

# Johan Benedict A. Cristobal

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## EDUCATION

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### University of Nebraska-Lincoln (UNL), Lincoln, NE

▷ Ph.D. in Mathematics *expected* May 2025

Advisor: Dr. Yvonne Lai | *Minor in Teaching, Learning, and Teacher Education*

▷ M.S. in Mathematics December 2021

### University of California, Los Angeles (UCLA), Los Angeles, CA

▷ B.S. in Mathematics of Computation June 2020

## POSITIONS

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### Graduate Student Instructor *Various Sub-Roles*

August 2020 - **Present** | Mathematics Department at UNL

- As an *Instructor of Record*, I taught a section of students. I designed lectures to address student concerns during on the pre-lecture materials. I implemented mastery-based grading and helped update the lectures.

- Math 302 - Math Modeling Spring 2023
- Math 101C - College Algebra Corequisite Fall 2022
- Math 101 - College Algebra Spring 2022
- Math 100A - Intermediate Algebra Fall 2021

- ◆ As a *Course Developer*, I reordered the sections of the textbook to better scaffold topics and made the corresponding updates for the course materials (LaTeX and HTML/PreTeX) and online homework. I created Notes pages for students and instructors to use. I made videos for the Intermediate Algebra course and are embedded in the open-source textbook.

- ◆ Math 100A - Intermediate Algebra Summer 2023
- ◆ Math 101 - College Algebra Spring 2023
- ◆ Math 101C - Intermediate Algebra Corequisite Summer 2022 / Summer 2023

### Graduate Research Assistant *Various Projects*

- College of Arts & Sciences Strategies Priorities: *Understanding the experiences of underrepresented students in 300-level mathematics courses*; PI Amy Bennett

Fall 2023 to **Present** – I co-analyzed underrepresented undergraduate student narratives about their experiences leading up to and taking a real analysis course for the purpose of creating and running a follow-up study with post-secondary mathematics professors and how they notice and frame these narratives with respect to their practice.

- Mathematics of Doing, Understanding, Learning and Educating for Secondary Schools – MODULE(S<sup>2</sup>) – NSF DUE-1726744; PI Yvonne Lai

Summer 2022 to **Present** – I co-analyzed teachers’ open-ended responses to survey data to identify qualitative signals of increased expectancy to succeed in teaching, doing, or learning mathematics, or value for inclusive teaching practices.

- Investigating the Role of Collaboration on the Development of Student Ideas using a Learning Progression for the Function Concept – NSF DRL-2101393; PI Edith Graf

Spring 2023 – I helped map the learning progressions to a Bottle filling activity made as a reality-based activity to learn the concept of functions. I also went to the professional development meetings to learn about (virtual) talk moves.

## RELEVANT GRADUATE COURSE WORK

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### ■ Mathematics Department:

893 - Teaching & Learning Math Post-Secondary Level

*Pedagogy Course*

### ■ Teaching, Learning, and Teacher Education Department:

801 - Curriculum Inquiry

807C - Equitable Practices in Mathematics Education: Mathematics Classroom Discourse

861 - Education for a Pluralistic Society: Foundation and Issues

949B - Critical, Anti-colonial, & Decolonizing Theories in Education

## SKILLS

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**Mathematics** L<sup>A</sup>T<sub>E</sub>X, curriculum development

**Statistical Methods** RStudio

**Programming** C, C++, Python, Matlab, LISP, SQL, and HTML/CSS (Web-design)

**Archaeological Studies** ArcGIS, text processing, georeferencing

**Languages** English (fluent), Filipino/Tagalog (native fluent), Spanish (beginner)

### **Content Creation**

– Videos: <https://www.youtube.com/@johango> and textbook videos

– Writing: <https://johanmcs.github.io/johanc/writings>

## AWARDS

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**Walter Mientka Teaching Award** | Awarded 2021 by the UNL Math Department.

“The Walter Mientka Award is given to students who demonstrate exceptional promise as a teacher based on their work during their first one or two years as a graduate teaching assistant in our department.”

## SERVICE

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### UNL Math Day Committee

Fall 2023 - Present

*Graduate Student organizer for Volunteer outreach and Challenge activities*

Outreach event for Nebraskan high schoolers that encourage them to pursue a career in a mathematics-based trajectory. I aid in recruiting and organizing volunteers and in running sessions (Challenge activities) outside of the competition aspect of the Day.

[math.unl.edu/math-day-university-nebraska-lincoln](http://math.unl.edu/math-day-university-nebraska-lincoln)

### Graduate Student Teaching Table

Fall 2022 - Present

*Co-founder and organizer*

Seminar designed for and by graduate students to discuss education or teaching issues we face at UNL as GSIs, using education literature to organize conversations.

### Guest Peer-Reviewer for PRIMUS

Fall 2023

*Problems, Resources, and Issues in Mathematics Undergraduate Studies – Volunteer*

### Map of Avery Hall, Mathematics Department Building

Fall 2023

*Volunteer*

Using the building's outdated floor plans, I increased the readability and usefulness through a redesign and posted these maps at key places around Avery Hall. This solved the issue of students and visitors getting lost in the awkward numbering scheme of the building.

### Qualifying Exam Review and Preparation Session

Summer 2022

*Math 830/831 - Ordinary and Partial Differential Equations*

I was chosen to lead the week-long review session to prepare students who are taking the Differential Equations qualifying exam for their PhD requirements. I utilized and updated material provided by the previous review leader.

## PAPERS

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- [1] **Cristobal, J. B. A.** (Submitted). "Complicating the Relationship of Frames and Responses in Teacher Noticing". Contributed Report for the *26th Annual Conference on Research in Undergraduate Mathematics Education*.
- [2] **Cristobal, J. B. A.** & Young, C., Lai, Y., Bonnesen, C., Strayer, J., Anhalt, C., Casey, S., Kohler, B., Lischka, A., & Ross, A. (in preparation). "What Aspects of Tertiary Mathematics Courses do Prospective Secondary Teachers Attribute to their Learning?" Preparation for the *Journal of Mathematical Behavior*, December 2023.

## TALKS

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- [1] *Before and during teaching: New graduate student instructors' frames of teaching*  
7th Northeastern Conference on Research in Undergraduate Mathematics Education.
- [2] *Bridging Frames and Sociomathematical Norms*  
6th Northeastern Conference on Research in Undergraduate Mathematics Education.

## CONFERENCES

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◇ = Spoke , ★ = Invited , † = Department Volunteer

1. Pacific Math Alliance Conference | California State University at East Bay      October 2019
2. Field of Dreams Conference | St. Louis, Missouri      November 2019
3. † Field of Dreams Conference | Virtual      November 2020
4. Joint Mathematics Meetings | Virtual      January 2021
5. KUMUNI-ISU Conference on PDE, Dynamical Systems, and Applications | UNL      October 2021
6. paraDIGMS 2021 Fall Conference | Virtual      October 2021
7. Field of Dreams Conference | Virtual      November 2021
8. ◇ 6th Northeastern Conference  
on Research in Undergraduate Mathematics Education | Virtual      October 2022
9. † Field of Dreams Conference | Minneapolis, Minnesota      November 2022
10. SIGMAA RUME | Omaha, Nebraska      February 2023
11. Math 125 | Lincoln, Nebraska      April 2023
12. ◇ 7th Northeastern Conference  
on Research in Undergraduate Mathematics Education | Virtual      November 2023