

# Brendan Michael Steed

University of Victoria  
Department of Mathematics and Statistics  
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<https://onlineacademiccommunity.uvic.ca/bsteed/>

## Education

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### Doctor of Philosophy in Mathematics, University of Victoria, 2024

*Supervisor(s)*: Dr. Heath Emerson & Dr. Ian Putnam  
(Anticipate completion and defence of thesis by December 2026)

### Master of Science in Mathematics, University of Victoria, 2023

*Supervisor(s)*: Dr. Heath Emerson & Dr. Ian Putnam

### Bachelor of Science in Honours Mathematics, University of Victoria, 2021

*Supervisor(s)*: Dr. Jane Ye

## Employment, University of Victoria

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### Teaching Assistant

*Jan. 2020 - Jan. 2025*

University of Victoria teaching assistant with multiple years of experience leading first and second year tutorial sections, tutoring in the department's Math and Stats Assistance Centre, marking, and exam invigilation. Special duties have included leading the University of Victoria's "Getting Ready for Calculus" lecture series, and providing professional development for tutors in the Math and Stats Assistance Centre as their "Head Tutor". See below for more information about two roles.

<u>Position:</u>	<u>Employment Duration:</u>	<u>Employment Description:</u>
Head Department Tutor	Sept. 2024 - Jan. 2024 Jan. 2022 - Apr. 2022	Senior tutor assisting with tutor tutor professional development
Special Position	Aug. 2022 - Sept. 2022	Getting Reading for Calculus lecture series.

### Sessional Instructor

*Sept. 2022 - Apr. 2023*

University of Victoria sessional instructor. Duties include delivering all lectures, creating and grading assignments, midterm exams, quizzes, and final exams, as well as holding office hours and being available for contact by students. See table below for details.

<u>Course Number:</u>	<u>Course Title:</u>	<u>Employment Duration:</u>	<u>Number of Sections:</u>
Math 122	Logic and Foundations	Jan. 2023 - Apr. 2023	1
Math 110	Matrix Algebra for Engineers	Sept. 2022 - Dec. 2022	1

### Research Assistant

*April 2019 - Aug. 2019*

*Supervisor(s)*: Dr. Jane Ye

Assisted Dr. Ye with work on bilevel optimization problems. Duties included preparing weekly presentations summarizing the results of academic papers pertaining to the work of Dr. Ye and her team, and independent research on a problem in nondifferentiable function theory.

## Research Activities

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### Doctoral Thesis

*Anticipated Dec. 2026*

Title: Transverse Decompositions of Euclidean Space and the Baum-Connes Conjecture  
Supervised by Dr. Heath Emerson and Dr. Ian Putnam

### Speaker: Canadian Operator Algebras Symposium

*May 2024*

Title: The Heisenberg Spectral Triple and Associated Zeta Functions

### Masters Thesis

*Dec. 2023*

Title: The Heisenberg Spectral Triple and Associated Zeta Functions  
Supervised by Dr. Heath Emerson & Dr. Ian Putnam.

### Speaker: University of Victoria Operator Algebras Seminar

*March 2023*

Title: Higher Dimensional Heisenberg Cycles: Recent Results and Directions

### Speaker: University of Victoria Operator Algebras Seminar

*Nov. 2022*

Title: Rotation Algebras of Higher Dimension and a Related Spectral Triple

### Undergraduate Honours Thesis

*April 2021*

Title: The Proximal Subdifferential of Marginal Functions Under Second Order Assumptions.  
Supervised by Dr. Jane Ye.

## Other Employment and Volunteering

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### Math and Stats Chair's Advisory Councilmember

*Jan. 2024 - present*

Invited member on the University of Victoria Mathematics and Statistics Department Chair's Advisory Council. The purpose of the group is to advise on various issues that come to the department, and various tasks that are regularly done. This group also helps help generate ideas, set priorities, and consult with the department as a whole (including staff, faculty, sessional instructors, and students).

### UVic Lacrosse Club Secretary

*Sept. 2023 - present*

The University of Victoria's Lacrosse Club is a student led organization of which brings together undergraduates and graduates from multiple different departments by organizing lacrosse games, practices, education session, and social events. The Lacrosse Club accepts members of any experience level or exposure to the sport. Duties as secretary include scheduling practices, events, and games, while also advertising the Lacrosse Club by designing posters and representing our club at University of Victoria's Club Day and Thunderfest events.

### SIGMAS Organization President/Vice-President

*Sept. 2021 - present*

The University of Victoria's Student group SIGMAS (Students in Graduate Mathematics and Statistics) serves as a voice for the graduate students in the Mathematics and Statistics Department which also helps foster a positive work and social environment among undergraduates, graduates, and faculty alike by planning events such as the annual PI Day competition, a weekly tea for faculty and graduate students, and a quarterly Graduate Student Night Out paid for by funding events planned by SIGMAS. Role of SIGMAS President was held January 2024 to September 2024, while Vice-President position was held July 2022 to December 2023, and September 2024 to present.

**UVic Mathematics and Statistics Student Mentor***Sept. 2021 - Aug. 2022*

Volunteer mentor with the University of Victoria's Student Mentorship in Mathematics and Statistics program. Non-credit program aiming to pair undergrads with grad mentors of similar mathematical or statistical interests. Opportunity for one-on-one guidance, direction, or mentorship. The nature of each arrangement decided by individual pairs and can involve, for example: Support or advice regarding academic, career, or personal development; directed academic projects; or supervision in research-level work.

**Volunteer Graduate Seminar Mentor***Sept. 2021 - Dec. 2021*

Volunteer mentor/advisor to UVic graduate students taking the mandatory graduate seminar course, Math 585, which teaches UVic graduate students important skills such as how to write an academic paper and how to give an academic presentation. Selected for the position Dr. Kieka Mynhardt due to skills acquired while writing an undergraduate honours thesis at UVic. Duties include helping graduate students with L<sup>A</sup>T<sub>E</sub>X, Beamer, listening to them practice talks, critiquing presentations, etc.

**Students in Undergraduate Mathematics and Statistics***Sept. 2017 - April 2021*

Active member of the University of Victoria's student group SUMS (Students in Undergraduate Mathematics and Statistics). Group serves as a voice for undergraduates in the department, and organizes academic and social events. Volunteer activities contributed include representing SUMS at a bi-annual UVic Club Day, attending funding meetings to ensure SUMS continues to be recognized by the university, and recruiting new members by being vocal in the community.

**Explore UVic Volunteer***Feb. 2019*

Volunteered to represent the Mathematics and Statistics Department at the annual Explore UVic recruitment event aimed towards graduating highschool students.

**Service Industry: Fine Dining***Jan. 2015 - April. 2019*

In charge of all front of house affairs at Ginza Sushi (in Penticton, British Columbia) prior to a kitchen fire closing the restaurant July 2017. Hired as a server at Front Street Brasserie and Lee's overseas shortly after the closure of Ginza. Continued at Front Street Brasserie and Lee's Overseas during Summers away from UVic until Summer 2019 so as to research under Dr. Jane Ye.

**Awards and Honours**

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**University of Victoria Fellowship - Doctoral***July 2024*

Recommended by the Department of Mathematics and Statistics for a fellowship award in the amount of (CAD) \$500 from the University of Victoria Faculty of Graduate Studies.

**University of Victoria Graduate Award***July 2024*

Recommended by the Department of Mathematics and Statistics for a scholarship in the amount of (CAD) \$4000 from the University of Victoria Faculty of Graduate Studies.

**University of Victoria Graduate Award***Aug. 2023*

Recommended by the Department of Mathematics and Statistics for a scholarship in the amount of (CAD) \$5000 from the University of Victoria Faculty of Graduate Studies.

**J.J.E.M. Graduate Award in Mathematics and Statistics***Dec. 2022*

Recommended by the Department of Mathematics and Statistics for a scholarship in the amount of (CAD) \$875 from the University of Victoria Faculty of Graduate Studies.

**University of Victoria Graduate Award***Aug. 2022*

Recommended by the Department of Mathematics and Statistics for a scholarship in the amount of (CAD) \$3,500 from the University of Victoria Faculty of Graduate Studies.

**Teaching Assistant Recognition Award ×3***April 2021, April 2022*

Awarded for supervisor recognition of an exceptional teaching assistant who made an extraordinary contribution to the teaching mission of the Department of Mathematics and Statistics. Received Spring 2021, and Spring 2022, working as a tutor, and head tutor, respectively, in the Mathematics and Statistics Assistance Centre. Also received Spring 2022 working as a Calculus III tutorial instructor.

**Completed UVic B.Sc. with Honours and Distinction***April 2021*

Graduated from the University of Victoria's Honours Mathematics B.Sc. program with distinction. Honours awarded for completion of higher intensity program focus than UVic's usual Bachelor of Science in Mathematics degree program. Distinction awarded for completion of the degree with an overall GPA in the top 20% of Mathematics and Statistics Department undergraduates.

**UVic Transfer Scholarship***Sept. 2017*

Transfer scholarship in the amount of (CAD) \$2500 CAD awarded by the University of Victoria for academic excellence maintained while attending Okanagan College.

**British Columbia Achievement Scholarship***Dec. 2016*

Achievement scholarship awarded by the B.C. government in the amount of (CAD) \$1250 for academic performance during Winter semester of 2016 while attending Okanagan College

**Dean's List: Okanagan College***Dec. 2016, April 2017*

Dean's List Award recipient Fall 2016 and Spring 2017 while attending first year post-secondary studies at Okanagan College. Awarded bi-annually for maintaining an average of above 85% across all courses during a semester.

**Bill Durick Memorial Award***Dec. 2016*

Annually awarded scholarship worth (CAD) \$500 for one student graduating from Penticton Secondary School with high academic performance.

**Skills**

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**L<sup>A</sup>T<sub>E</sub>X**

Have been working with L<sup>A</sup>T<sub>E</sub>X for almost nine years. Extremely comfortable with the language.

**Other Computer Programming Languages**

Proficient in Python, good with Java and Markdown.

**Communication and Teaching**

Excellent communication skills nursed by experiences as an instructor, teaching assistant, and service industry worker. Known by peers for always being willing and happy to assist with the understanding of course content, and for providing said assistance in a clear and concise manner.

**Interests and Hobbies**

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**University of Victoria Lacrosse Club***Jan. 2023 - present*

Starting goaltender, and active board member, of the University of Victoria's Lacrosse Club. Currently, the club plays in the Victoria Men's Field Lacrosse League, with the goal being to field a full fledged UVic Vikings varsity lacrosse team by 2025.

**Academic Interests**

Currently interested in Noncommutative Geometry, KK-theory, and mathematical education. To

a lesser degree, optimization and nondifferentiable function theory is also palatable. In general, problems falling into genres of analysis, algebra, or geometry have always kept me coming back