JOSH HILLER

Associate Professor ◇ Department of Mathematics and Computer Science ◇ Adelphi University
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EDUCATION

Ph.D. in Mathematics *2014 - 2017*
University of Florida
Thesis: On some variations of the multistage model of carcinogenesis.

M.S. in Applied Mathematics *2012 - 2014*
Western Carolina University

B.A. in Mathematics, *Magna Cum Laude* *2002 - 2005*
Webster University in St. Louis

PROFESSIONAL EXPERIENCE

Academic (Full Time: Adelphi's Department of Mathematics and Computer Science)

1. Associate Professor Fall 2023-Present.
2. Assistant Professor Fall 2017-Summer 2023.

Academic (Part Time)

4. Adjunct Doctoral Faculty in Global Leadership, Saint Mary of the Woods College, Summer 2023.
5. Adjunct Assistant Professor, Santa Fe College Summer 2016-Summer 2017.

WORKS IN PROGRESS (* DENOTES UNDERGRADUATE STUDENT; ** DENOTES GRADUATE STUDENT)

1. "The Armitage and Doll model of carcinogensis: introducing separable differential equations with polynomial regression from public-health datasets", Josh Hiller, in preparation.
2. *"Statistical classification with uncertainty quantification of label-noisy, imbalanced datasets,"* ***Onkar Dhillon***, **Vaishnavi Dixit***,* *Josh Hiller,* ***Laszlo Gosch***, Anil Venkatesh, in preparation.*
3. *"Poetry in two discrete math courses", Josh Hiller and Eleni Zamagis, Journal of Mathematics Education at Teachers College, under review.*
4. *"A multifaceted approach to creating belonging in college mathematics programs", Chris Davis, Josh Hiller, Anil Venkatesh, Journal of Mathematics and Science: Collaborative Explorations, under review.*
5. *"A doubly stochastic model of government interventions to preserve ecosystems services in the context of large-scale industrial agriculture,"* ***Karma Brame***, **Wendy Calderon***, **Kaylee Clark***, Josh Hiller,* ***Natalia Negrete***, Spora: A Journal of Biomathematics, under review.*

PUBLICATIONS (* DENOTES UNDERGRADUATE STUDENT COAUTHOR; ** DENOTES GRADUATE STUDENT COAUTHOR)

Peer reviewed mathematics papers:

6. *"Computational lower bounds for weakened Ramsey numbers from strongly regular t-colorings of complete graphs", Mark Budden,* ***Laszlo Goch***, Josh Hiller, Bulletin of the Institute of Combinatorics and its Applications, in press.*

7. *"The multistep pathogenic hypothesis of amyotrophic lateral sclerosis is incompatible with the epidemiological data", Guglielmo Foffani; Daniele Urso; Josh Hiller; Marco Piccininni; Benot Marin; and Giancarlo Logroscino, European Journal of Epidemiology, Online Jan. 2026, https://link.springer .com/article/10.1007/s10654-025-01289-8 .*

8. *"A Schur fire way to make matrix products coincide", Keith Copenhaver,* ***Chistopher Sciortino****, Josh Hiller, Journal of Humanistic Mathematics, Vol 16(1), (Jan 2026).*

9. *"Proving a generalized multinomial theorem by coloring set partitions," Keith Copenhaver, and Josh Hiller, American Mathematical Monthly, Vol 133(1), page 12, (Jan. 2026).*

10. *"Some involutory Pascal matrices make more involutory Pascal matrices", Keith Copenhaver, Josh Hiller,* ***Andrew Velasquez-Berroteran****, College Journal of Mathematics, 56(2), 135-144, (Feb. 2025).*

11. *"Time to absorption in Markov Chains as a mixture distribution of hypo-exponential distributions", Josh Hiller, Stochastics and Quality Control, Vol. 38 (2), 119-123. 2023.*

12. *"A generalized binomial theorem for induced weak compositions", Josh Hiller, Missouri Journal of Mathematical Sciences, Nov. 2023.*

13. *"An axiomatic and historical review of the Armitage and Doll model of carcinogenesis."* ***W. Zane Billings****,* ***Justin Clifton****, Josh Hiller,* ***Tommy Meek****, Andrew Penland,* ***Wesley Rogers****,* ***Gabriella Smokovich****,* ***Andrew Velasquez-Berroteran****,* ***Eleni Zamagias****, Spora: A Journal of Biomathematics, 2022, Vol (8), 7-15.*

14. *"Minimally connected hypergrpahs," Mark Budden, Josh Hiller and Andrew Penland, Austrailasian Journal of Combinatorics, 2022 Vol (82.1). 1-20.*

15. *"Algebraic properties of a hypergraph lifting map," Mark Budden, Josh Hiller, Andrew Penland, and* ***Tommy Meeks****, INTEGERS: Electronic Journal of Combinatorial Number Theory, 2021, Vol 21, Article A77, 12 pages.*

16. *"Sierpinski products of r-uniform hypergraphs," Mark Budden and Josh Hiller, The Art of Discrete and Applied Mathematics, 2021, https://doi.org/10.26493/2590-9770.1402.d50 , 15 pages.*

17. *"A very general binomial matrix", Leo Betthauser, Josh Hiller, and Omur Karaduman, Notes on number theory and discrete mathematics, 2021, 27(1), 125-133.*

18. *"Groups that have a Partition by commuting subsets," Tuval Foguel, Josh Hiller, Mark Lewis and Aliraza Moghaddamfar, Journal of Group Theory, November 2020, https://doi.org/10.1515/ jgth-2020-0065, 19 pages.*

19. *"Constructive methods in Gallay-Ramsey theory for hypergraphs." Mark Budden, Josh Hiller, and Andrew Penland, INTEGERS: Electronic Journal of Combinatorial Number Theory, 2020, Volume 20(A), A4, 14 pages.*

20. *"A note on Abelian partitionable groups." Tuval Foguel and Josh Hiller, Communications in Algebra, Volume 48(8), 2020, 3268-3274.*

21. *"Policy lessons from spatial-temporal enrollment patterns in Argentina's payment for ecosystems services scheme." Mauricio Nunez-Regueiro, Lyn Branch, Josh Hiller, Cristina Nunez-Godoy,* ***Sharmin Siddiqui****, Jose Volante, and Jose Soto, Land Use Policy, 2020, Vol 95, 8 pages, 12 pages supplementary data analysis.*

22. *"On Bruck's prolongation and contraction maps," Tuval Foguel and Josh Hiller; Quasigroups and related systems, 2019, 53-62.*

23. *"Asymptotic relative risk results from a simplified Armitage and Doll model of carcinogenesis," Josh Hiller and James Keesling; Bulletin of Mathematical Biology, 2018, 80(3), 670-686.*

24. *"On the lexicographic product of k-uniform hypergraphs with an application to Ramsey theory,"* ***Melody Bruce****, Mark Budden, and Josh Hiller; Australasian Journal of Combinatorics, 70(3), 2018, 390-401.*

25. *"The adjacency-Pell-Hurwitz numbers," Josh Hiller, Yesim Akuzum, and Omur Deveci; INTEGERS: Electronic Journal of Combinatorial Number Theory, 2018, 18(A83), 16 pages.*

26. *"Characteristic patterns of cancer incidence: Epidemiological data, biological theories, and multistage models, " Josh Hiller, Celeste Vallejo, Leo Betthauser, and James Keesling, Progress in Biophysics and Molecular Biology, 2017, Vol. 124, 41-48.*

27. *"The lifting of graphs to 3-uniform hypergraphs and some applications to hypergraph Ramsey theory, " Mark Budden, Josh Hiller, Joshua Lambert, and* ***Christopher Sanford****; Involve: a journal of mathematics, 2017, Vol. 10(1), 65-76.*

28. *"Hypergraph Ramsey numbers involving paths, " Mark Budden, Josh Hiller, and Aaron Rapp; Acta Universitatis Apulensis, 2016, Vol. 48(7) 75-87.*

29. *"A note on subloop lattices, " Tuval Foguel and Josh Hiller; Results in Mathematics, 2016, Vol. 69(1-2), 11-21.*

30. *"Old friends in unexpected places: Pascal (and other) matrices in $GL_n(C)$," Josh Hiller; American Mathematical Monthly, 2016, Vol. 123(2), 161-167.*

31. *"Generalized Ramsey theorems for r-uniform hypergraphs," Mark Budden, Josh Hiller, and Aaron Rapp; Australasian Journal of Combinatorics, 2015, Vol. 63(1), 142-152.*

32. *"A proof of two conjectures of Deveci and Karaduman," Josh Hiller; Linear Algebra and its Applications, 2014, Vol. 446, 163-165.*

Creative Works–Mathematical Poetry:

33. *"Euclid's theorem, Eureka!", Josh Hiller, The Mathematical Intelligencer, May 2025.*

34. *"The poetry of category theory," Josh Hiller, The American Mathematical Monthly, April 2025, online. https://www.tandfonline.com/doi/full/10.1080/00029890.2025.2468627*

35. *"Euclid said," (an uncredited 6 line poem in a community Pi-day, poetry blog post), Pup Horst (Editor), MAA Math Values Blog, https://maa.org/math-values/playful-math-smelled-as-sweet-as-pie/ , March 2025.*

36. *"The point at infinity," Josh Hiller, Journal of Humanistic Mathematics, Vol. 14(1), 2024.*

37. *"Conditional life expectancy", Josh Hiller, The Mathematical Intelligencer, April 2023, Vol 45, 175-176.*

38. *"A topologist's broken heart", Josh Hiller, Journal of Humanistic Mathematics, Vol(12), Issue 2, 2022, https://scholarship.claremont.edu/jhm/vol12/iss2/36/ , 1 page*

39. *"A Topology haiku matrix", Josh Hiller, The Mathematical Gazette, November 2021, 1 page.*

40. *"Fibonacci's bunny-pocalypse!", Josh Hiller, The American Mathematical Monthly, Jan. 2021, Vol. 128(1), 75.*

41. *"God whispered to Cantor", Josh Hiller, The Mathematical Intelligencer, 2021, https://doi.org/10.1007/s00283-020-10035-9, 1 page.*

Other writings:

42. *"Trump's assault on US universities: five views from the chainsaw's teeth," Josh Hiller, Jacqueline R. Olvera, Matthew Wright, Robert A. Brown, Jennifer Schnellman, Robert Zaretsky, Nicholas Dirks, The Times Higher Education, March 2025.*

43. *"Is mentoring the elixir of academic life?" Michael Roth, Srila Roy, Merlin Crossley, Alice Kelly, Eleanor Palser, Josh Hiller, Eugenia Villa-Cuesta, The Times Higher Education, May 2024.*

44. *"My heart attack would have killed my livelihood if I'd still been an adjunct," Josh Hiller, The Times Higher Education, Jan 2024.*

45. *"Decolonization of the curricula: beyond historical enrichment", Josh Hiller, The Mathematical Intelligencer, Vol 45 (4), 295, 2023.*

46. *"Interdisciplinary questions: the academy's most misunderstood fields", The Times Higher Education, Kim Cornish, Andrew Dawson, Josh Hiller, Andrew Penland, Cynthia B. Meyers, Kate Cantrell, David Norman, Alpesh Maisuria, Ann Bradshaw, May 2021.*

47. *"I'm working 50 unpaid hours a week and I fear for my job", The Times Higher Education, August 2020.*

48. *"We have to do better than pausing the tenure clock," Reem Khamis-Dakhar and Josh Hiller InsideHigherEd, July 2020.*

49. *"Misinterpretation vs. misunderstanding: A look at ESL students," WLN: A journal of writing center scholarship, 2004, Vol. 29.4, 10-11.*

CONFERENCE PRESENTATIONS AND EXTERNAL TALKS

Invited Talks (Two since tenure)

1. *American University AAUP Meeting, March 2025, "Experiences with Unionization of Faculty at Private Universities." Round table discussion.*

2. *Graph Theory Days 80, CUNY Graduate Center, Nov. 2024 "Hypergraphs and a model from epidemiology" (Plenary talk).*

3. *Pohle Colloquium, Adelphi University, Dec. 2019, "An axiomatic and historical look at Armitage and Doll carcinogenesis."*

4. *Applied Ecology Laboratory Seminar Series (National University of Salta), Sep. 2018, Ciudad Capital Salta, Argentina, "A simple stochastic model of deforestation in the Gran Chaco forest." (in Spanish)*

5. *Amity Lecture Series, June 2018, Garden City NY "Beyond the promise: The perils of Big Data."*

6. *MAA SE Sectional meeting, Special Session on Discrete Mathematics, March 2018, Clemson SC, "Random walks and cancer data."*

7. *Hofstra Mathematics Colloquium, March 2018, "Some simple mathematical models for cancer incidence and relative risk."*

8. *CUNY Graduate Center, Feb. 2018, NYC NY, "On Burch's prolongation and contraction maps."*

9. *Western Carolina University Mathematics Colloquium, Feb. 2018, Cullowhee NC, "Multistage models of carcinogenesis."*

Contributed talks (Two since tenure):

10. *MAA Metro NYC Sectional Meeting, April 2025, "Math-poetry round table lunch."Round table discussion (organizer).*

11. *MAA Metro NYC Sectional Meeting, April 2025, "Math lessons from ancient texts and stories." Joint with Sokthan Yeng.*

12. *MAA Metro NYC Sectional Meeting, May 2021, "Cross institutional undergraduate math research (for beginners)," with Andrew Penland.*

13. *MAA Metro NYC Sectional Meeting, May 2020, Queens College, "Modeling the propagation of competing ideas in social networks through combinatorial games."*
14. *JMM, Jan. 2020, Denver, Colorado. "Combining statistical literacy with real world data-skills: What should a first course in data science for computer science majors cover?"*
15. *MAA Metro NYC Sectional Meeting, May 2018, Hofstra University, "Integrating Proof Writing and Mathematical Communication Skills Throughout the Mathematics Curriculum (Preliminary Report)."*
16. *JMM, Jan. 2018, UC San Diego, "Modeling market based deforestation prevention policy: the effect of fluctuating commodity prices and industrial agriculture."*
17. *SMURCHOM VII, April 2014, Western Carolina University, "Felix Klein and his lemma."*
18. *MAA SE Sectional meeting, March 2014, Tennessee Technical University, "A new twist on the Ping-Pong Lemma...and why we care."*
19. *SERMON 2013, April 2013, High Point University, "A generalization of Fermat's Little Theorem to non-singular integer matrices with integer eigenvalues.'*
20. *MAA SE Sectional meeting, March 2013, Winthrope University, "On a relation between Pascal matrices and arbitrary matrices over the complex numbers."*

STUDENT RESEARCH ACCOMPLISHMENTS

Honors Theses Directed

1. Vaishnavi Dixit, Statistics, "Resampling and Dimension Reduction in kNN for Imbalanced Datasets," 2025.
2. Laszlo Gosch, Computer Science, "Computational lower bounds for weakened Ramsey numbers," 2024.
3. Eleni Zamagias, Mathematics, "An early review of responses to COVID-19 by institutions of higher education," 2021.

Internal research presentations

4. At least 12 internal Capstone, ASIME Symposium, or Research Day presentations each year on various topics from pure mathematics, applied mathematics, math education, and data science.

External presentations

5. ABRCMS 2025, "A Model for The Payment of Ecosystem Services", San Antonia, TX., Karma Brame, Nov. 2025.
6. National Association of Mathematicians - MathFest XXXV, "Modeling a Payment for Ecosystems Services," Knowxville, Tn., Karma Brame, Wendy Calderon, and Kaylee Clarke, Sep. 2025.
7. MAA Metro NYC Sectional Meeting Poetry Reading, Virtual, "The converse (a poem)," Gianna Forte, April 2025.
8. MAA Metro NYC Sectional Meeting, Virtual, "Exploring cancer cell type heterogeneity and treatment response using UMAP on RNA-seq data," Matthew Gootman and Anabel Ojeda, April 2025.
9. National Council Undergraduate Research 2025, Pittsburgh, PA. "Evaluating the Efficacy and Limitations of K-Nearest Neighbors in Imbalanced Datasets," Vaishnavi Dixit, April 2025.
10. Northeast Regional Honors Council 2025, Harrisburg, PA. "Improvement in kNN Algorithm to Decrease False-negatives in Imbalanced Datasets," Vaishnavi Dixit, March 2025.

11. Cosmic Pathways Conference, City College, CUNY, NYC NY. "Creating a Diagnostic Tool for Parkinsons Disease Using a KNN Algorithm," Kylie Goldade, March. 2025.
12. JMM San Francisco, Ca. "Analysis of COVID-19 Policy Interventions in New Zealand", Laszlo Goch, Jan. 2024, (jointly mentored with Dr. Anil Venkatesh)
13. MAA Metro NYC Sectional Meeting, "Hypergraph Carcinogenesis Models," Andrew Velasquez-Berroteran, Eleni Zamagias, May 2021.
14. Eastern College Science Conference, Virtual, Will Torres "A simple agent-based model of the European Honey bee overwintering process," April 2021. (jointly mentored with Dr. Carl Giuffre)
15. Northeast Regional Honors Council 2021, Virtual "Higher education response to the COVID-19 pandemic," Eleni Zamagias, March 2021.
16. MAA Metro NYC Sectional Meeting, "Dos Burning," Andrew Velasquez-Berroteran, Samantha Vicari, Eleni Zamagias, Daniel Delasherasgarcia, Chante Parker, Christopher Benson and Michael Gabriel, May 2020.
17. JMM Denver, Colorado. "Hitting times in Armitage and Doll hypergraphs." Gabriella Smokovich, Andrew Velasquez-Berroteran, and Eleni Zamagias, Jan 2020.
18. MAA New Jersey Sectional Fall Meeting, "Deriving the Armitage and Doll Model of Carcinogenesis," Gabriella Smokovich, Andrew Velasquez-Berroteran, and Eleni Zamagias, October 2019.

Student fellowships and other awards

19. Vaishnavi Dixit won a $4,000 Summer Fellowship from the Office of Undergraduate Research to work on her thesis research full time.
20. Will Torres (mentored with Dr. Carl Giuffre) shared the Excellence Award for a computer-related platform presentation at the 2021 Eastern Colleges Virtual Science Conference.
21. Eleni Zamagias
    (a) Received a $3000 summer fellowship from Adelphi Honors College to work on her thesis research full time.
    (b) The James H. Post Prize for the best thesis in the social sciences from the Honors College, for her honors thesis.

ASIME student recognition (All students mentored jointly with Dr. Anil Venkatesh)

23. Nicholas Tumelty
    (a) Second Round, Long Island Science and Engineering Fair 2025.
24. Tess Chan
    (a) 1st Place, Long Island Science and Engineering Fair, Computational Biology & Bioinformatics, 2024.
    (b) 4th Place Grand Award, Regeneron International Science and Engineering Fair, 2024.
    (c) 3rd Place, Junior Science and Humanities Symposium Long Island, 2024.
    (d) 2nd Place, Junior Science and Humanities Symposium Nationals, Mathematics and Computer Science, 2024.
25. Kishan Shanmugananthan
    (a) Honorable Mention, WAC Lighting Invitational Science Fair, Computer Modeling Category, 2024.

(b) Regeneron Science Talent Search 2024 Scholar (Top 300).

26. Evan Thomas

    (a) Second place, Senior Category, Annual CSTEP Statewide Student Conference, 2023.

27. Julian Valme

    (a) Second place, Junior Category, Annual CSTEP Statewide Student Conference, 2023.

PROFESSIONAL DEVELOPMENT COURSES SINCE TENURE

Adelphi Faculty Center for Professional Excellence Workshops

1. "Student Perspectives on Academic Integrity: A Candid Conversation", March 2025.

Noncredit courses

2. "Data Ethics," University of Michigan-Coursera, February 2025.
3. "AI in Education: Leveraging ChatGPT for Teaching," University of Pennsylvanian-Coursera, March 2025.
4. "Scientific Writing for Research Grant Proposals," University of Colorado Medical Campus-Coursera, March 2025.
5. "Teaching Writing Process," John Hopkins University-Coursera, March 2025.

AWARDS AND ACHIEVEMENTS

Grants ($139,948 totaled raised, $87,152 since tenure)

1. (PI) Society for Industrial and Applied Mathematics-Simons Foundation Undergraduate Summer Research Program Site (Summer 2025), $69,552 "Effectiveness of market based deforestation prevention strategies: modeling the effect of fluctuating commodity prices and industrial agriculture".
2. (PI) Dolciani Mathematics Enrichment Grant, Mathematical Association of America (Summer 2025), $5,000, "ASIME Speakers Series" jointly with Dr. Anil Venkatesh.
3. (co-PI) American Mathematical Society's Young Scholars Programs (Summer 2025), $5,000 "The Adelphi Summer Institute in Mathematical Epidemiology (ASIME): an immersive six-week experience for mathematically talented high school students with substantial enrollment from underrepresented demographic groups," jointly with Dr. Anil Venkatesh.
4. (co-PI) American Mathematical Society's Young Scholars Programs (Summer 2024), $5,000 "The Adelphi Summer Institute in Mathematical Epidemiology (ASIME): an immersive six-week experience for mathematically talented high school students with substantial enrollment from underrepresented demographic groups," jointly with Dr. Anil Venkatesh.
5. (co-PI) American Mathematical Society's Young Scholars Programs (Summer 2023), $2,600 "The Adelphi Summer Institute in Mathematical Epidemiology (ASIME): an immersive six-week experience for mathematically talented high school students with substantial enrollment from underrepresented demographic groups," jointly with Dr. Anil Venkatesh.
6. (co-PI) American Mathematical Society's Epsilon Fund (Summer 2022), $2,500 external funding ($6,500 internal match) "The Adelphi Summer Institute in Mathematical Epidemiology (ASIME): an immersive six-week experience for mathematically talented high school students with substantial enrollment from underrepresented demographic groups," jointly with Dr. Anil Venkatesh.
7. (PI) Center for Undergraduate Research in Mathematics mini-grant award (2020-2021), $17,900 external funding ($9,000 of internal match) "Near peer mentoring through hypergraph models in mathematical oncology."

8. (PI) Center for Undergraduate Research in Mathematics mini-grant award (2019-2020), $14,900 of external funding "Hypergraph models of carcinogenesis."
9. (PI) Western Carolina University, Graduate School, (2014), $1,000 in support of "Explicit generating sets for Free Groups".
10. (PI) Western Carolina University, Graduate School, (2013), $1,000 "Pascal Matrices."

Fellowships, awards, or honors (Three since tenure)

11. Faculty Mentor Appreciation Certificate, 2024-2025.
12. Student recognition in the College of Arts and Sciences Dean's Student Circle Outstanding Award Ceremony, April 2025.
13. The 2024 Insight Into Diversity Inspiring Programs in STEM Award. Awarded to Adelphi Summer Institute for Mathematical Epidemiology.
14. Alumni Fellowship (2014-2018), University of Florida, $25,000/year for four years.
15. Dean's Outstanding Scholar Award (2014), Western Carolina University, Graduate School.
16. Department of Mathematics Outstanding Graduate Student Award (2014), Western Carolina University, Department of Mathematics and Computer Science.

MEMBERSHIP

American Association of University Professors, Mathematical Association of America.

SERVICE

To the profession (Since tenure)

1. Member of the MAA INTEGRATE Committee, Jan 2026-present.
2. Organizing Committee Member, MAA Metro NYC Sectional Meeting, April 2025.
3. Referee for (number of articles since coming to Adelphi):
   - Post-tenure application: The Computer Journal (1), Journal of difference equations and applications (1), BIRS five day meeting proposals (16), Algorithms (1), College Journal of Mathematics (4), Journal of Algebra and its Applications (1), Communications in Algebra (1).
   - Pre-tenure application: Journal of biological dynamics (1), Journal of biological systems (4), Maejo international journal of science and technology (1), Wiley Books proposals (1), Notes on number theory and discrete mathematics (4), Communications in Algebra (2), Involve: A journal of mathematics (1), College mathematics journal (3).

To Adelphi (all since tenure, unless otherwise specified)

1. Department
   (a) Math Unit Peer Review Committee Member (2023-2024)
   (b) Open houses/accepted student day representative (3).
   (c) Member of the AI Engineering task force (2024-2025).
2. College
   (a) Chair Philosophy Unit Peer Review Committee, Spring 2025.
3. University

(a) AAUP Chapter Executive Committee, Past President (Fall), Senior Consultant (Spring), (2023-2024), VP of Discipline and Grievances (Spring 2026-Spring 2028).

(b) Faculty Committee of Retention, Tenure, and Promotion (Member 2024-2025, Chair 2025-2026).

(c) Senate Governance Committee, Chair (2025-2026).

COURSES TAUGHT

Computer Science

Adelphi: Discrete Structures, Introduction To Computers and Their Applications, Introduction to Computer Programming (Lecture), Explorations in Computer Coding and Data Manipulation, Seminar in Software Engineering, Programming for Applied Mathematics, Seminar in Artificial Intelligence.

Mathematics

Adelphi: Precalculus, Analysis, Senior Seminar, Calculus I, Senior Seminar II, Statistics and Data Analytics Internship-Programming Analytics, Statistics and Data Analytics Internship II, Regression Analysis, Current Topics in Statistics, Mathematical Statistics, Introduction To Probability Theory, S/T:Experimental Design, Social Science Seminar: A Mathematician's Apology- Scientists on Science, Foundations for Advanced Mathematics, Data Science, Introduction to Ordinary Differential Equations, Statistical Consulting Practicum, Graduate Capstone in the Mathematical Sciences, Advanced Statistical Procedures, Big Data Analytics, Games Mathematicians Play, Mathematics Honors Seminar, Bridge to Higher Mathematics.

Additional Courses Elsewhere: Introduction to Logic, Survey of Mathematics, Topics in Mathematics for Liberal Arts, Quantitative Methods in Global Leadership.

SKILLS

1. **Languages:**

   English/Spanish: Native level fluency.

2. **Software/Programming Languages**

   R, C++, LaTex, MATLAB, Excel, Python.