




# RYAN CARPENTER

Doctoral student at the University of Illinois at Chicago pursuing a PhD in pure mathematics with a focus in mathematical and philosophical logic.

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## Education

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### Doctor of Philosophy in Pure Mathematics (in progress)

University of Illinois at Chicago

August 2022 – Present

### Bachelor of Science in Mathematics and Philosophy

University of Pittsburgh

August 2016 – April 2020

- Cumulative GPA of 3.91
- Departmental Honors in Math Department

## Teaching Experience

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### Graduate Teaching Assistant

University of Illinois at Chicago

Fall 2022 – Present

Courses:

- MATH 110 College Algebra, Fall 2022

Responsibilities:

- Lead classrooms of 20-30 students in homework-type exercises
- Distributed and monitored weekly quizzes
- Held short review sessions prior to every quiz and long review sessions prior to every exam
- Met with students outside the classroom during scheduled office hours and one-on-one sessions

## **Professional Tutor**

### Revolution Prep

Spring 2021 – Fall 2022

Responsibilities:

- Created individual learning plans to implement on students' behalf
- Virtually tutored students in high school and college on topics ranging from standardized test prep to honors physics, from AP Calculus to college-level symbolic logic

## **Mathnasium Center Director**

### Mathnasium of Squirrel Hill, Pittsburgh

Fall 2020 – Spring 2021

Responsibilities:

- Individually tutoring students in grade levels 2-12
- Virtually tutored students who elected to be tutored from home
- Selected specific topics for students to work on based on their individualized learning plan

## **Instructor**

### University of Pittsburgh

Fall 2020 – Spring 2021

Courses:

- MATH 0010 College Algebra Part One, Fall 2020
- MATH 0020 College Algebra Part Two, Spring 2021

Responsibilities:

- Lead classes of around 30 students to gain a better understanding of algebra
- Planned, delivered, and recorded online lectures which were then posted to the course page
- Created numerous additional help videos and supplemental resources to ensure student success
- Wrote and graded exams to accurately judge students' understanding of the material

## **Undergraduate Teaching Assistant**

### University of Pittsburgh

Spring 2019 – Spring 2020

Courses:

- MATH 0200 Prep for Scientific Calculus, Spring 2019

- MATH 0031 College Algebra, Fall 2019
- MATH 0200 Prep for Scientific Calculus, Spring 2020

Responsibilities:

- Lead classrooms of 20-30 students in homework-type exercises
- Distributed and monitored weekly quizzes
- Held short review sessions prior to every quiz and long review sessions prior to every exam
- Met with students outside the classroom during scheduled office hours and one-on-one sessions

## **Math Assistance Center Tutor**

University of Pittsburgh

- Fall 2018 – Spring 2020
- Courses Tutored Include: MATH 0031 College Algebra, MATH 0120 Business Calculus, MATH 0200 Prep for Scientific Calculus, MATH 0220 Analytic Geometry and Calculus 1, MATH 0230 Analytic Geometry and Calculus 2, MATH 0240 Analytic Geometry and Calculus 3, MATH 0280 Intro to Matrices and Linear Algebra, MATH 0290 Applied Differential Equations, MATH 0400 Discrete Mathematical Structures MATH 0413 Intro to Theoretical Mathematics, MATH 0420 Theoretical 1-Variable Calculus, MATH 0430 Intro to Abstract Algebraic Systems, MATH 1180 Linear Algebra, MATH 1270 Ordinary Differential Equations 1

## **Note-taker and Personal Tutor for Visually Impaired Student**

University of Pittsburgh

Fall 2019 – Spring 2020

Courses Tutored:

- MATH 0220 Analytic Geometry and Calculus 1, Fall 2019
  - Grade Received by Student: A
- MATH 0230 Analytic Geometry and Calculus 2, Spring 2020
  - Grade Received by Student: A+

Responsibilities:

- Attended lectures and wrote lecture notes into LATEX files compatible with braille technology used by student
- Presented Calculus 1 and Calculus 2 level lectures for student and acted as a scribe when taking quizzes and exams

## Research Experiences

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### Research in Algebraic Geometry with Dr. Bogdan Ion (U. of Pittsburgh)

University of Pittsburgh

Spring 2021 – Summer 2022

Responsibilities:

- Worked under Professor Bogdan Ion to implement Galois Theory and skills in algebra to discover neusis constructions of regular polygons
- Organized and wrote a paper on neusis constructions of the regular heptagon
- Set research questions and tasks and approached problems from many different perspectives

### Research Assistant

University of Pittsburgh

Fall 2017 – Spring 2018

Responsibilities:

- Worked under Professors James Mueller and Joseph Boudreau in Physics Department
- Tested and assured quality of electrical circuit boards to be used in CERN Project

## Selected Talks

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### Louise Hay Logic Seminar – University of Illinois at Chicago

“On Relevant Arithmetic,” given on 11/7/2022

## Honors

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### Summa Cum Laude Honors

University of Pittsburgh, 2020

### Montgomery M. Culver Award

University of Pittsburgh, 2020

### Valedictorian

General McLane High School, 2016

## Miscellaneous Skills

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- **Java Proficiency**
- **LATEX Proficiency**
- **American Sign Language Fluency**
- **Creative Problem-Solving**
- **Interpersonal Communication**
- **Leadership**
- **Public Speaking**