

Mathematics/Statistics 600**Research Seminar**

Calendar Description: A professional skills course, focusing on the development of technical proficiencies that are essential for students to succeed in their future careers as practicing mathematicians in academia, government, or industry. The emphasis is on delivering professional presentations and using modern mathematical research tools. A high level of active student participation is required.

This is a full year course. This course may be repeated for credit.

Prerequisites: Consent of the Department

See Course: <http://www.ucalgary.ca/pubs/calendar/>

Syllabus

Learning outcomes for MATH/STAT 600

Final grade: The grade for the course is PASS/FAIL. A passing grade will require:

- demonstration of competency in creating a mathematical or statistical research paper
- demonstration of competency in delivering a professional, conference-style presentation
- attendance at 3 to 4 seminar talks (outside of class)
- attendance of at least 80% of the lectures, with constructive participation.

Expected outcomes:

MATH/STAT 600 is a profession skills course. The students will learn specific technical skills necessary to succeed in their professional careers.

By the end of the course, the student will be able to:

- compose a professional quality document, including general technical details such as using formulas, tables, figures, citations, bibliographies, title page and abstract
- create a professional computer presentation of a professional talk, in a format suitable for a 20 minute conference talk
- use research tools such as MathSciNet, Current Index to Statistics, Web of Science, Google Scholar and/or ArXiv to find relevant research articles
- give constructive feedback to students and colleagues on improving their presentation skills (both written and lecturing)
- write effective abstracts or research summaries.
- assemble an effective package for job applications by producing relevant documentation (CV, cover letter, etc.) and giving effective interviews.

A requirement of the course is that each student presents professional talks in the style of an academic conference, using appropriate technology, with feedback from the student audience.

A requirement of the course is that each student attends 3 to 4 colloquia or research seminars by speakers outside the class.

At the discretion of the instructor, additional topics may be covered, such as

- statistical or mathematical computations carried out by software, and simulations.
- writing successful research proposals for thesis research, candidacy exams, scholarships and grants
- ethics in research
- technical report writing
- developing and managing collaborations
- selection of publication venues
- refereeing and editing journal publications

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