

# Undergraduate Research Opportunities

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## Speakers:

- Dr. Adam Van Tuyl (Undergraduate Chair)
- Jeanne Lin
- Spencer Locke

# Introduction

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Math and Stats Departments offers a number of undergraduate research opportunities.

- NSERC USRA
- Stewart Awards
- Fields Undergraduate Summer Research Program
- Other opportunities
- Math 4P06/Stats 4T06 - Senior Research Project

More information on Department Webpage:

<https://math.mcmaster.ca/undergraduate/useful-links/opportunities-for-undergraduate-research/>

# NSERC USRA

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NSERC USRA [Natural Sciences and Engineering Research Council Undergraduate Student Research Award]

Value: \$6,000 from NSERC + contribution from advisor (about \$2,500)

Duration: 16 weeks in the summer

Eligibility:

- Canadian or permanent resident
- GPA of at least 9.0

# NSERC USRA

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## Application Procedure:

- A. Determine if you are eligible for the award, read the instructions.
- B. Contact a prospective supervisor.
- C. Obtain a transcript (to include December 2023 results) we will accept unofficial transcripts at the application stage
- D. Login to NSERC website and fill in Form 202 Part 1 on-line (must be filled in on-line there will be no exceptions) upload your transcript.
- E. Give your NSERC reference number to your potential supervisor so that they can fill out Form 202 Part 2 on-line.
- F. Completed applications (Part 1, Part 2 and transcript) should be sent as a pdf file to Rabia Awan, [awanr@mcmaster.ca](mailto:awanr@mcmaster.ca)

(FINAL DEADLINE – FEBRUARY 16, 2024)

# Stewart Award

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Similar to NSERC USRAs, Stewart Awards are internal awards provided by the Math and Stats Department

Value: Max of \$5,000 (although supervisor can provide more)

Duration: normally 12 or fewer weeks

Eligibility:

- GPA of at least 9.0
- No citizenship requirement

# Stewart Awards

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An application consists of:

- a description of the proposed project (up to one page), with a timeframe;
- a budget, specifying how much funding is requested and how it will be spent (e.g. stipend, travel, etc);
- a cv;
- an (informal) transcript;
- a letter of support from a faculty member at McMaster. If research is to be conducted at another university, there should be a letter of invitation from that university

Applications are normally due around mid-March.

# Fields Undergraduate Summer Research

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The Fields Institute in Toronto offers an external summer research program

Duration: two months (July and August)

Value: covers costs in Toronto for two months

Program: Work in groups of teams (usually 5 students with 1 or 2 supervisors) on open problems.

Application: Done through the Fields Institute:

<http://www.fields.utoronto.ca/activities/24-25/2024-FUSR>

# Other opportunities

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- The Faculty of Science recently created the “Office of Undergraduate Research”: <https://our.science.mcmaster.ca/>

You can find a number of (short-term) opportunities for first and second year students.

- From time-to-time, other universities offer summer workshops. For example:

Queen’s Mathematics Summer School (2024)

<https://mast.queensu.ca/~qmss24/>

Deadline to apply: March 31, 2024



# Math 4P06 and Stats 4T06

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The Math and Statistics also offers two relevant courses:

- Math 4P06 - Senior Research Project
- Stats 4T06 - Senior Research Project

The research project consists of:

- A two semester long course
- Students independently learn an advanced topic in mathematics and statistics under the supervision of a faculty member.
- Students must write a project (20-25 pages) and give a presentation

# Math 4P06 and Stats 4T06

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To enroll:

- Approach a faculty member to act as a supervisor
- Fill in course permission form for Math 4P06/Stats 4T06

Eligibility:

- Registration in Level IV of any Honours Mathematics and Statistics program
- GPA of at least 9.0.
- Permission of the department, given by the Associate Chair (Undergraduate),

# Finding a supervisor

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- Decide what area of mathematics and statistics you would like to study
- Look at Department webpage to see the research areas of the faculty
- Talk to some of your favourite profs!
- Talk to the professor of your favourite class.
- We have also put together a list of potential projects (see the undergraduate research opportunities webpage)
- For Math 4P06/Stats 4T06, you can reach out to faculty while in Level 3.

# Questions?

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We are happy to take any questions!

Additional questions? Contact me at

[vantuyla@mcmaster.ca](mailto:vantuyla@mcmaster.ca)