

## Juliette Bruce's Teaching Statement

**I. Introduction.** My goal as an educator is to be an active guide for students, providing them with environments where they feel supported and encouraged to let their own mathematical and quantitative curiosities guide how they engage and learn. By taking this approach, I hope to engage with students as the complete people that they are, asking them to bring all of their experiences, backgrounds, identities, and knowledge into the learning environment. I want students to experience mathematics in a humanistic way, seeing how mathematics and quantitative thinking are integral aspects of their lives. As one of my former students noted, “Juliette obviously wants us to succeed not only in math but in life.” Recognizing that learning mathematics is not necessarily confined to the classroom I have sought out new and non-traditional teaching opportunities. My teaching has been recognized through both awards and student evaluations:

- In 2018, I was one of three graduate students at the University of Wisconsin-Madison recognized campus-wide with the Teaching Assistant Award for Exceptional Service.
- I received two TA awards from the math department at the University of Wisconsin-Madison, the TA Service Award (2018) and the Capstone Teaching Award (2019), the latter of which is awarded to just one teaching assistant each year, for an exceptional record of teaching excellence and service.
- My student evaluations are very positive; for instance, for one course 100% of students agreed that I was an effective teacher.

I have sought to develop and refine my skills as an educator, both by viewing each teaching assignment as my own opportunity for growth and learning and by actively seeking out learning from other educators and education experts. In particular, I have implemented evidence-based techniques to support and engage students from diverse backgrounds

**II. Teaching Experiences.** As a graduate student at the University of Wisconsin - Madison, I served as a teaching assistant and course coordinator for Calculus I for multiple semesters, the instructor of record for Math for Early Education Majors, and the instructor of record for a Calculus I course providing students from generally under-represented groups additional support during their first college math course. Additionally, for several semesters, I held a non-traditional teaching assistantship for my role as the organizer of the Madison Math Circle outreach program. My passion for promoting an interest in and excitement for math – especially for people from generally underrepresented groups – led me to take on teaching and outreach roles through the *Girls Math Night Out* program and the *Wisconsin Directed Reading Program*.

My postdoctoral positions at Brown University and the University of California, Berkeley did not allow me to have formal teaching responsibilities, however, I have actively sought out non-traditional teaching opportunities and mentoring opportunities. For example, in 2020, in response to the COVID-19 pandemic, I helped Ravi Vakil and others organize *Algebraic Geometry in the Time of COVID*, a massive open-access virtual algebraic geometry course, which drew over 1500 participants from around the world. Inspired by this experience, in 2021, I organized an online open access course, *Virtual Directed Reading in Geometry & Algebra*, aimed at undergraduates. During this time I continued to seek to grow as an educator. For example, while at the University of California, Berkeley I actively participated in a reading/working group exploring antiracist and anti-oppressive pedagogy in the mathematics classroom. Further, I personally sought to engage with ways to humanize mathematics and support underrepresented students by exploring the works of Pamela E. Harris, Aris Winger, Rochelle Gutiérrez, Luis Leyva, and Francis Su.

**III. Teaching Philosophy and Strategies for Classroom Success.** As an instructor, I view my role is to be an active guide. I encourage my students to explore, engage with, and question the course material for themselves. I try to structure much of the course around guided group work that gives students opportunities to develop and discuss their understanding and confusion with their fellow students. In addition to encouraging students to take an active role in learning, this format also helps students to learn to vocalize their thought processes and ideas.

Active learning presents challenges to me and my students, most notably, the challenge of managing student mistakes. In many ways, the most significant moments during the learning process are not necessarily the moments of success, but the moments of failure. It is at this moment that students can recognize errors and gaps in their understanding of a subject and begin trying to correct them. It is also the moment that as an instructor I can understand what my students are finding difficult and nudge the conversation in such a way as to overcome these hurdles.

Making mistakes is hard, and most students, like most people, would prefer not to make mistakes. With this in mind, I think it is crucial to promote an inclusive environment where all students feel comfortable and safe participating. This environment encourages students to be open about what confuses them and where they are making mistakes. Creating an inclusive classroom environment requires active attention and work to maintain. However, in my experience, this work is well worth it.

My approach to creating an inclusive classroom environment has been influenced by the semester-long course *Inclusive Practices in the College Classroom*, which I took through the *Delta Program for Integrating Research, Teaching and Learning*. For example, one activity I implemented successfully asked students to brainstorm attributes from classes they found productive and attributes from classes they found less productive. After collecting a list of such attributes, we use this as a jumping-off point for forming community standards that we wish to shape our classroom environment. Examples of such community standards that my classes have often adopted include: “Respect everyone” and “Address the problem, not the person when discussing mistakes”. I have found this helps the students buy into the belief that the classroom is an inclusive space where it is safe to make mistakes.

However, beyond simply creating an inclusive learning environment I have also found it important to create a space where students feel comfortable bringing their whole selves, including all of their experiences, backgrounds, challenges, identities, struggles, and knowledge. For example, I recognize that all students, like all people, will have days when negative experiences outside the classroom affect their ability to engage in the classroom. This is even more true for students who face racism, sexism, homo/transphobia, and other systems of oppression. On such a day when students enter the classroom, I look to try to meet the students where they are. For example, sometimes this means I will walk the student to the campus mental health or cultural center, or sometimes it means I create new problems specifically to help keep the student’s mind off of whatever is troubling them. I try to make sure my students know I am there to provide them with whatever resources they need to succeed both in the classroom and in their life beyond. However, this human-centered approach also leads to many beautiful moments. For example, by allowing students to bring all of themselves to class they experience mathematics in a humanistic way, seeing how mathematics and quantitative thinking are an integral aspect of their life. I have found this often increases students’ motivation, as well as opens themselves up to making mistakes, growing, and learning.

**IV. Sample Student Feedback.** The effectiveness of my teaching is highlighted in student comments:

- “I’ve always struggle with math and I’ve had a lot of teachers that didn’t believe in me so because of this I’ve always dreaded math courses. But Juliette always showed she cared, was constantly encouraging, believed in our class, and taught the material really clearly. From her constant availability to help and great instructing, her class became one of my favorites and I am more successful in a math course than I’ve ever been before.”
- “She went around and tried helping each student... She cared about each student’s success in the class and tried her best to make everyone understand the material.”
- “Juliette obviously wants us to succeed not only in math but in life. She is always making sure we know our resources especially when it comes to health. She also always wishes us a good day/weekend and that is awesome.”

**V. Conclusion.** As a graduate student and postdoctoral scholar, I have found teaching to be extremely rewarding. I developed a passion for supporting and engaging students from diverse backgrounds. Going forward, I am excited for new opportunities to grow and learn as a teacher, continue to promote inclusivity, diversity, and justice in my teaching, and create human-centered learning environments for my students.

## Summary of Student Evaluations

During her time as a graduate student at the University of Wisconsin - Madison Juliette Bruce has held appointments as a teaching assistant for eleven semesters. In her first year Juliette was a teaching assistant for Math 221: Calculus I and the instructor for Math 132, a math course for education majors. In these roles her student evaluations were generally positive with particularly strong student comments. Since then she has held a non-standard teaching assistantship with the Madison Math Circle outreach program for six semesters. More recently Juliette has twice served as a teaching assistant and coordinator for Math 221: Calculus I, and once been the instructor for the accompanying Math 228: Wisconsin Emerging Scholars course. (Math 228 is a course taken in addition to Calculus I to provide students from generally underrepresented groups additional support and community.) In all of these courses her student evaluations were near perfect, and she received a number of glowing student comments. An overview of the student evaluations she has received is below:

Semester	Course #	Course Title	Rating	Overall	Course Percentile
Fall 2019	Math 221	Calculus & Analytic Geometry I	Superior	4.91	100%
Fall 2018	Math 228	Wisconsin Emerging Scholars	Superior	5.00	100%
Fall 2018	Math 221	Calculus & Analytic Geometry I	Superior	5.00	100%
Fall 2018	n/a	Madison Math Circle	n/a	n/a	n/a
Spring 2018	n/a	Madison Math Circle	n/a	n/a	n/a
Fall 2017	n/a	Madison Math Circle	n/a	n/a	n/a
Spring 2017	n/a	Madison Math Circle	n/a	n/a	n/a
Fall 2016	n/a	Madison Math Circle	n/a	n/a	n/a
Spring 2016	n/a	Madison Math Circle	n/a	n/a	n/a
Spring 2015	Math 132	Problem Solving in Algebra, Statistics, & Probability	Satisfactory	3.96	n/a
Fall 2014	Math 221	Calculus & Analytic Geometry I	Satisfactory Plus	4.74	n/a

These ratings were determinate by the Mathematics Department's Committee on Teaching Assistant Performance and Pay, which consists of faculty, academic staff and teaching assistants. The committee bases its rating (Unsatisfactory, Needs Improvement, Satisfactory Minus, Satisfactory, Satisfactory Plus, Superior) on numerical scores and student comments. The overall score is the mean of 14 questions on a scale of 1-5. The course percentile is compared to instructors teaching the same course in recent years, and was only reported beginning in 2018.

Note the (relative) small number of students in a Math 132 class, and the small number of sections make the numerical evaluation scores extremely noisy and unstable. For example, when Juliette taught Math 132 only six out twenty of students completed the student evaluations. As such student comments are extremely important when evaluating someone teaching Math 132. In Juliette's case her comments are quite positive, and indicate she was effective in creating a classroom atmosphere in which students felt comfortable participating. This is generally in line with her evaluations for Math 221, which were exceptional.

Because of the non-standard nature of the Madison Math Circle teaching assistantship student evaluations are not done. Comments from parents and participants are collected, however, and some have been included in the excepted student comments section.

## Excerpted Student Comments

### Fall 2014 – Math 221 (TA for 2 Discussion Sections)

- In response to the question, “How could the TA improve his/her teaching?”
  - “Our TA is perfect. She is great at teaching math problems and concepts.”
  - “She arrives on time and when we don’t have questions she has a plan for the whole hour, she has been very effective and helpful in her teaching.”
  - “I believe that my TA is doing a great job as is, and does not need to change anything.”
- In response to the question, “What do you like most about the TA’s teaching?”
  - “She gets the whole class to participate.”
  - “She is very clear and helpful, and she really cares about our learning.”
  - “Our TA is very encouraging and optimistic. She treats everyone fairly. She is great at solving math problems of varying difficulties.”
  - “Very friendly and willing to help; tries to create a comfortable atmosphere open to questions and discussion.”
  - “She is always there for us and is willing to help us in any shape, way, or form. Holds review sessions, most TA’s don’t.”
  - “She is willing to find extra time to help out.”
  - “She takes a very confusing lecture and makes it understandable. If it weren’t for discussion my grade would be far lower.”
  - “I like that my TA is always willing to help, and honestly wants us all to succeed, which is reflected in her teaching methods.”
- In response to the question, “Any further comments?”
  - “TA should be the professor.”
  - “Very good TA!”
  - “I think Juliette Bruce is a very good TA.”
  - “By far one of the best TA’s.”
  - “She is essentially the best math teacher I’ve ever had.”
- Misc. comments
  - “The TA in charge of discussion appears to really care, ...”
  - “If it weren’t for your discussion I would still be lost ...”
  - “Thank you for all that you have done. I have thoroughly enjoyed your discussion, you made math actually enjoyable at 8:50 in the morning. I also found your discussion very helpful compared to lecture. I appreciate it!”

### Spring 2015 – Math 132 (Instructor for 1 Discussion Section)

- In response to the question, “What do you like most about the TA’s teaching?”
  - “Constantly open to changing teaching style based on what we need.”

- “Willingness to talk through confusion and answer questions.”
- “Wanted us to succeed – tried to make concepts connect to our lives.”
- “She is very clear spoken and is always willing to go above and beyond to meet or clarify mistakes or confusion.”
- Misc. comments
  - “I really appreciate your willingness to help and desire for us succeed – especially when it comes to showing the material differently, or trying a different method to the course concepts.”

**Spring 2016/2017, Fall 2016/2017 – Madison Math Circle (TA Student Organizer)**

- Each semester we collect comments from parents, since I have been an organizer these have included:
  - “You guys are doing great stuff! Keep up the wonderful work!”
  - “Great job. This is a fantastic service that you provide. And all your presenters are so enthusiastic. Thank you for sharing your love of mathematics with us all.”
  - “My daughter loves the Math Circle and we’re very grateful for this opportunity. It has been an amazing experience for her!”
  - “Thank you for holding this course. My children like to be challenged in math and this is a great opportunity for them to experience math outside the box. They especially like when there is hands on group activities.”
  - “[Student] struggles with Math, not her strong suit, so I very much appreciate this resource!”

**Fall 2018 – Math 221/228 (TA/Instructor for 1 Discussion Section)**

- In response to the question, “What do you like most about the instructor’s teaching?”
  - “Juliette made sure that I knew all the material and was comfortable with it. When I did have confusion she was really understanding and broke down problems step by step through asking me questions and having me solve through the work in ways I understood. She is always so positive, supportive, and enthusiastic in class and made me excited to learn every day. Additionally, she provided challenging material broken down in simpler ways so we were able to expand our problem solving skills of complex problems in interesting attainable ways.”
  - “She explains thoroughly step by step, which makes learning the material much easier to understand. Anytime I have any questions or am confused in any way, she makes the time to explain it and I’d be able to explain it in more than one way so that I can understand. She’s also super supportive and helpful and creates a really great environment in which I look forward to coming to Discussion because I know it’ll be productive and helpful for me.”
  - “She always has a simpler way to explain stuff - Respectful - She brings interesting topics to class - challenges us effectively”
  - “I really appreciate how she explains things very clearly and goes through problems step-by-step. I also feel that she does an amazing job of preparing us for what is going to be on exams and explains exactly how we should write our answers to be the most clear possible in our understanding. She really knows what she is talking about, and is able to effectively communicate that understanding to someone who may be confused on the material.”
  - “She is very effective and takes time to make sure that everyone understands the materials that are taught in lecture. It is very obvious that she cares about how we do and that we are comfortable asking questions.”

- “Juliette will clearly work through all the problems for us. She has a good sense of what material we understand and what we don’t understand. Additionally, she is very supportive and encouraging. Juliette will effectively use time and I never feel like coming to class is ever a waste.”
- In response to the question, ‘How could the instructor improve his/her teaching?’
  - “Hmmm, tough question. Can a non massless particle reach the speed of light? Not really. The same goes here, I don’t think there’s a better teaching style than this”
  - “I think she already does a fantastic job teaching this course and do not have any recommendations for improvements at this time.”
  - “Juliette is honestly the best math instructor I’ve ever had so I can’t think of many ways she could improve her teaching.”
- Misc. comments
  - “I’ve always struggle with math and I’ve had a lot of teachers that didn’t believe in me so because of this I’ve always dreaded math courses. But Juliette always showed she cared, was constantly encouraging, believed in our class, and taught the material really clearly. From her constant availability to help and great instructing, her class became one of my favorites and I am more successful in a math course than I’ve ever been before.”
  - “I would highly recommend this instructor to anyone. She is incredibly good at explaining challenging concepts and is also a very kind and caring individual.”
  - “Juliette is an amazing TA and she has really made me interested in calculus.”
  - “She’s one of if not the best math teacher I’ve had and I strongly recommend anyone to take a class with her.”
  - “I went to the review today and I just wanted to let you know that everyone around me kept commenting about how good of a teacher you are. The people behind me said many times that they wished that you were our professor instead of [the professor]. I just wanted to let know that everyone was saying nice things about you and I am really so blessed to have had you for a TA :) ”
  - “I am sending this email to let you know that I appreciate all the support you have given us this semester. It has been a true pleasure being in your class this semester. And even though, I did not expect to learn much this semester, you proved me wrong so thank you. ”

#### **Fall 2019 – Math 221 (TA for 2 Discussion Sections)**

- In response to the question, ‘How could the instructor improve his/her teaching?’
  - “She is the best TA I have had and I have learned so much from this discussion.”
  - “I really appreciate how available Juliette is and how she genuinely cares about my understanding and success in this class. I have a slower processing speed than other students and therefore require testing accommodations. Juliette was very understanding about it and worked with me to make sure we had a plan in place so I can feel confident with this class. She is also willing to work with me one on one if there is a specific problem I am not understanding or concept I want to talk through. Whenever she is explaining problems she walks through step by step which is very clear and helpful. Overall she is the best TA I have had here and I love everything about how she teaches”
  - “She really seemed to care about each of her students and was extremely good at explaining problems and answering everyone’s issues. Overall, I felt she was very fair and is my favorite TA

this semester. She goes over everything very effectively and does a very good job about clearly explaining and breaking down a complex subject.”

- “She went around and tried helping each student instead of giving broad answers to the whole class. She cared about each student’s success in the class and tried her best to make everyone understand the material.”
- “Juliette Bruce has been, by far, my favorite TA because of her ability to relay the and teach the material. She is especially good at clarifying difficult material from lecture. For example, when we covered the delta epsilon process in the actual definition of a limit the concept was difficult for most students to wrap there head around but Juliette was able to clarify this topic enough where I ended up teaching my fellow students in a way they understood it by using the way she taught my discussion group. This is a small example but I by far have retained the most information from my math discussion compared to all of my other discussion sections and I believe this is due to our TA.”
- “Juliette is an incredibly personable teacher. The charisma, humor, and brightness she brings into the classroom both brightens students day, and in NO WAY detracts from the con tent we are learning. She is able to fully describe the process of all of the problems that we work on, as well as offer ing her own tips and tricks to help further our understanding. Tuesday’s are my busiest day, and I often find my self skipping some of my Tuesday classes, but Juliette’s class I will never willing miss. As difficult as I find this course, Juliette goes above and beyond in the reinforcement of ideas went over in lecture, and her ability to clarify content is very helpful.”
- “Juliette obviously wants us to succeed not only in math but in life. She is always making sure we know our resources especially when it comes to health. She also always wishes us a good day/weekend and that is awesome.”



## Department of Mathematics

COLLEGE OF LETTERS & SCIENCE  
UNIVERSITY OF WISCONSIN-MADISON

DATE: January 10, 2020

TO: Bruce, Juliette

FROM: TA Evaluation Committee

SUBJECT: Fall 2019 MATH 221 Evaluation

You will find your complete TA evaluation results at [aefis.wisc.edu](http://aefis.wisc.edu). You will need to log in with your net ID and password. For your information:

The percentage of your students who agreed or strongly agreed with the statement "The instructor was an effective teacher" (question 13) is **100%**. This places you at the **100th** percentile of all TAs who taught a similar course this semester and at the **100th** percentile of all TAs teaching a mathematics course this semester.

CTAPP has read your teaching evaluations and instructor feedback. CTAPP has deemed your teaching to be **superior**. Congratulations!

### **Here are some selected student quotes CTAPP would like to highlight:**

Juliette is an incredibly personable teacher. The charisma, humor, and brightness she brings into the classroom both brightens students day, and in NO WAY detracts from the content we are learning. She is able to fully describe the process of all of the problems that we work on, as well as offering her own tips and tricks to help further our understanding. Tuesday's are my busiest day, and I often find myself skipping some of my Tuesday classes, but Juliette's class I will never willingly miss. As difficult as I find this course, Juliette goes above and beyond in the reinforcement of ideas went over in lecture, and her ability to clarify content is very helpful.

I really appreciate how available Juliette is and how she genuinely cares about my understanding and success in this class. I have a slower processing speed than other students and therefore require testing accommodations. Juliette was very understanding about it and worked with me to make sure we had a plan in place so I can feel confident with this class. She is also willing to work with me one on one if there is a specific problem I am not understanding or concept I want to talk through. Whenever she is explaining problems she walks through step by step which is very clear and helpful. Overall she is the best TA I have had here and I love everything about how she teaches.

### **Here is feedback from your teaching observer/mentor:**



n/a

**CTAPP has the following feedback for you:**

You are doing an amazing job!!!

We recommend that you read your students' comments carefully to find in what areas you are doing well and where you should improve. Read the enclosed Teaching Evaluation Feedback handout for guidance on interpreting your results. If you have questions about your evaluations or this ranking, please speak to one of the committee members.

**TA EVALUATION COMMITTEE**

Daniel Erman  
Xianghong Gong  
Fabian Waleffe  
Bobby Grizzard  
Oh Hoon Kwon

Justin Sukiennik  
Michel Alexis  
Geoff Bentsen  
Solly Parenti

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Kyriakos Sergiou  
Rajula Srivastava  
Polly Yu



## Department of Mathematics

COLLEGE OF LETTERS & SCIENCE  
UNIVERSITY OF WISCONSIN-MADISON

DATE: December 27, 2018

TO: Bruce, Juliette

FROM: TA Evaluation Committee

SUBJECT: Fall 2018 MATH 221 Evaluation

You will find your complete TA evaluation results at [aefis.wisc.edu](http://aefis.wisc.edu). You will need to log in with your net ID and password. For your information:

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CTAPP has read your teaching evaluations and instructor feedback. CTAPP has deemed your teaching to be **superior**. Congratulations!

### **Here are some selected student quotes CTAPP would like to highlight:**

"Juliette made sure that I knew all the material and was comfortable with it. When I did have confusion she was really understanding and broke down problems step by step through asking me questions and having me solve through the work in ways I understood. She is always so positive, supportive, and enthusiastic in class and made me excited to learn every day. Additionally, she provided challenging material broken down in simpler ways so we were able to expand our problem solving skills of complex problems in interesting attainable ways.", "I've always struggle with math and I've had a lot of teachers that didn't believe in me so because of this I've always dreaded math courses. But Juliette always showed she cared, was constantly encouraging, believed in our class, and taught the material really clearly. From her constant availability to help and great instructing, her class became one of my favorites and I am more successful in a math course than I've ever been before."

### **Here is feedback from your teaching observer/mentor:**

Juliette really cares, puts in an enormous effort, to help her students before the first exam. She is the lead TA for one of my lectures. Her work sheets, which are shared with the other TAs and are used in all discussions, are excellent and comprehensive. This makes the discussions of all other TAs much better. I really appreciate her work.

**CTAPP has the following feedback for you:**

Amazing job!

We recommend that you read your students' comments carefully to find in what areas you are doing well and where you should improve. Read the enclosed Teaching Evaluation Feedback handout for guidance on interpreting your results. If you have questions about your evaluations or this ranking, please speak to one of the committee members.

**TA EVALUATION COMMITTEE**

Daniel Erman  
Sergey Bolotin  
Xianghong Gong  
Chanwoo Kim  
Mariya Soskova  
Soledad Benguria

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