edu.au/search/name/Stephen%20Weissenhofer/))

Description Mathematical Investigations will prepare Master of Research for students planning a future in mathematical/statistical research. Students will carry out investigations under the supervision of an academic staff member that will allow development of skills, knowledge and a way of thinking that will assist in the learning of mathematics/statistics that will prepare them for research in their chosen field of mathematics. They will also develop their written and oral communication skills, culminating in a poster presentation of significant findings as if being submitted at a mathematics/statistics conference, following that conference's directions for submission.

School Computer, Data & Math Sciences

Discipline Mathematical Sciences, Not Elsewhere Classified.

Student Contribution Band HECS Band 1 10cp

Level Postgraduate Coursework Level 7 subject

Restrictions

Students must be enrolled in 8086 Master of Research.

Assumed Knowledge

Undergraduate level of knowledge in mathematics or statistics.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Plan and develop an investigative project.
2. Locate, identify and use information relevant to the problem being studied.
3. Undertake self-directed study relevant to the problem being investigated.
4. Undertake a theoretical and/or analytical investigation.
5. Write and produce a research report in a logical, concise and professional manner.
6. Present a project and its results to an audience in a talk. Prepare results in a poster format.
7. Prepare results in a poster format.

Subject Content

How to write in a professional manner in mathematics.

Employing LaTeX to write reports/papers and give presentations in mathematics.

Expert knowledge on history/background of chosen field of mathematical research.

Current areas of interest/study and/or open problems in chosen field of mathematical research.

How to summarise work for the purpose of a poster presentation in mathematics or statistics.

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/ Group Task
Literature Review and Outline of proposed mathematical investigation.	Usually more than 5 pages but not longer than 15 pages	10	N	Individual
Oral Presentation of outline of mathematical investigation.	10 minutes	10	N	Individual
Written Final Report.	Usually more than 25 pages but not more than 50 pages	45	N	Individual
Final Oral Presentation	30-45 minutes	25	N	Individual
Poster	A3 size poster	10	N	Individual

Teaching Periods