



MATH704

Research Topics in Mathematics 1

S1 Day 2014

Mathematics

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General Information

Unit convenor and teaching staff

Unit Convenor

Rod Yager

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Contact via rod.yager@mq.edu.au

Credit points

4

Prerequisites

Admission to MRes

Corequisites

Co-badged status

Unit description

This unit is study of a current topic of Mathematical research. In addition to mastering the material delivered in lectures, the student will be required to undertake independent reading and write a short report on what they have learned. This will be written using LaTeX, with instruction in this typesetting language and BibTeX as part of the unit's curriculum.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

On successful completion of this unit, you will be able to:

Knowledge of the principles and concepts of a broad range of areas in mathematical sciences with depth in at least one area.

Understanding of the breadth of the discipline, its role in other fields, and the way other fields contribute to the development of the mathematical sciences

Ability to construct logical, clearly presented and justified mathematical arguments incorporating deductive reasoning

Ability to formulate and model practical and abstract problems in mathematical and/or statistical terms using a variety of methods

Application of mathematical and/or statistical principles, concepts, techniques and

technology to solve practical and abstract problems.

Appropriate interpretation of information communicated in mathematical and/or statistical form

Appropriate presentation of information, reasoning and conclusions in a variety of modes, to diverse audiences (expert and non-expert).

Ethical application of mathematical and statistical approaches to solving problems

Ability to work effectively, responsibly and safely in an individual or team context.

Assessment Tasks

Name	Weighting	Due
<u>Assignments</u>	50%	spread through semester
<u>Class participation</u>	20%	teaching period
<u>Written report</u>	30%	Week 13

Assignments

Due: **spread through semester**

Weighting: **50%**

On successful completion you will be able to:

- Knowledge of the principles and concepts of a broad range of areas in mathematical sciences with depth in at least one area.
- Understanding of the breadth of the discipline, its role in other fields, and the way other fields contribute to the development of the mathematical sciences
- Ability to construct logical, clearly presented and justified mathematical arguments incorporating deductive reasoning
- Ability to formulate and model practical and abstract problems in mathematical and/or statistical terms using a variety of methods
- Application of mathematical and/or statistical principles, concepts, techniques and technology to solve practical and abstract problems.
- Appropriate interpretation of information communicated in mathematical and/or statistical form
- Appropriate presentation of information, reasoning and conclusions in a variety of modes, to diverse audiences (expert and non-expert).
- Ethical application of mathematical and statistical approaches to solving problems

Class participation

Due: **teaching period**

Weighting: **20%**

Contribution and participation during weekly class meetings

On successful completion you will be able to:

- Knowledge of the principles and concepts of a broad range of areas in mathematical sciences with depth in at least one area.
- Understanding of the breadth of the discipline, its role in other fields, and the way other fields contribute to the development of the mathematical sciences
- Ability to construct logical, clearly presented and justified mathematical arguments incorporating deductive reasoning
- Ability to formulate and model practical and abstract problems in mathematical and/or statistical terms using a variety of methods
- Application of mathematical and/or statistical principles, concepts, techniques and technology to solve practical and abstract problems.
- Appropriate interpretation of information communicated in mathematical and/or statistical form
- Appropriate presentation of information, reasoning and conclusions in a variety of modes, to diverse audiences (expert and non-expert).
- Ability to work effectively, responsibly and safely in an individual or team context.

Written report

Due: **Week 13**

Weighting: **30%**

On successful completion you will be able to:

- Knowledge of the principles and concepts of a broad range of areas in mathematical sciences with depth in at least one area.
- Understanding of the breadth of the discipline, its role in other fields, and the way other fields contribute to the development of the mathematical sciences
- Ability to construct logical, clearly presented and justified mathematical arguments incorporating deductive reasoning
- Ability to formulate and model practical and abstract problems in mathematical and/or statistical terms using a variety of methods
- Application of mathematical and/or statistical principles, concepts, techniques and

technology to solve practical and abstract problems.

- Appropriate interpretation of information communicated in mathematical and/or statistical form
- Appropriate presentation of information, reasoning and conclusions in a variety of modes, to diverse audiences (expert and non-expert).
- Ability to work effectively, responsibly and safely in an individual or team context.

Unit Schedule

Lectures: Tuesdays 10:00-12:00 E7A 333

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

Assessment Policy <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Grievance Management Policy http://mq.edu.au/policy/docs/grievance_management/policy.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of Policy Central.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/support/student_conduct/

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit <http://informatics.mq.edu.au/help/>.

When using the University's IT, you must adhere to the [Acceptable Use Policy](#). The policy applies to all who connect to the MQ network including students.

Extra requirements

Satisfactory performance on supervised assessment tasks, such as tests and the final exam, is necessary to pass this unit. If there is a significant difference between a student's marks on supervised assessment tasks and on unsupervised assessment tasks, the scaling of these tasks may be adjusted when determining the final grade, to reflect more appropriately that student's performance on supervised tasks.

Changes since First Published

Date	Description
24/02/2014	Added lecture times