**Curriculum Vitae  
Phillip Oscar Williams**

Associate Professor of Mathematics

The King’s College

56 Broadway, New York, NY, 10004

Phone: (347)-277-3926

Email: [philwill@gmail.com](mailto:philwill@gmail.com)

LinkedIn: [phillip-williams-tkc](https://www.linkedin.com/in/phillip-williams-tkc/)

Website: <https://www.philwill.us>

**Education**

**Ph.D. Mathematics**, *The Graduate Center of the City University of New York*, May 2011. Thesis: The Minimal Resultant and Conductor for Self Maps of the Projective Line.

**BA**. **Mathematics, Philosophy**, *Lehigh University*, 2004.

**Positions**

**Associate Professor and Data Officer,** The King’s College (New York, NY), 2021-Present.

**Associate Professor,** The King’s College (New York, NY), 2017-2021.

**Assistant Professor,** The King’s College (New York, NY), 2011-2017.

**Research Training Group Fellow**, The Graduate Center of the City University of New York (New York, NY), 2008-2011.

**Graduate Teaching Fellow,** Borough of Manhattan Community College (New York, NY), 2005-2008.

**Adjunct Lecturer,**The City College of New York (New York, NY), Summer 2007.

**Adjunct Lecturer,** Brooklyn College (Brooklyn, NY), Summer 2006.

**Courses Taught**

**The King’s College**

*Quantitative Reasoning*

*Calculus*

*Pre*-*Calculus*

*College Algebra with Precalculus*

*Calculus 2*

*Statistics*

*Business Statistics*

*Linear Algebra*

*Finite Math for Business*

*Discrete Math with Python*

Online:

*Quantitative Reasoning*

*Pre*-*Calculus*

*College Algebra with Pre*-*Calculus*

**Borough of Manhattan Community College**

*College Algebra*

*Arithmetic*

**Brooklyn College**

*Geometry for High School Mathematics Teachers*

**City College**

*Math 80 (Gateway college preparation course)*

**Research Interests**

Number Theory, Algebraic Geometry, and Algebraic and Arithmetic Dynamics.

**Research Papers**

**Resultant and Conductor of Geometrically Semi-stable Self Maps of the Projective Line Over a Number Field or Function Field**, with L. Szpiro and M. Tepper. Publicacions Matemàtiques. Volume 58, Number 2 (2014), 295-329.

**Semi-stable Reduction Implies Minimality of the Resultant**, with L. Szpiro and M. Tepper. Journal of Algebra, Volume 397, January 2014, Pages 489-498.

**Automorphism Loci for the Moduli Space of Rational Maps,** with N. Miasnikov and B. Stout. Acta Arithmetica, Volume 180, no. 3, pages 267-296. August 2017.

**Iteration and the Minimal Resultant,**with K. Jacobs. New York Journal of Mathematics, Volume 25, pages 451-466. 2019.

**Writings for a General Audience**

**Mathematics for its Own Sake**. Academic Questions. September 2017.

[**How to Become Good at Math**.](https://www.tkc.edu/kings101/how-to-become-good-at-math/) November 2018. Written for student success blog at The King’s College.

**University Service**

**Committees**

2011-2012: Omnibus Committee. History Hiring Committee.

2012-2013: Curriculum Committee. Economics Hiring Committee.

2013-2014: Curriculum Committee. Middle-states self-study committee for standards 9 and 10.

2014-2015: Student Affairs Committee. Enrollment Management Committee. Economics Hiring Committee.

2015-2018: First Year Student Academic Experience Committee.

2019-present: Faculty Development Committee

2021-present: Middle States self-study Steering Committee

2022-present: Middle States Standard IV Committee

**Curriculum**

Developed *Quantitative Reasoning*.

Developed *Finite Math for Business*.

Proposed and developed *College Algebra and Pre-Calculus.*

Created a math placement exam for the college.

Restructured the common core math offerings for each major.

Developed online versions of *College Algebra and Pre-Calculus, Calculus,* and *Finite Math for Business*.

**Accreditation**

Serving as data officer overseeing the 2011-2024 Middle-States re-accreditation self-study. I conducted detailed analysis of data from all aspects of the college, and ensured the accuracy and integrity of all data based assertions in the study. This analysis is foundational to the self-study. This work is ongoing.

**Other Qualifications**

**Programming and Data Science**

Python, and the scientific computing stack: numpy, pandas, cython, matplotlib, seaborn, sklearn, nltk, tensorflow, keras. SQL and R programming. Machine learning: supervised learning, unsupervised learning, deep learning, neural networks. as well as web programming (HTML, flask). Version control: git.

**Projects**

**Gestational Diabetes Model:** Created random forests model for gestational diabetes. Predicts risk using commonly measured physical metrics. Model: <https://phillipwilliams.onrender.com/gdm_report>

**Texas Hold’em Poker Probability Calculator**: ranking hands and computing probabilities given partial information, cython for speed. Code: <https://github.com/philwillnyc/Poker>

**Exam Generator**: python program for randomizing content of LaTeX-sourced math assignments; math content randomized at the assignment and question level. Algorithmically generated multiple versions of assessments to save time and ensure accuracy. Code: <https://github.com/philwillnyc/Assessment-Writing>

**References**

**Mark Hijleh**, Vice President for Academic Affairs, Montreat College. [mhijleh45@gmail.com](mailto:mhijleh45@gmail.com).

**Maggie Habeeb**, Associate Professor of Mathematics, Pennsylvania Western University, California Campus. [Habeeb@pennwest.edu](mailto:Habeeb@pennwest.edu).

**Matt Parks,** Interim Provost, The King’s College. [Mparks@tkc.edu](mailto:Mparks@tkc.edu)